

Preliminary remarks

Depending on new tendencies of thermoelectric market and customers specific requirements Quick-Cool assembles a wide range of thermoelectric modules (TE) featured by different performance values as well as geometrical sizes. Constantly striving for supreme sales service we have elaborated a special classification table of our product - General Specification that serves as a comprehensive tool for choosing an appropriate TE cooler type.

Before you proceed with the appropriate TE module type search we would like you to spend some time looking through the below remarks in order to get acquainted with our internal classification principles and definitions.

General Specification is divided into the following major sections reflecting module dimensions and thermoelectric properties:

- One-stage standard modules
- Two-stage standard modules
- Special design modules
- One-stage micromodules
- Two-stage micromodules

One-stage standard modules

All thermoelectric coolers designation within this product group is encoded in the following letter string **QC-AAA-BB-CC** where

QC - Quick-Cool thermoelectric module

AAA - the number of thermocouples

BB - cross-section of the pellet, mm

CC - the value of maximum current when DT is max, Amps

For instance, module QC-127-1.4-6.0 is the type that consists of 127 thermocouples with pellet cross-section of 1.4 by 1.4 mm and has maximum current value of 6.0 Amps.

Two-stage standard modules

All modules designation within this product group is encoded in the following letter string **2QC-AAA-BB-CC** where

2 - number of stages in module

QC - Quick-Cool thermoelectric module

AAA - the number of thermocouples in the second stage

BB - the number of thermocouples in the first stage

CC - the value of maximum current when DT is max, Amps

For example, thermo electric module 2QC-127-63-6.5 is a two-stage type consisting of 127 thermocouples in the second stage and 63 in the first one and has maximum current value of 6.5 Amps.

One-stage micromodules

Modules designation within this product group replicates the one described in one-stage standard Peltier modules.

Two-stage micromodules

Modules designation within this product group replicates the one described in two-stage standard TE modules.

Thermoelectric modules for power generation

All modules designation within this product group is encoded in the following letter string

QCG-AAA-BB-CC where

QCG - thermoelectric module for power generation

AAA - the number of thermocouples

BB - cross-section of the pellet, mm

CC - the height of thermoelectric pellet, mm

For instance, module QCG-127-1.4-1.6 is the type that consists of 127 thermocouples with pellet cross-section of 1.4 by 1.4 mm and has the height value of 1.6 mm.

Optional versions of thermoelectric module assembling

Every type of TE listed in General Specification can be manufactured in any of the following versions:

- **High temperature version** (additional index **H** to the module designation, e.g. QC-127-1.4-6.0H) is designed on the basis of + 230° C m.p.t. lead free solder for modules to operate in up to + 200° C conditions.
- **M-series version** (additional index **M** to the module designation) is designed to TE modules to be applied in various cycling applications.
- **QCC-series version** (additional index **QMC** to the module designation, e.g. QCC-127-1.4-6.0M) as a sequel to M-series is specifically developed for modules to operate in particular applications such as burn-in test equipment or thermocyclers.

Characteristics indicated in General Specification are performance values of module operation measured at the hot side temperature (T_{hot}) of 300 K.

I_{max} - input current resulting in greatest DT_{max} , (Amps)

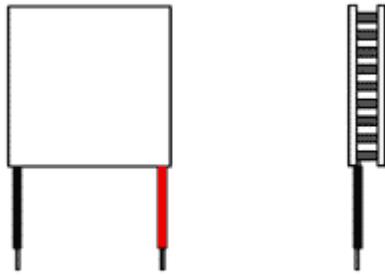
U_{max} - input voltage at DT_{max} , (Volts)

Q_{cmax} - maximum heat pumping capacity at I_{max} , $DT = 0^{\circ} C$, (Watts)

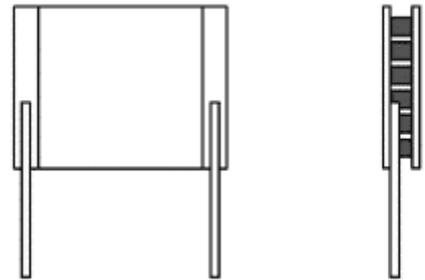
DT_{max} - maximum temperature difference module can achieve at I_{max} , $Q_c = 0$, (Degrees)

Options for thermoelectric module wire leads attachment are shown on the drawings below.

STANDARD VERSION



BUTTERFLY-STYLE VERSION



PORCH-STYLE VERSION

