iTherm®

Gate Insert with Bushing

DATA SHEET

HTS

iTherm®

Gate Insert with Bushing

Conformally Cooled

Uniform Heat Distribution

Tool Steel Material

No leakage

Cycle Time Reduction

Lifespan Extension

iTherm® Gate Insert with Bushing

- Designed to accommodate gate bushing.
- Ensures better surface quality of the molded part
- On thermal gate systems, it eliminates part defects or blemishes and stringing.
- On valve gate systems it eliminates cold slugs or part defects/blemishes.
- Allows operating the hot runner tip at a higher temperature without impacting part quality or inducing mold sticking.
- Combining the advantages of iTherm® Gate Insert with bushing, you can significantly shorten cycle time, by up to 20%.

Technical Specification

01 Material

- iTherm® Gate Inserts with bushing are made using forged or rolled 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, Corrax).

02 Delivery condition

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

03 Model Types

FLAT

CORE

CAVITY

iTherm®

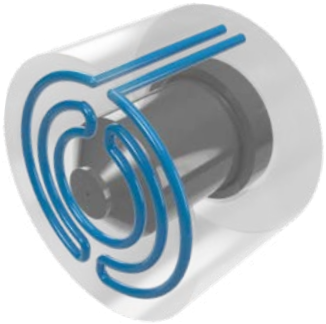
Flat Gate Insert with bushing

DATA SHEET

Flat Gate Insert with bushing

01 Cooling Power

DESIGN APPROACH



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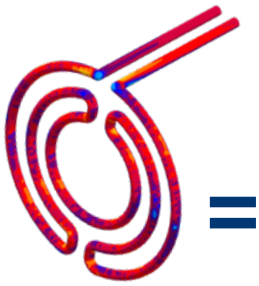
THERMAL ANALYSIS AND SIMULATION



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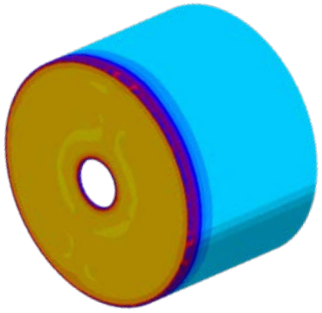
iTherm®

FLAT GATE INSERT WITH BUSHING



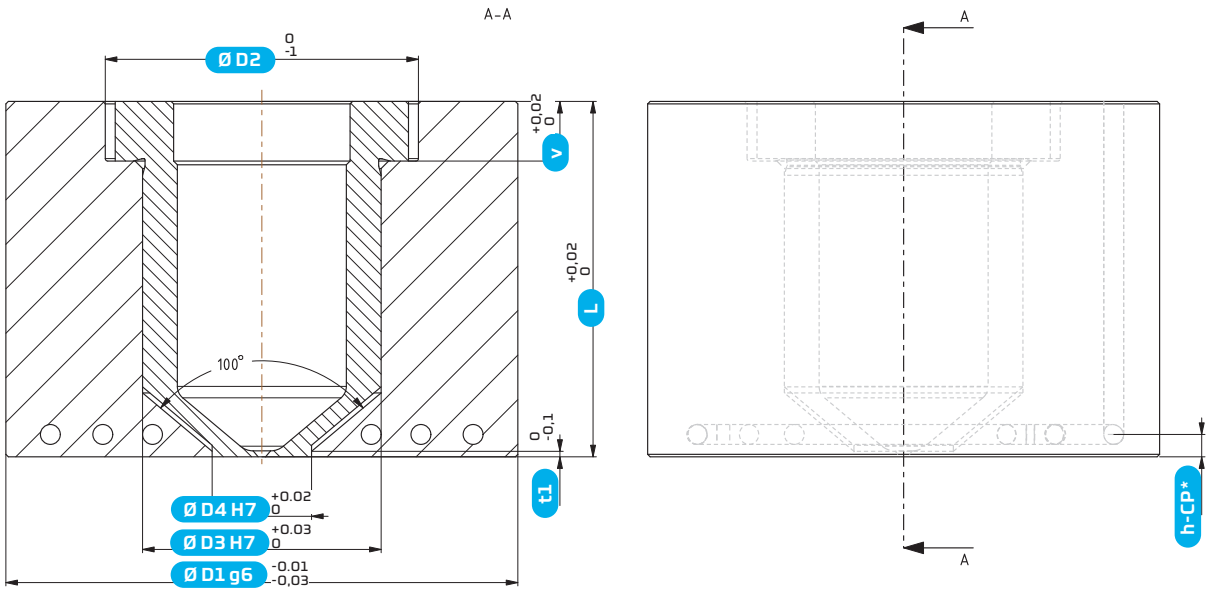
- Optimal cooling of overheated surfaces in the nozzle area.
- Homogeneous cooling of the working surface.
- Circular shape of cooling channels for maximum efficiency.

- 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.

COOLING POWER OPTIONS

- 10 W/m²
- 15 W/m²
- 25 W/m²

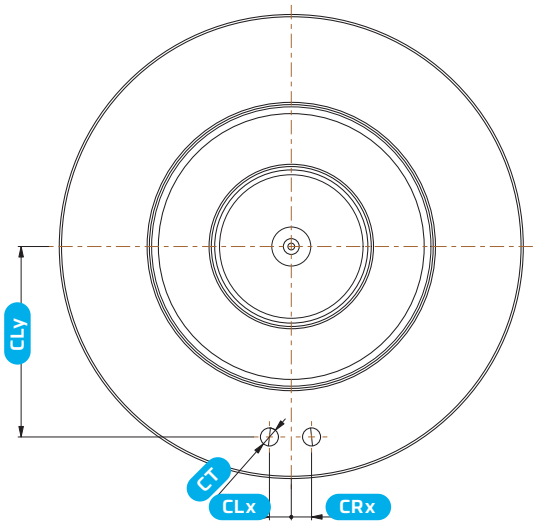
02 Dimensional parameters



*The dimension changes based on the cooling power input

Name	D1	D2	D3	D4	v	t1	L range
20BF	55	35	28	16	5	2,3	50-100
22BF	58	38	32	16	5	2,3	50-120
26BF	65	45	36	16	5	2,3	50-120
32BF	70	50	42	20	9	3,3	60-120
38BF	79	59	48	26	12	4,3	60-120
44BF	84	64	54	32	12	5,3	60-120
50BF	92	72	60	38	12	6,3	60-120

03 Connection holes



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

iTherm®

Core Gate Insert with Bushing

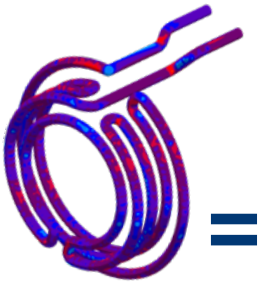
DATA SHEET

Core Gate Insert with Bushing

01 Cooling Power

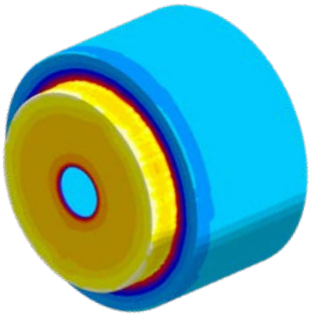
DESIGN APPROACH

THERMAL ANALYSIS AND SIMULATION



iTherm®

CORE GATE INSERT WITH BUSHING



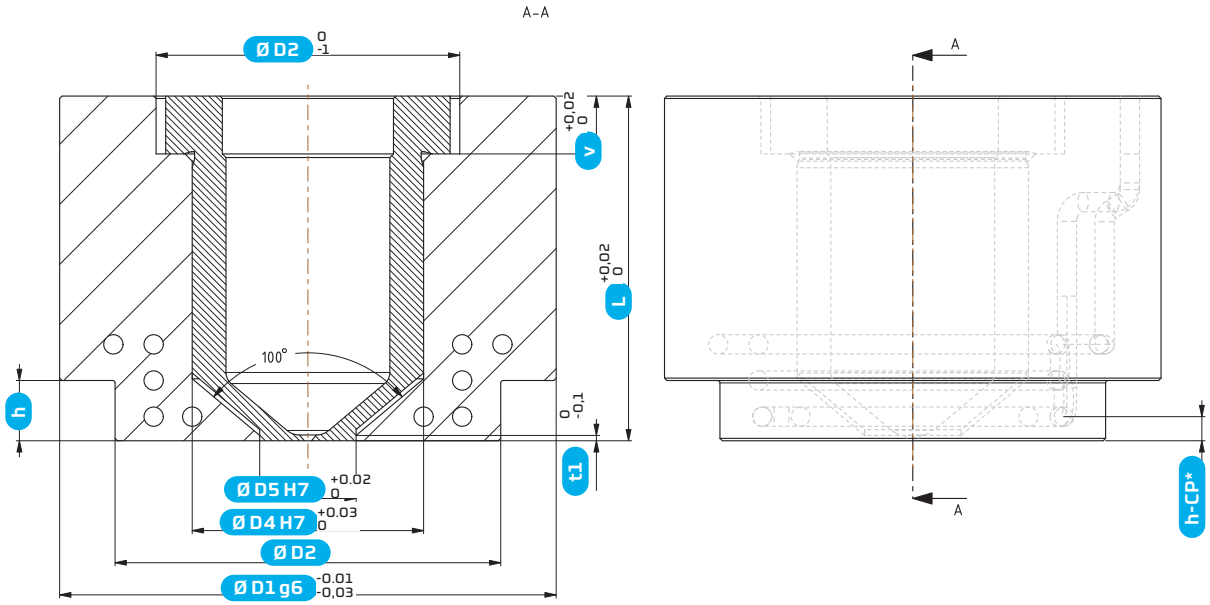
- Optimal cooling of overheated surfaces in the nozzle area.
- Homogeneous cooling of the working surface.
- Circular shape of cooling channels for maximum efficiency.

- 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.

COOLING POWER OPTIONS

- 10 W/m²
- 15 W/m²
- 25 W/m²

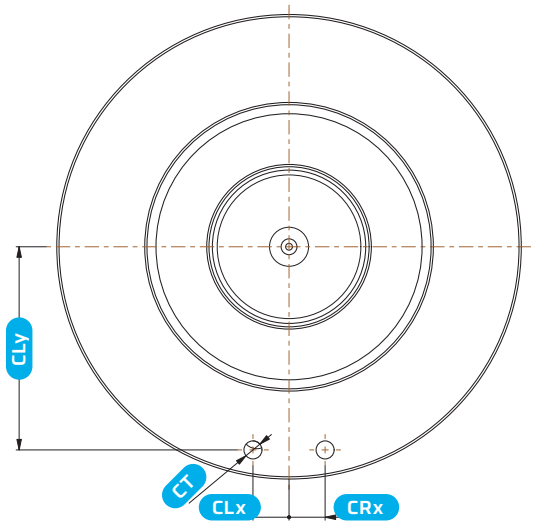
02 Dimensional parameters



*The dimension changes based on the cooling power input

Name	D1	D2	D3	D4	D5	v	t1	H	L range
20BCO	55	48	35	28	16	5	2,3	5-45	50-100
22BCO	58	52	38	32	16	5	2,3	5-45	50-120
26BCO	65	56	45	36	16	5	2,3	5-45	50-120
32BCO	70	62	50	42	20	9	3,3	5-45	60-120
38BCO	79	68	59	48	26	12	4,3	5-45	60-120
44BCO	84	74	64	54	32	12	5,3	5-45	60-120
50BCO	92	80	72	60	38	12	6,3	5-45	60-120

03 Connection holes



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

iTherm®

Cavity Gate Insert with Bushing

DATA SHEET

Cavity Gate Insert with Bushing

01 Cooling Power

DESIGN APPROACH

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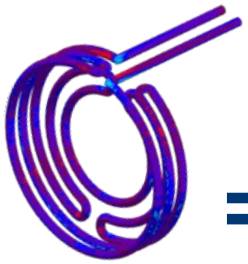
THERMAL ANALYSIS AND SIMULATION



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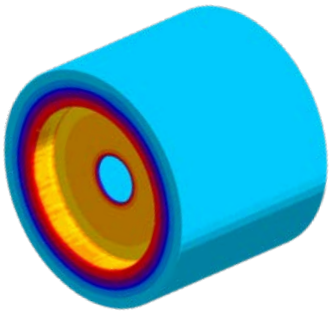
iTherm®

CAVITY GATE INSERT WITH BUSHING



- Optimal cooling of overheated surfaces in the nozzle area.
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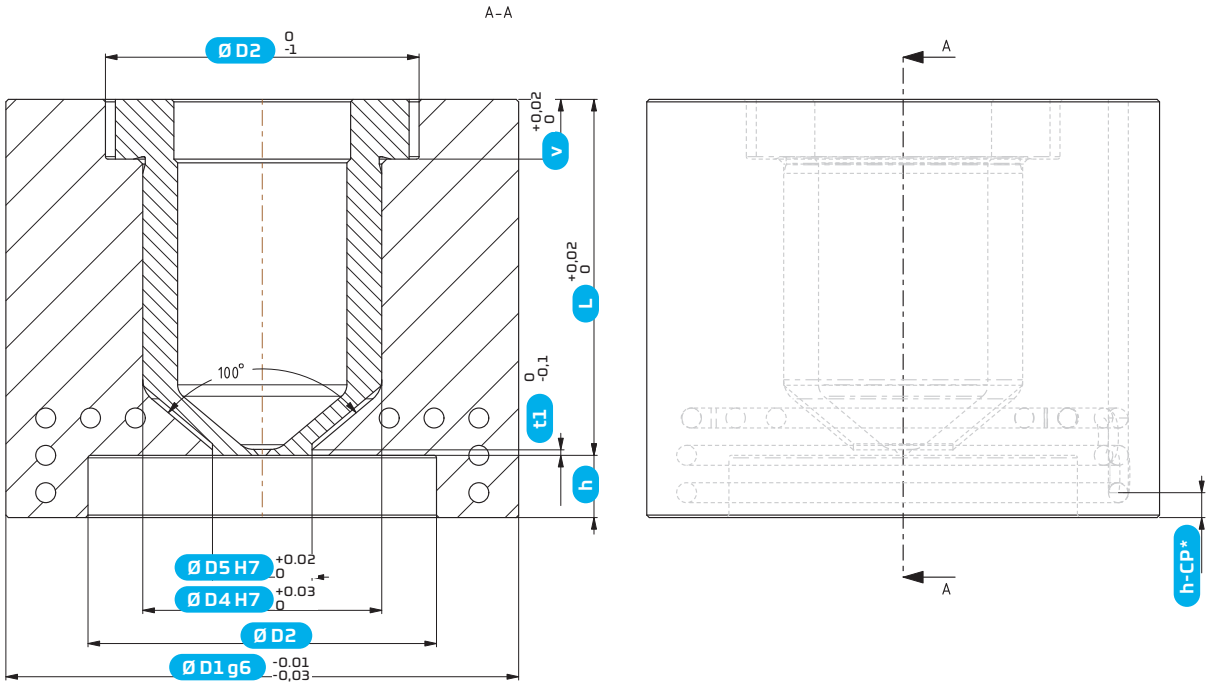
COOLING POWER OPTIONS

- 10 W/m²
- 15 W/m²
- 25 W/m²

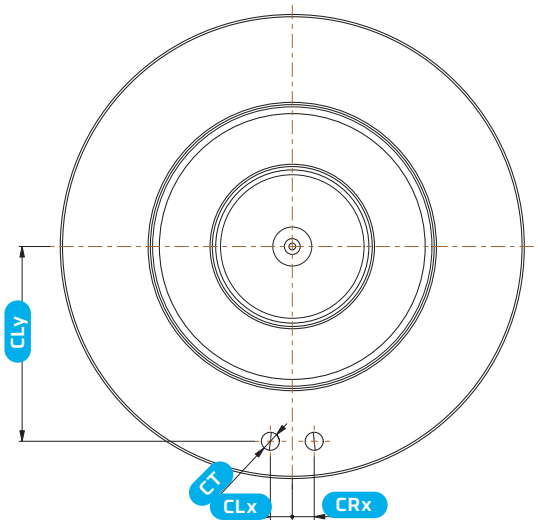
02 Dimensional parameters



*The dimension changes based on the cooling power input

Name	D1	D2	D3	D4	D5	v	t1	h	L range
20BCA	55	48	35	28	16	5	2,3	5-45	50-100
22BCA	58	52	38	32	16	5	2,3	5-45	50-120
26BCA	65	56	45	36	16	5	2,3	5-45	50-120
32BCA	70	62	50	42	20	9	3,3	5-45	60-120
38BCA	79	68	59	48	26	12	4,3	5-45	60-120
44BCA	84	74	64	54	32	12	5,3	5-45	60-120
50BCA	92	80	72	60	38	12	6,3	5-45	60-120

03 Connection holes



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

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