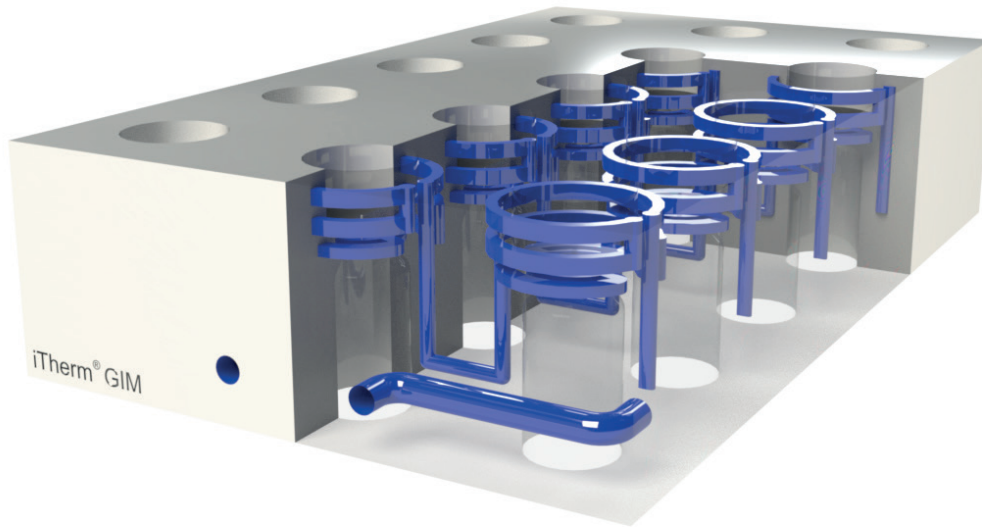


# iTherm® Gate Insert Multiple Plate

## DESCRIPTION



Gate Insert Multiple Plate is all in one solution when it comes to iTherm® Gating System products. It is a single body monoblock, consisting of several/ determined Gate insert Individual products and Water Distribution Plate. Gate Insert Multiple Plate is a single body plate with water connectors, therefore leakage is not possible. Available types of Gate Insert Multiple Plate are Cavity plate and Core plate. Each product is defined with variety of parameters to perfectly fit one's needs. Selection of nozzle or no nozzle seat is possible.

### 3 MAIN ADVANTAGES

- Controlled temperature of the front pad surface for improvement of product quality and reduction of cycle time
- Cooling of the sprue in prolonged sprue versions for reduction of cycle time

# iTherm® Gate Insert Multiple Plate

## TECHNICAL SPECIFICATIONS OF GATE INSERT MULTIPLE PLATE

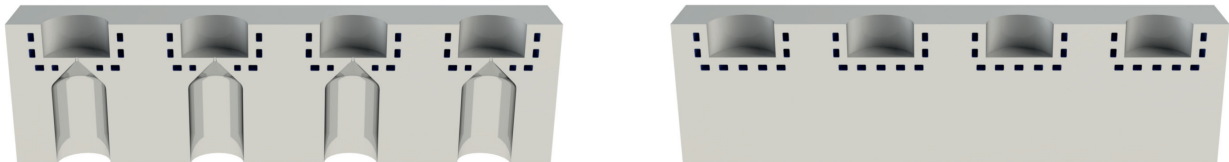
### 1 DESCRIPTION

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## Multiple Plate type

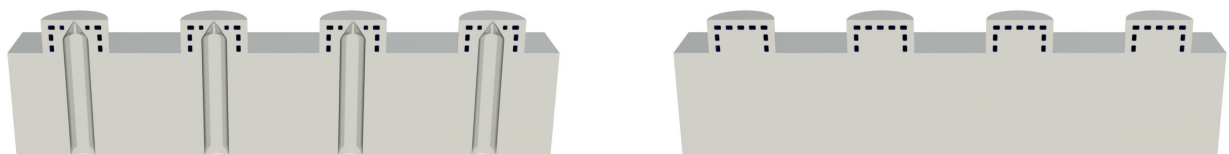
### CAVITY PLATE

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### CORE PLATE

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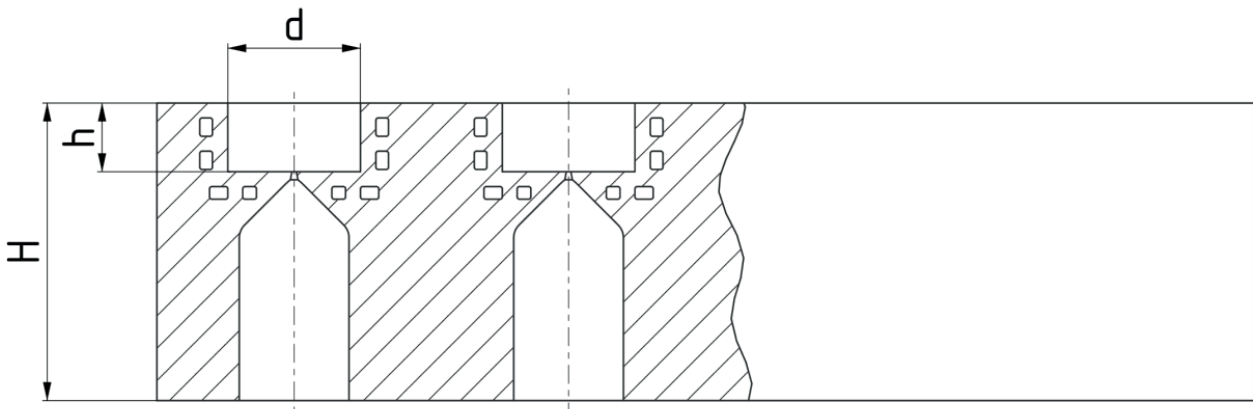


# iTherm® Gate Insert Multiple Plate

## TECHNICAL SPECIFICATIONS OF GATE INSERT MULTIPLE PLATE

### 2 GEOMETRY DEFINITION

To define desired cap or closure geometry, general parameters  $d$  and  $h$  are used. According to these two vital parameters, Gate Insert Multiple Plate is sorted into groups, for appropriate determination of other parameters and Cooling System arrangement, to ensure homogeneous temperature of working surface. With selection of  $h = 0$ , flat Gate Insert Multiple Plate is proposed. With every  $d$ , a fictional  $D$  is defined, for appropriate positioning of Gate Insert Cavities/cores.



Parameter D	Limit min	Limit max
$d$	18	128
$h$	0	40

Parameter h	Limit H min	Limit H max
0 - 20	40	125
21 - 25	45	125
26 - 30	50	125
31 - 35	55	125
36 - 40	60	125

All dimensions are in mm

# iTherm® Gate Insert Multiple Plate

## TECHNICAL SPECIFICATIONS OF GATE INSERT MULTIPLE PLATE

### 3 GENERAL PARAMETERS - PLATE GEOMETRY DEFINITION

iTherm® Water Distribution  
plate general parameters can be  
defined in 2 different options:

- GEOMETRY DEFINED BY EQUAL SPACING
- GEOMETRY DEFINED BY COORDINATES

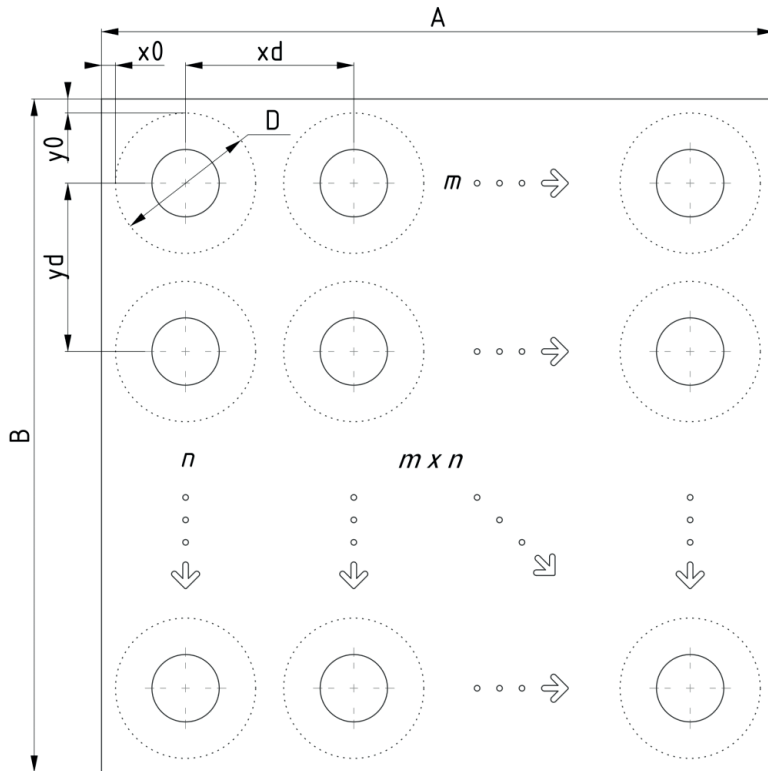
#### GEOMETRY DEFINED BY EQUAL SPACING

Selection of Water Distribution plate/  
Equal spacing parameters is the following:

- A, B and wt are general dimensions of plate. A and B are limited within D and 500mm.
- nx, ny parameters define number of Gate insert Cavities / Cores in direction X and Y. Number of Individual Gate insert Cavities / Cores is limited on plate dimension, diameter of minimum Gate Insert Cavity / Core cooling channel requirements and spacing.
- xd and yd parameters are distance between next Gate Insert Cavities / Cores. Spacing must always be at least  $D + 2\text{mm}$  (D is taken from minimum diameter needed for positioning of cooling system. Number of Cavities / Cores in each direction and plate dimensions defines maximum available spacing.
- x0 and y0 are distance from plate edge to edge of fictional parameter D. x0 and y0 are calculated based on plate dimension, D and spacing.

# iTherm® Gate Insert Multiple Plate

## TECHNICAL SPECIFICATIONS OF GATE INSERT MULTIPLE PLATE



This figure explains above defined parameters

### GEOMETRY DEFINED BY COORDINATES

When option define geometry by defined coordinates is selected, customer first selects desired plate geometry. Then number of Gate Insert Cavities / Cores is selected (limited to 20) and definition of coordinates of each Gate Insert Cavity / Core is inserted. Along with selection of parameters an animation runs, to show exact location of each Gate Insert Cavity / Core.

### MATERIAL AND MATERIAL HARDNESS

Selection of plate material and material hardness is possible. Customer can choose between materials: Material hardness is available from 30 HRC to 52 HRC.

# iTherm® Gate Insert Multiple Plate

## TECHNICAL SPECIFICATIONS OF GATE INSERT MULTIPLE PLATE

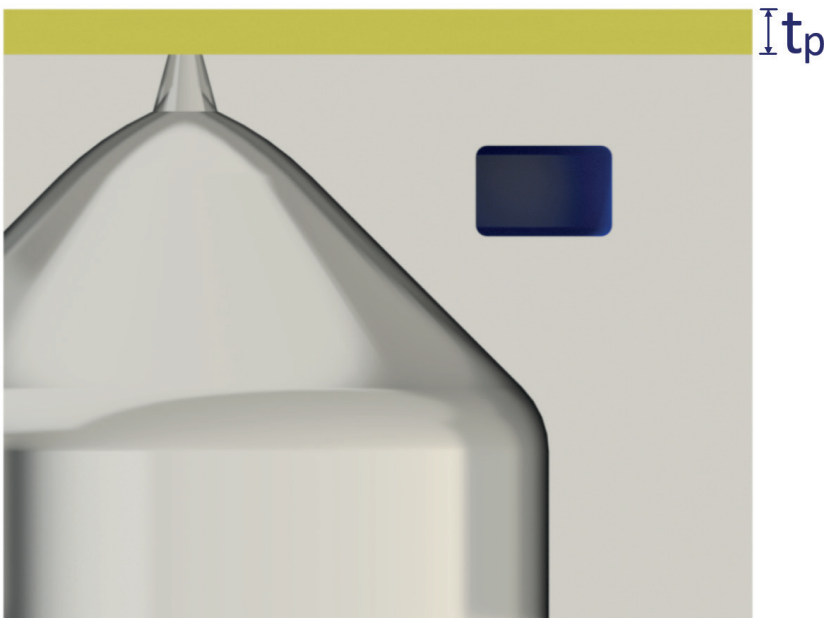
### 4 COOLING POWER DEFINITION

Through a calculator, determination of Cooling Power and Cooling Time is possible. Insert following parameters within its limits, and calculator will automatically output Cooling Power and Cooling Time.

Selection of a nozzle type is necessary for appropriate positioning of cooling system. Choice is limited to most common hot runner nozzle types. If utilized nozzle is not among choices, one needs to select Other and specify the desired nozzle.

Plastics type: Selection is available between HPDE, PS, PE, PP, LDPE

**T<sub>p</sub>** » part thickness. Insert thickness of part. Part thickness selection is available between 0,5 and 7,5mm.

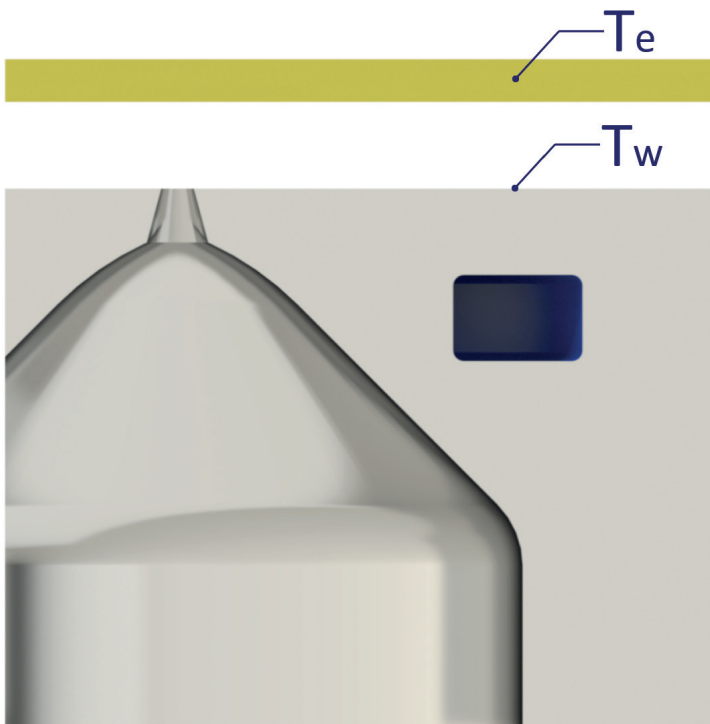


# iTherm® Gate Insert Multiple Plate

## TECHNICAL SPECIFICATIONS OF GATE INSERT MULTIPLE PLATE

**Te** » eject temperature of the part limited from 30 to 150

**Tw** » desired temperature of working surface of GP, limited from 20 to 100

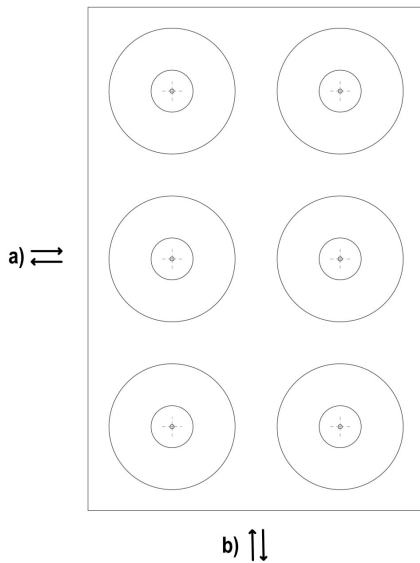


# iTherm® Gate Insert Multiple Plate

## TECHNICAL SPECIFICATIONS OF GATE INSERT MULTIPLE PLATE

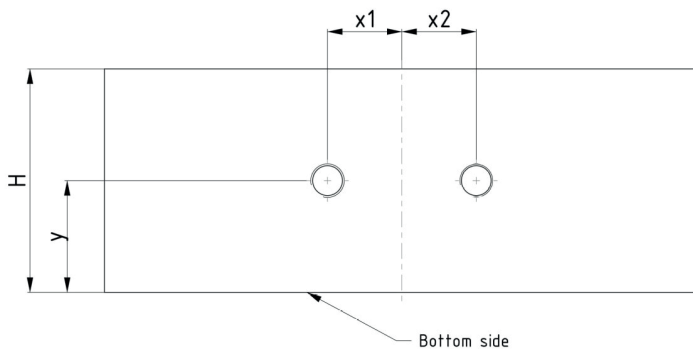
### 2 POSITION OF CONNECTORS

Connectors position is available as shown on image below. Option a) is placement of connectors on side that is defined by dimension B (definition of plate general parameters), option b) is placement of connectors on side that is



Connector position is defined by three parameters, which varies from dimension of plate. Parameters are  $x_1$ ,  $x_2$  and  $y$ . Figure below shows how mentioned parameters are defined:

- $x_1$ ,  $x_2$  are limited by min 10 and max  $(A/2 - 10)$  or  $(B/2 - 10)$ , depending on chosen side of connectors
- $y$  is limited by  $wt$ . Its limits are min 10 and max  $(wt - 10)$ .





# iTherm® Gate Insert Multiple Plate

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Do you need a slightly different  
design or component?

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