

Gate Insert



DATA SHEET

Gate Insert



Gate insert
with bushing



Conformally
Cooled



Uniform Heat
Distribution



Tool Steel
Material



No leakage



Cycle Time
Reduction



Lifespan
Extension



iTherm® Gate Insert

- 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, you can significantly shorten cycle time, by up to 20%.

Technical Specification



01

Material

- iTerm® Gate Inserts 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



Flat Gate Insert



DATA SHEET

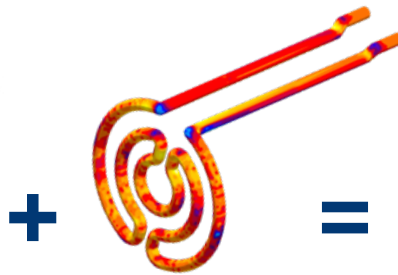
Flat Gate Insert

01 Cooling Power

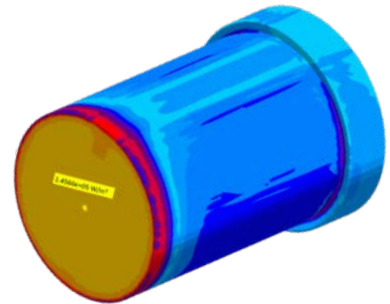
DESIGN APPROACH



THERMAL ANALYSIS AND SIMULATION



iTherm®
FLAT GATE INSERT



- 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

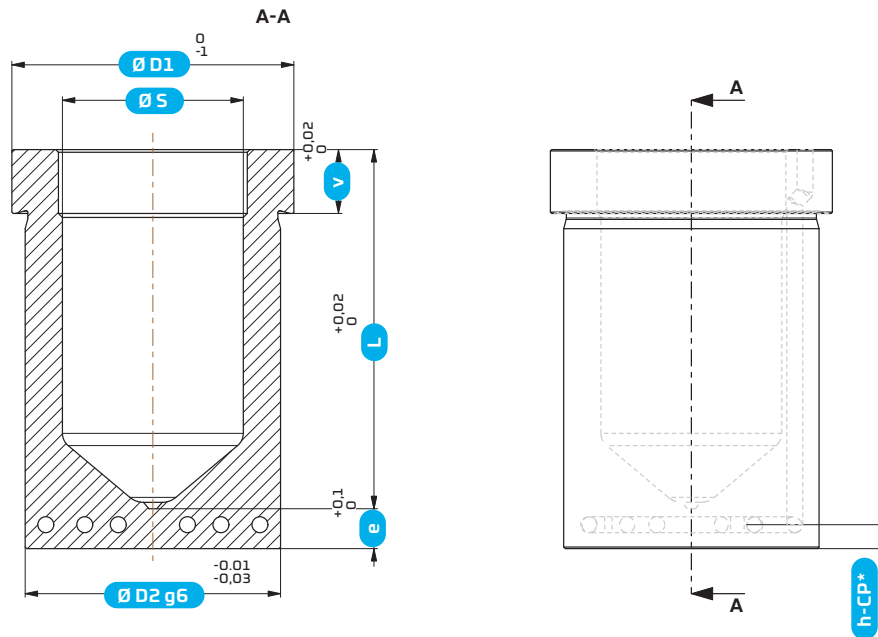
10 W/m²

15 W/m²

25 W/m²

02

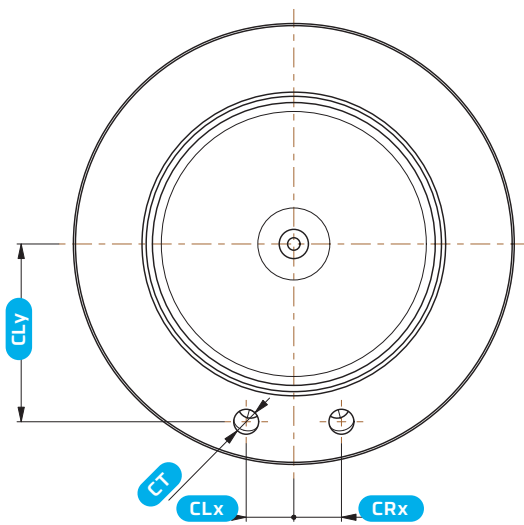
Dimensional parameters



*The dimension changes based on the cooling power input

Name	D1	S	D2	v	L-range	e
20BF	35	20	30	5	50-100	5
						10
						15
22BF	38	22	32	5	50-120	5
						10
						15
26BF	45	26	36	5	50-120	5
						10
						15
32BF	50	32	42	9	60-120	5
						10
						15
38BF	59	38	48	12	60-120	5
						10
						15
44BF	64	44	54	12	60-120	5
						10
						15
50BF	72	50	60	12	60-120	5
						10
						15

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"



Core Gate Insert

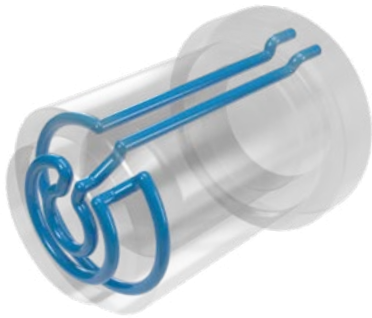


DATA SHEET

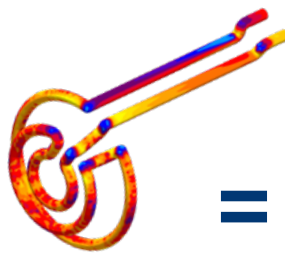
Core Gate Insert

01 Cooling power

DESIGN APPROACH

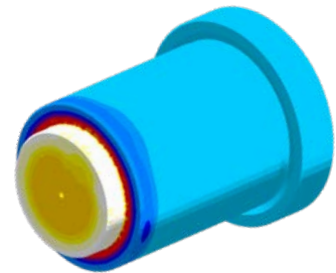


THERMAL ANALYSIS AND SIMULATION



+ =

iTherm® CORE GATE INSERT



COOLING POWER OPTIONS

10 W/m²

15 W/m²

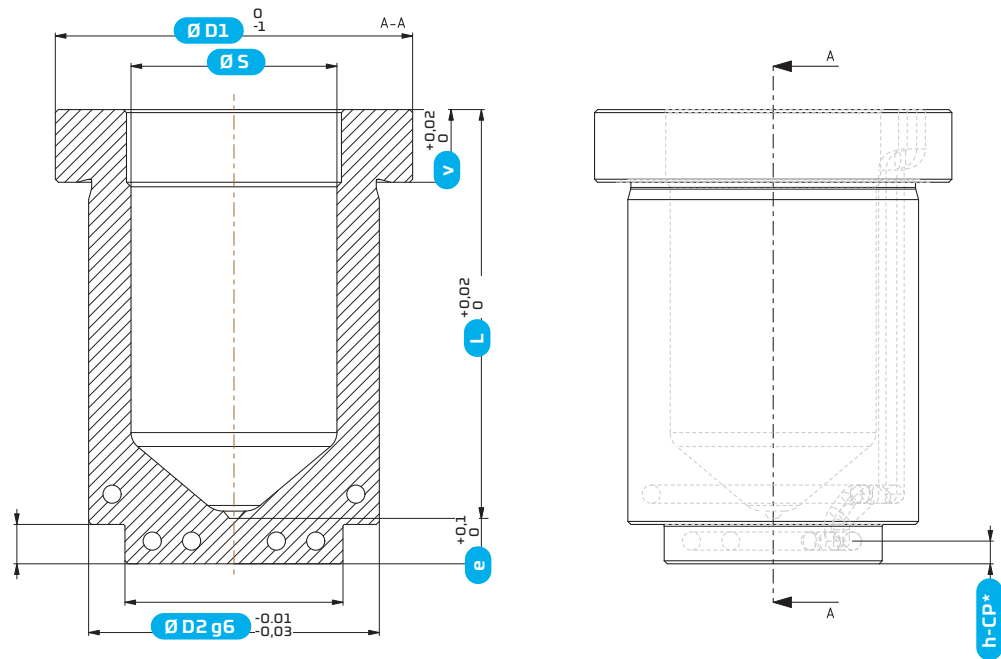
25 W/m²

- 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.

02

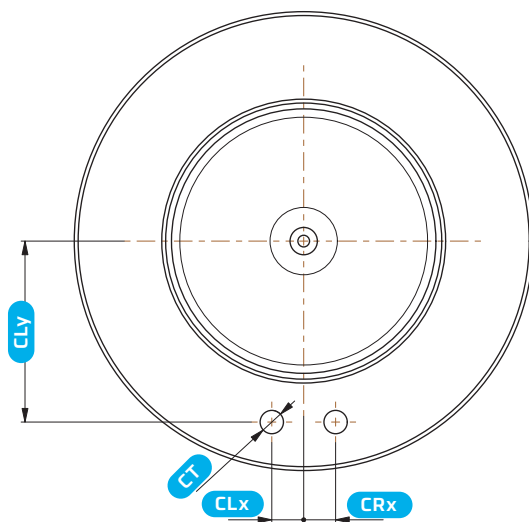
Dimensional parameters



*The dimension changes based on the cooling power input

Name	D1	D2	D3	v	H	L range	e
20BCO	55	48	35	5	5-45	50-100	5
							10
							15
22BCO	58	52	38	5	5-45	50-120	5
							10
							15
26BCO	65	56	45	5	5-45	50-120	5
							10
							15
32BCO	70	62	50	9	5-45	60-120	5
							10
							15
38BCO	79	68	59	12	5-45	60-120	5
							10
							15
44BCO	84	74	64	12	5-45	60-120	5
							10
							15
50BCO	92	80	72	12	5-45	60-120	5
							10
							15

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"



Cavity Gate Insert



DATA SHEET

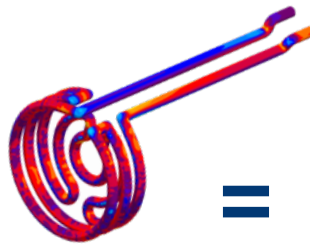
Cavity Gate Insert

01 Cooling power

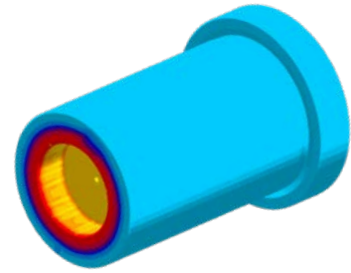
DESIGN APPROACH



THERMAL ANALYSIS AND SIMULATION



iTherm®
CAVITY GATE INSERT



- 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

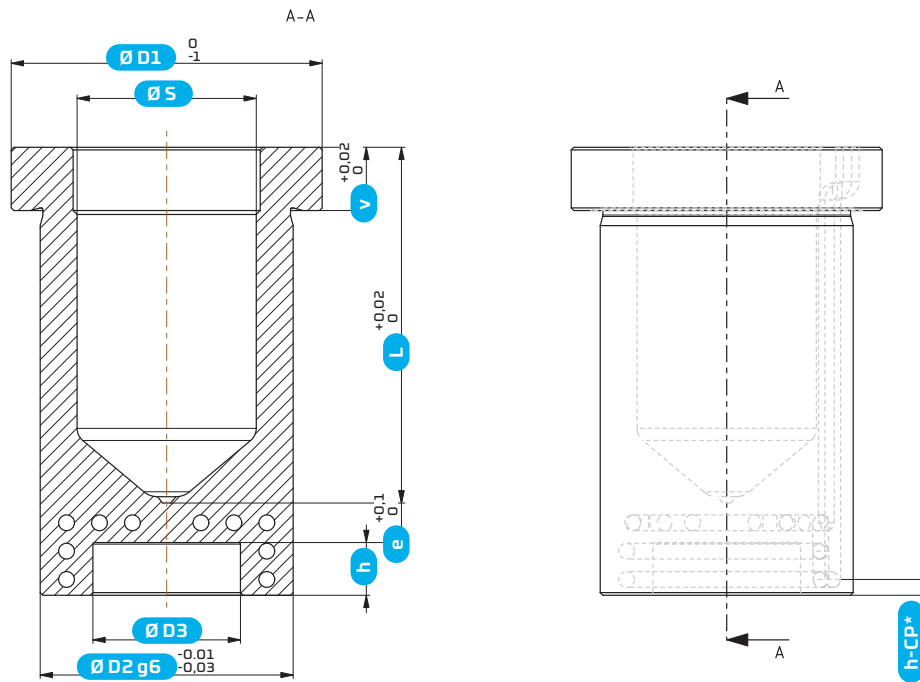
10 W/m²

15 W/m²

25 W/m²

02

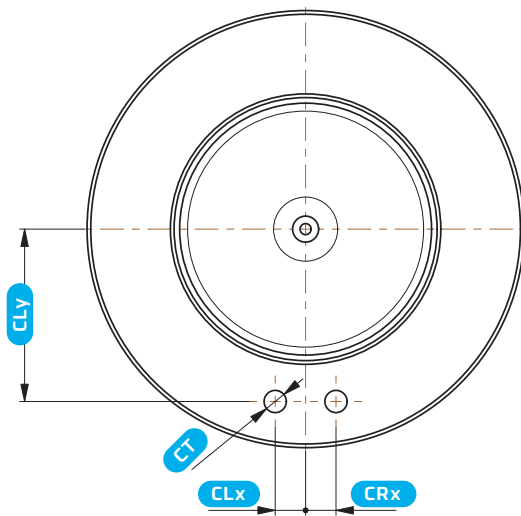
Dimensional parameters



*The dimension changes based on the cooling power input

Name	D1	D2	D3	v	h	L range	e
20BCA	55	48	35	5	5-45	50-100	5
							10
							15
22BCA	58	52	38	5	5-45	50-120	5
							10
							15
26BCA	65	56	45	5	5-45	50-120	5
							10
							15
32BCA	70	62	50	9	5-45	60-120	5
							10
							15
38BCA	79	68	59	12	5-45	60-120	5
							10
							15
44BCA	84	74	64	12	5-45	60-120	5
							10
							15
50BCA	92	80	72	12	5-45	60-120	5
							10
							15

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"



HTS Technology Group

Litostrojska cesta 60, SI-1000 Ljubljana, Slovenia
Phone: +386 1 5000 140
E-mail: office@htsgroup.com

HTS SALES AND TECHNICAL SUPPORT NETWORK

USA

HTS International Corporation
123 Center Park Dr. Ste 233
Knoxville, 37922
USA
Phone: +1 865 410 8880
E-mail: info@htsintl.com

AUSTRIA

HTS IC GmbH
Heinrich Bablik-Straße 17
AT-1100 Wien
Austria
Phone: +43 1 60030 2911
E-mail: office.austria@hts-ic.com

GERMANY

HTS MWT GmbH
Max-von-Eyth-Straße 7
DE-86899 Landsberg/Lech
Germany
Phone: +49 81 91 94 77 214
E-mail: office.mwt@htsgroup.com

SLOVENIA

HTS IC d.o.o.
Litostrojska ulica 60
SI-1000 Ljubljana
Slovenia
Phone: +386 1 5 000 115
E-mail: info@hts-ic.com

FRANCE

HTS Technology France
Lyon Plaza Part Dieu 93 rue de la Villette
FR-69003 Lyon
France
Phone: +33 787 15 83 74
E-mail: jonathan.labarre@htsgroup.com

CZECH REPUBLIC

HTS IC s.r.o.
Viktora Huga 377/4
CZ-15000 Praha 5
Czech republic
Phone: +420 720 532 147
E-mail: office.cz@hts-ic.com

SPAIN

ALROTEC TECHNOLOGY, SL
Pol. Ind. de Constantí. Avgda.
de Les Punes Nav 5
E-43120 Constantí
Spain
Phone: +34 977 525 561
E-mail: alrotec@alro-tec.com

ITALY

Sidertoce S.p.A.
Via XX Settembre, 198
28883 Gravellona Toce (VB)
Italy
Phone: +39 0323 865208
E-mail: info@sidertoce.com