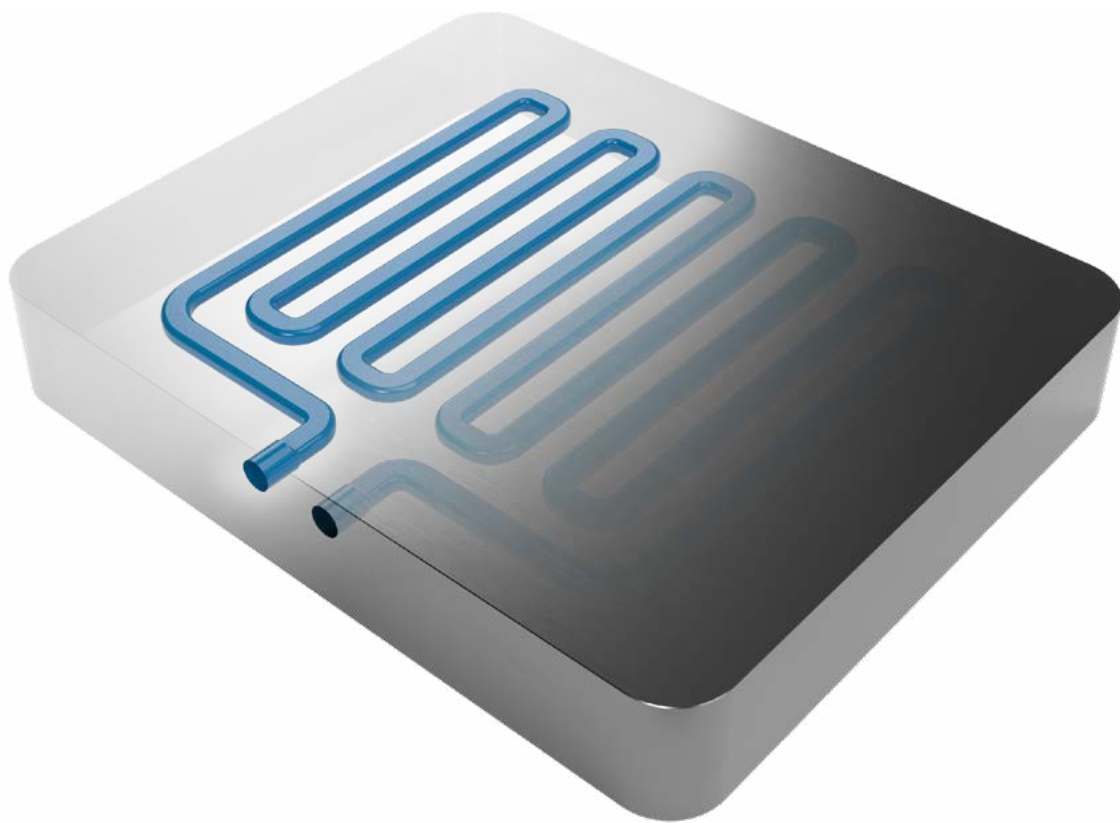


Mould Insert

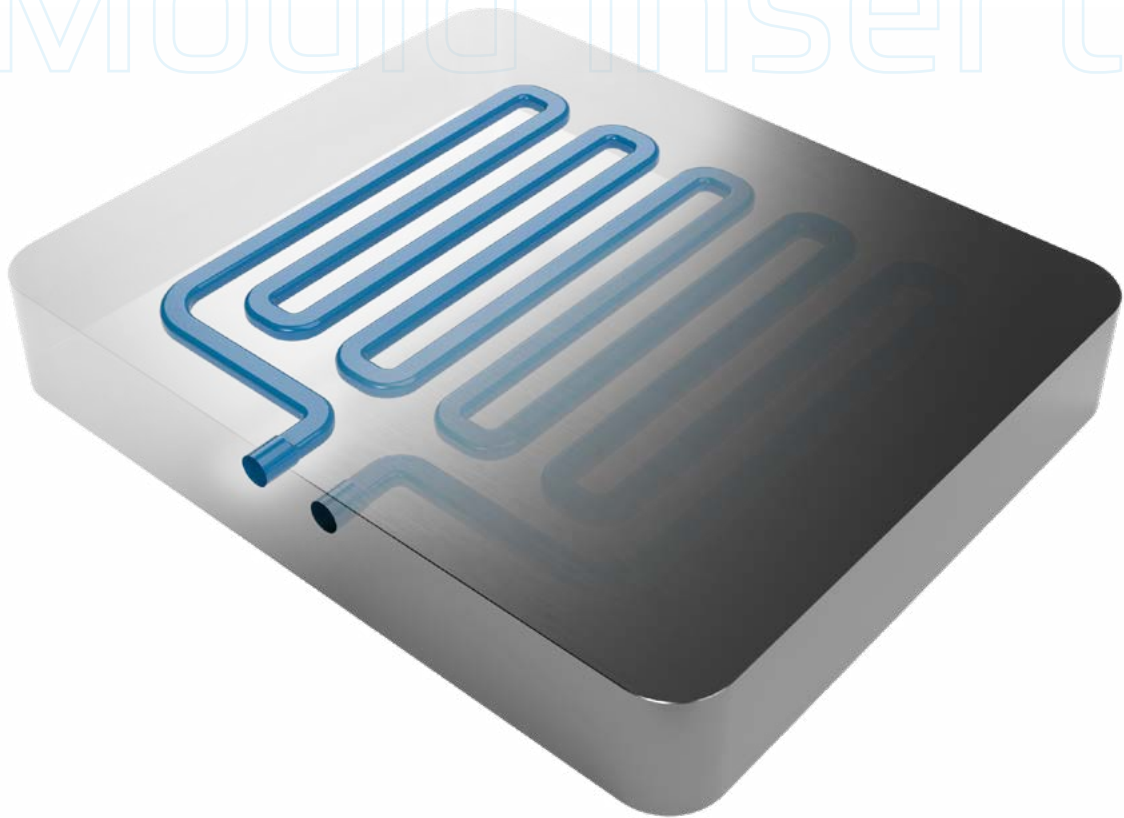


DATA SHEET

Mould Insert



Mould Insert



Conformally
Cooled



Uniform Heat
Distribution



Tool Steel
Material



No leakage



Cycle Time
Reduction



Lifespan
Extension

iTherm® Mould Insert

- Utilizes a single inlet and outlet, effectively eliminating leakage points and simplifying the cooling circuit.
- The optimized conformal channels ensure consistent temperature homogeneity, enhancing product quality and dimensional stability.
- Increases cooling efficiency, achieving up to a 25% reduction in cycle time, significantly boosting productivity.
- Reduces thermal stress on tooling, extending the service life of the mold and improving overall process stability.

Technical Specification



01

Material

- iTerm® mold inserts are made using forged tool steel blocks produced in EU.
- Most often used grades are 1.2083/420, 1.2343/H11, 1.2344/H13.
- Based on specific customer needs, other steel grades can be used (such as SITHERM S140, 1.2709, MS1, L40, M390, Stavax, Tyrax, Mirrax, Corrax).

02

Delivery condition

- Heat treated• Hardness between 38 and 58 HRC
- Machined to final dimension or blank

03 Model Types



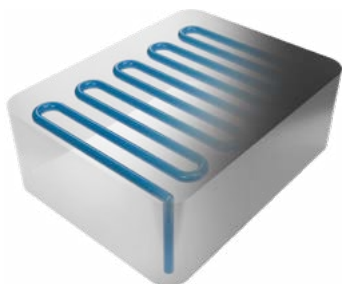
Round Flat



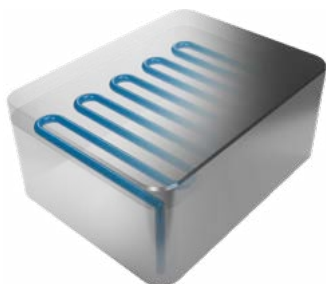
Round Core



Round Cavity



Rectangular Flat



Rectangular Flat
with extra stock



Round Flat Mould Insert

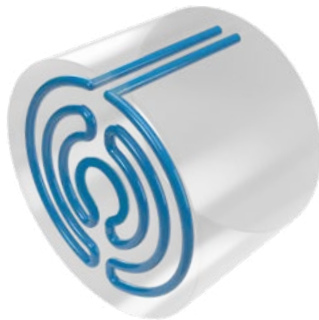


DATA SHEET

Round Flat Mould Insert

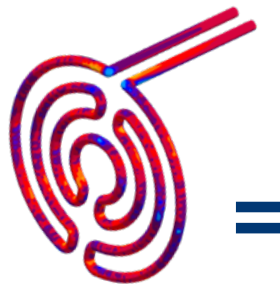
01 Cooling Specification

DESIGN APPROACH



- Optimal cooling of overheated surfaces in the nozzle area.
- Homogeneous cooling of the working surface.
- Circular shape of cooling channels for maximum efficiency.

THERMAL ANALYSIS AND SIMULATION

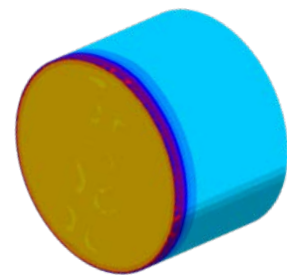


+ =

- Low standard deviation of the temperature field.
- Small pressure differences between the inlet and outlet of the cooling medium.
- High Reynolds number, high turbulence, optimal heat transfer.

iTherm®

ROUND FLAT MOULD INSERT



COOLING POWER OPTIONS

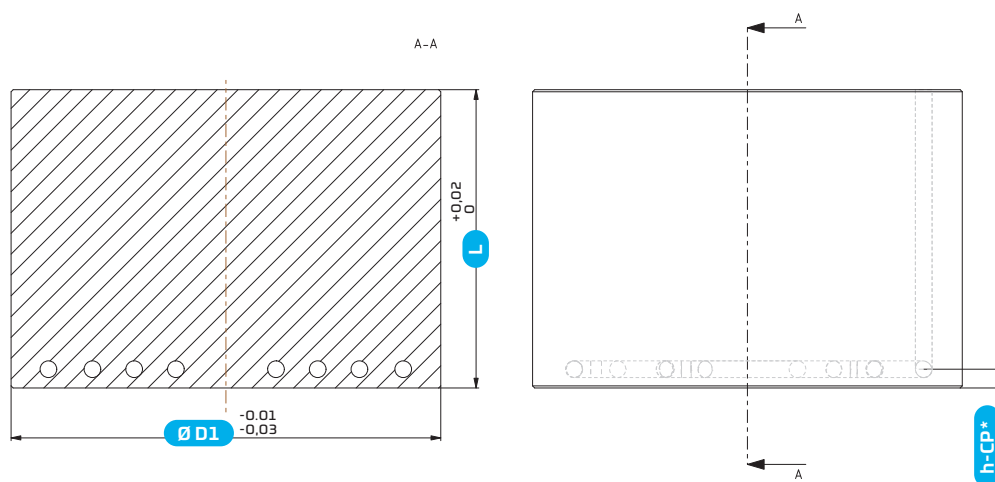
10 W/m²

15 W/m²

25 W/m²

02

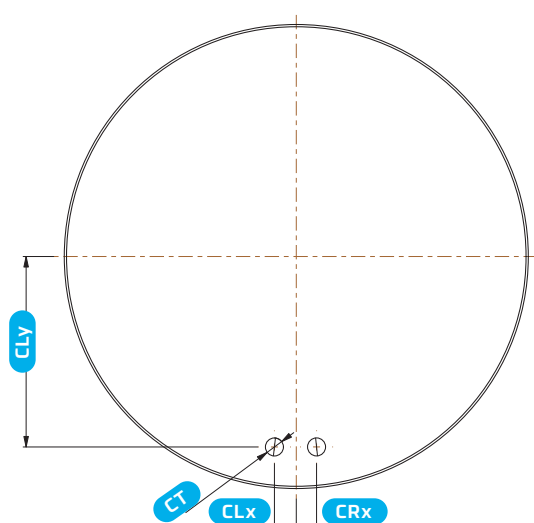
Dimensional parameters



*The dimension changes based on the cooling power input

Name	D1	L range
20MIRF	55	50-100
22MIRF	58	50-120
26MIRF	65	50-120
32MIRF	70	60-120
38MIRF	79	60-120
44MIRF	84	60-120
50MIRF	92	60-120

03 Connection holes



Name	CLx	CRx	CLy	CT
20MIRF	0-24	0-24	0-24	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
22MIRF	0-26	0-26	0-26	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
26MIRF	0-29	0-29	0-29	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
32MIRF	0-32	0-32	0-32	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
38MIRF	0-36	0-36	0-36	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
44MIRF	0-39	0-39	0-39	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
50MIRF	0-43	0-43	0-43	1/16" NPT - 1/2"NPT or G1/16" - G1/2"



Round Core Mould Insert



DATA SHEET

Round Core Mould Insert

01 Cooling Specification

DESIGN APPROACH



- Optimal cooling of overheated surfaces in the nozzle area.
- Homogeneous cooling of the working surface.
- Circular shape of cooling channels for maximum efficiency.

THERMAL ANALYSIS AND SIMULATION

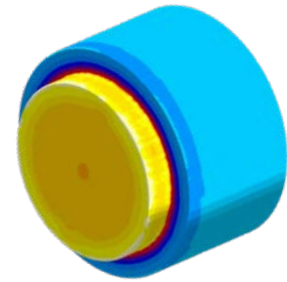


+ =

- Low standard deviation of the temperature field.
- Small pressure differences between the inlet and outlet of the cooling medium.
- High Reynolds number, high turbulence, optimal heat transfer.



ROUND CORE MOULD INSERT



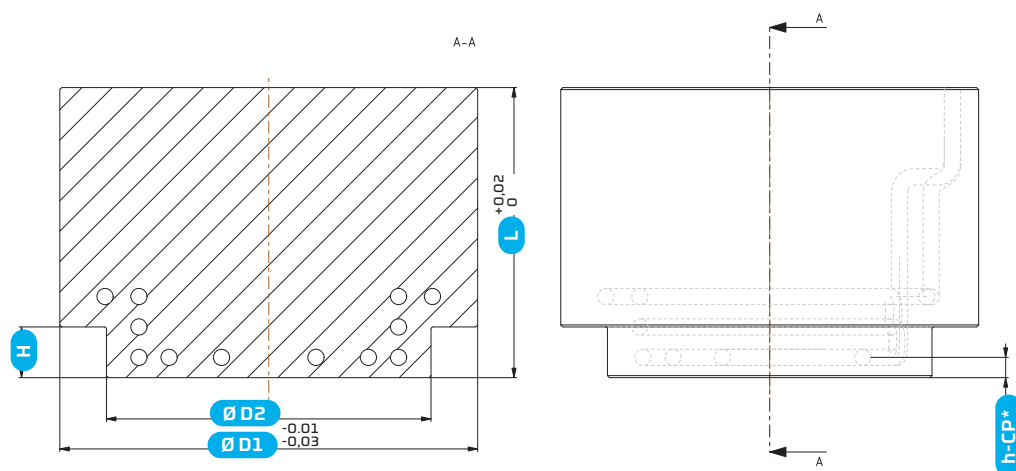
COOLING POWER OPTIONS

10 W/m²

15 W/m²

25 W/m²

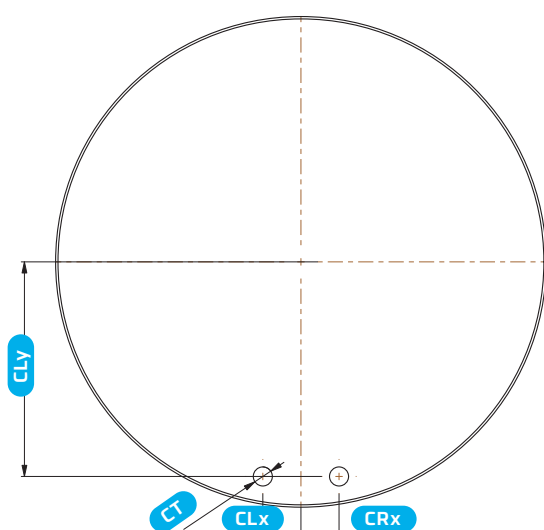
02 Dimensional parameters



*The dimension changes based on the cooling power input

Name	D1	D2	H	L range
20MIRC	55	48	5-45	50-100
22MIRC	58	52	5-45	50-120
26MIRC	65	56	5-45	50-120
32MIRC	70	62	5-45	60-120
38MIRC	79	68	5-45	60-120
44MIRC	84	74	5-45	60-120
50MIRC	92	80	5-45	60-120

03 Connection holes



Name	CLx	CRx	CLy	CT
20MIRC	0-24	0-24	0-24	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
22MIRC	0-26	0-26	0-26	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
26MIRC	0-29	0-29	0-29	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
32MIRC	0-32	0-32	0-32	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
38MIRC	0-36	0-36	0-36	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
44MIRC	0-39	0-39	0-39	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
50MIRC	0-43	0-43	0-43	1/16" NPT - 1/2"NPT or G1/16" - G1/2"



Round Cavity Mould Insert



DATA SHEET

Round Cavity Mould Insert

01 Cooling Specification

DESIGN APPROACH



- Optimal cooling of overheated surfaces in the nozzle area.
- Homogeneous cooling of the working surface.
- Circular shape of cooling channels for maximum efficiency.

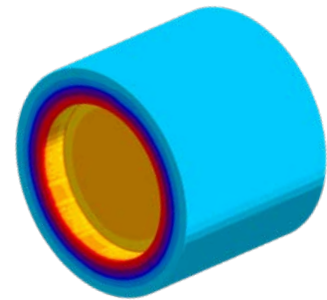
THERMAL ANALYSIS AND SIMULATION



- Low standard deviation of the temperature field.
- Small pressure differences between the inlet and outlet of the cooling medium.
- High Reynolds number, high turbulence, optimal heat transfer.

iTherm®

ROUND CAVITY MOULD INSERT



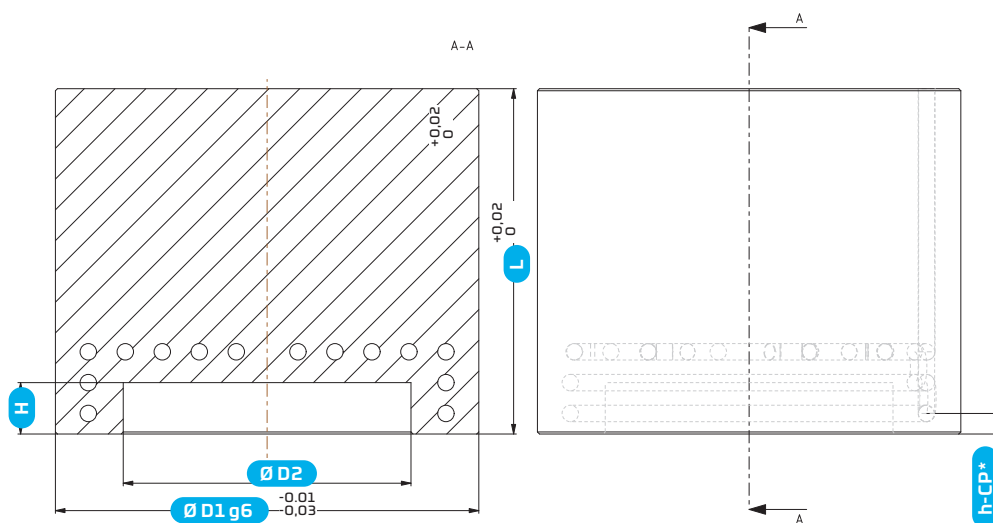
COOLING POWER OPTIONS

10 W/m²

15 W/m²

25 W/m²

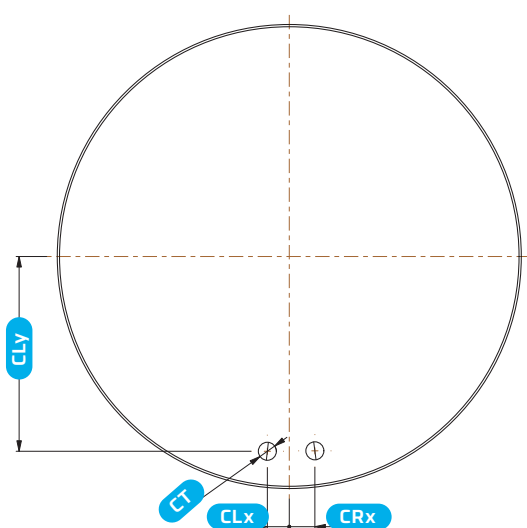
02 Dimensional parameters



*The dimension changes based on the cooling power input

Name	D1	D2	H	L range
20MIRC	55	48	5-45	50-100
22MIRC	58	52	5-45	50-120
26MIRC	65	56	5-45	50-120
32MIRC	70	62	5-45	60-120
38MIRC	79	68	5-45	60-120
44BMIRC	84	74	5-45	60-120
50MIRC	92	80	5-45	60-120

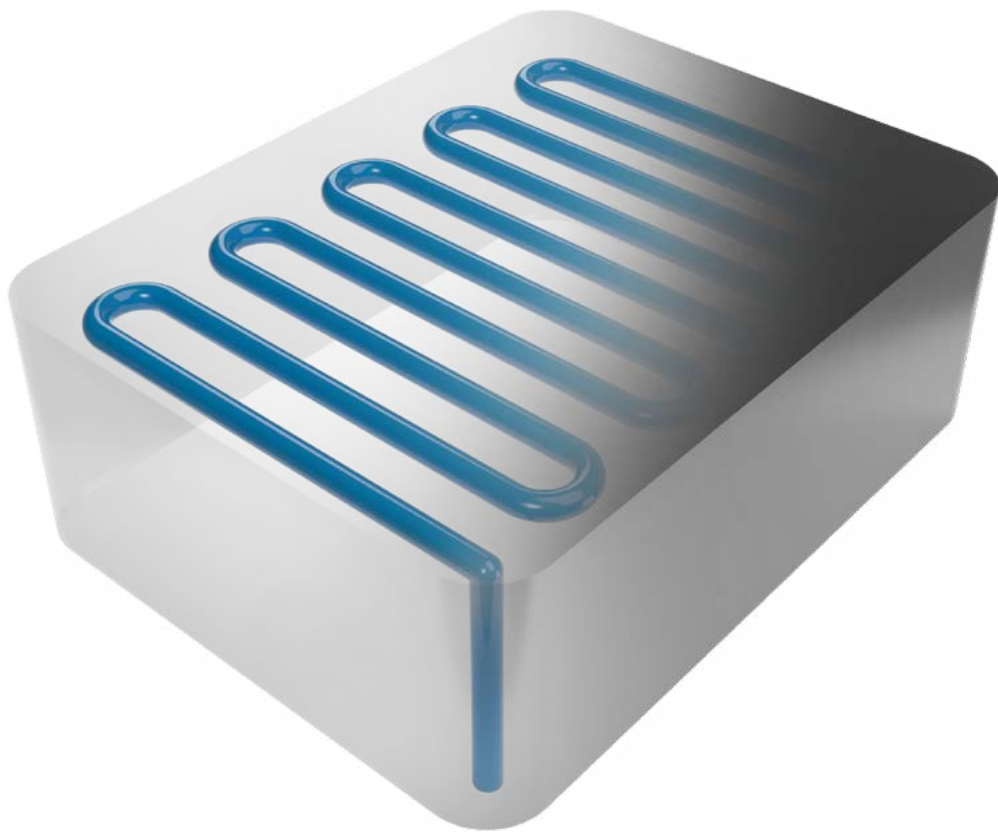
03 Connection holes



Name	CLx	CRx	CLy	CT
20MIRC	0-24	0-24	0-24	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
22MIRC	0-26	0-26	0-26	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
26MIRC	0-29	0-29	0-29	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
32MIRC	0-32	0-32	0-32	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
38MIRC	0-36	0-36	0-36	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
44BMIRC	0-39	0-39	0-39	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
50MIRC	0-43	0-43	0-43	1/16" NPT - 1/2"NPT or G1/16" - G1/2"



Rectangular Flat Mould insert

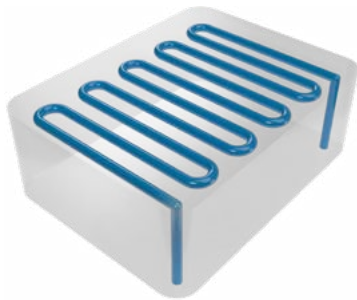


DATA SHEET

Rectangular Flat Mould insert

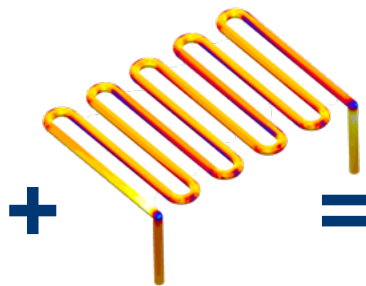
01 Cooling Specification

DESIGN APPROACH



- Optimal cooling of overheated surfaces in the nozzle area.
- Homogeneous cooling of the working surface.
- Circular shape of cooling channels for maximum efficiency.

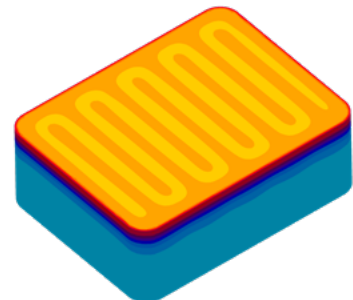
THERMAL ANALYSIS AND SIMULATION



- Low standard deviation of the temperature field.
- Small pressure differences between the inlet and outlet of the cooling medium.
- High Reynolds number, high turbulence, optimal heat transfer.

iTherm®

RECTANGULAR FLAT MOULD INSERT



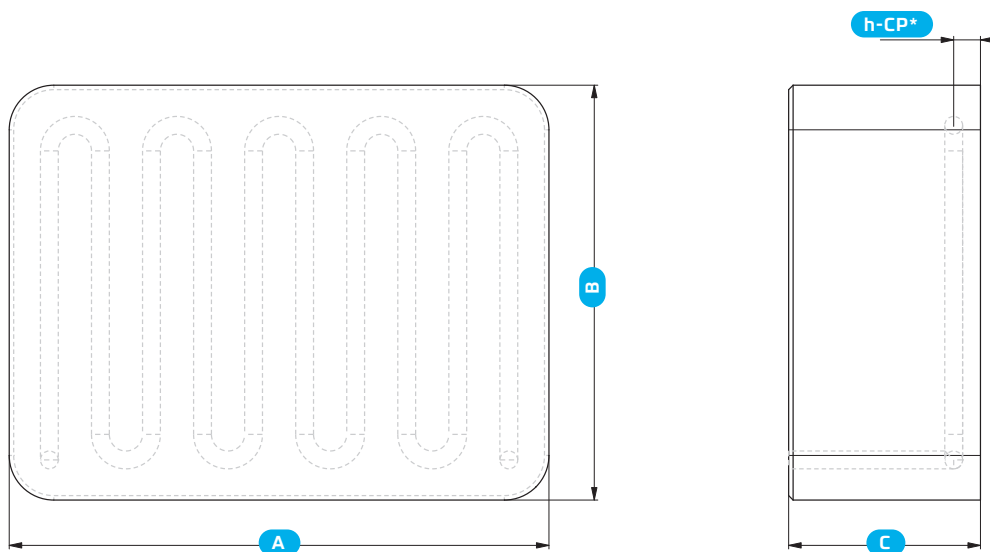
COOLING POWER OPTIONS

10 W/m²

15 W/m²

25 W/m²

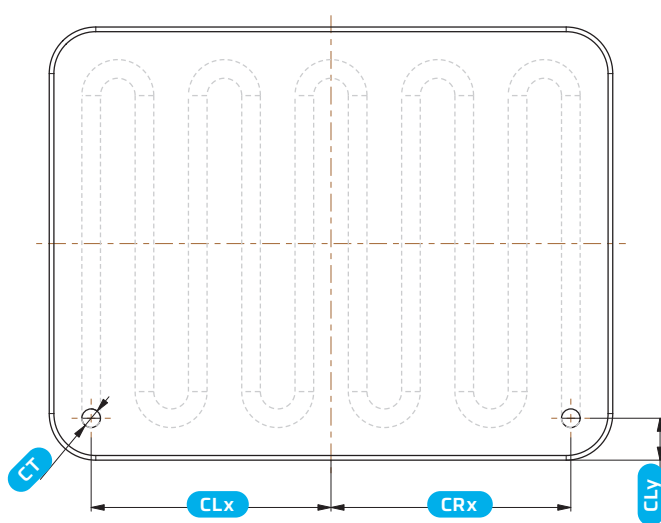
02 Dimensional parameters



*The dimension changes based on the cooling power input

Name	A	B	C
20MIRF	40-260	40-260	50-100
22MIRF	40-260	40-260	50-120
26MIRF	40-260	40-260	50-120
32MIRF	40-260	40-260	60-120
38MIRF	40-260	40-260	60-120
44MIRF	40-260	40-260	60-120
50MIRF	40-260	40-260	60-120

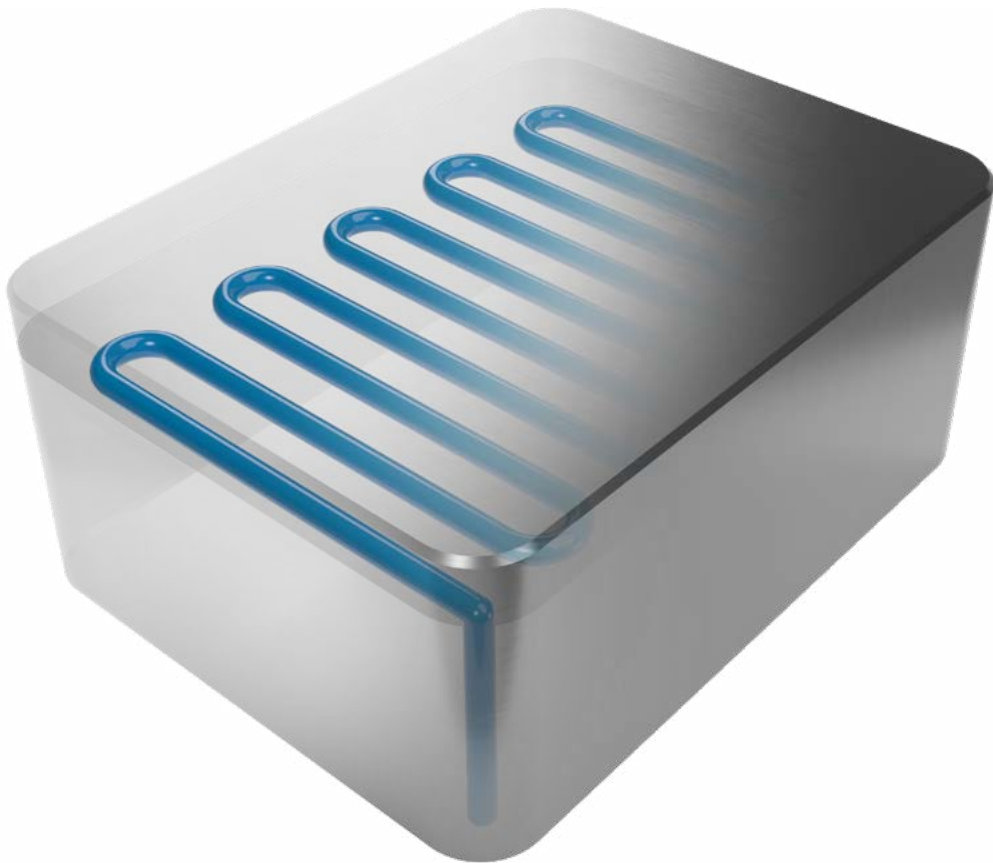
03 Connection holes



Name	CLx	CRx	CLy	CT
20MIRF	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
22MIRF	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
26MIRF	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
32MIRF	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
38MIRF	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
44MIRF	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
50MIRF	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"



Rectangular Mould Insert with extra stock

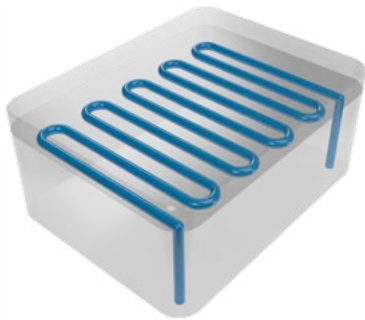


DATA SHEET

Rectangular Mould Insert with extra stock

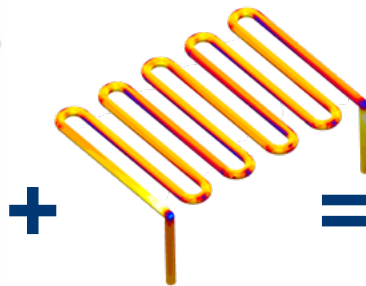
01 Cooling Specification

DESIGN APPROACH



- Optimal cooling of overheated surfaces in the nozzle area.
- Homogeneous cooling of the working surface.
- Circular shape of cooling channels for maximum efficiency.

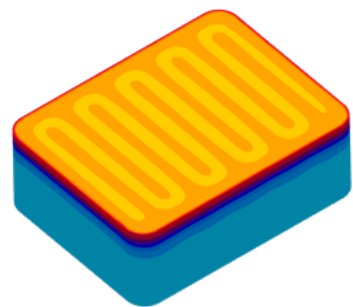
THERMAL ANALYSIS AND SIMULATION



- Low standard deviation of the temperature field.
- Small pressure differences between the inlet and outlet of the cooling medium.
- High Reynolds number, high turbulence, optimal heat transfer.



RECTANGULAR MOULD INSERT WITH EXTRA STOCK



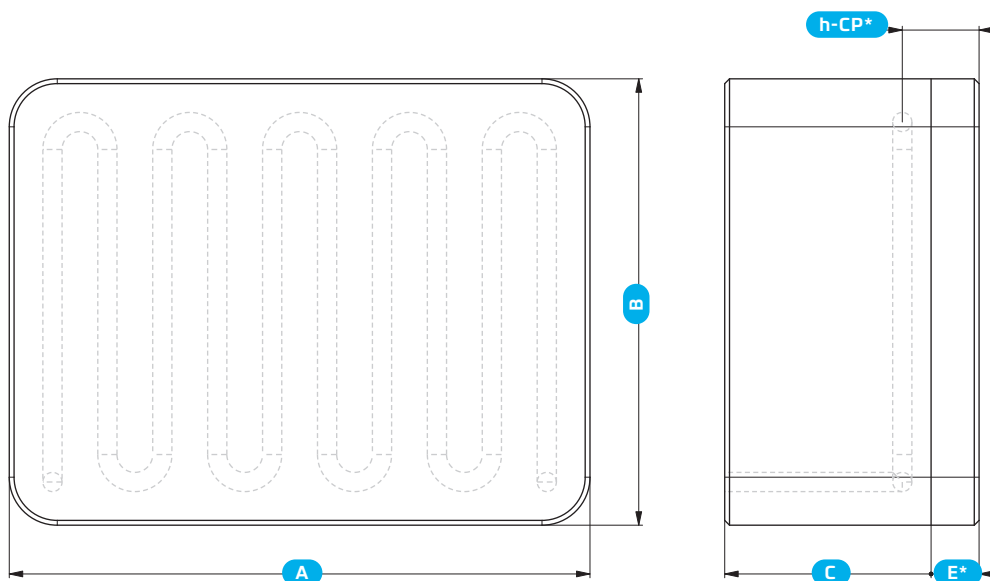
COOLING POWER OPTIONS

10 W/m²

15 W/m²

25 W/m²

02 Dimensional parameters

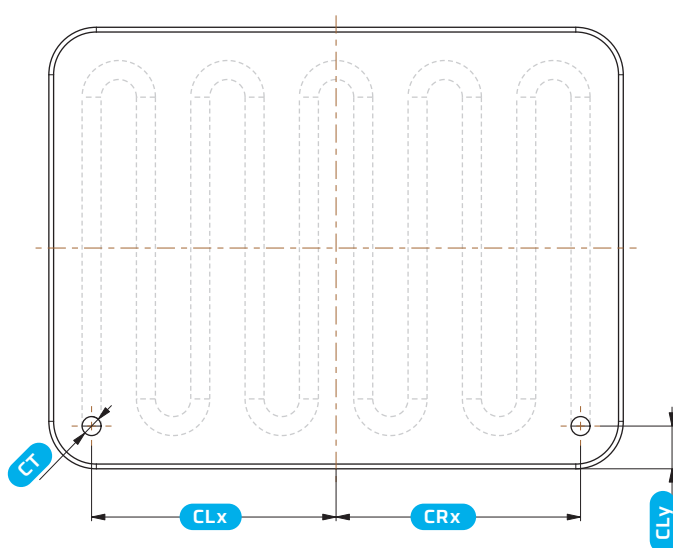


*The dimension changes based on the cooling power input

** Extra stock customizable to customer requirements

Name	A	B	C
20MIRFE	40-260	40-260	50-100
22MIRFE	40-260	40-260	50-120
26MIRFE	40-260	40-260	50-120
32MIRFE	40-260	40-260	60-120
38MIRFE	40-260	40-260	60-120
44MIRFE	40-260	40-260	60-120
50MIRFE	40-260	40-260	60-120

03 Connection holes



Name	CLx	CRx	CLy	CT
20MIRFE	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
22MIRFE	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
26MIRFE	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
32MIRFE	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
38MIRFE	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
44MIRFE	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"
50MIRFE	0-120	0-120	0-120	1/16" NPT - 1/2"NPT or G1/16" - G1/2"



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