

# HTS Product Range Overview

## COMPLETELY INTEGRATED IN-HOUSE PRODUCTION

SAW CUTTING

MILLING

GRINDING

CNC MACHINING

DEEP DRILLING

TURNING

HONNING

HEAT TREATMENT

SURFACE TREATMENT

WELD CLADDING

WIRE EDM

DED

SINK EDM

3D MEASURING

3D SCANNING

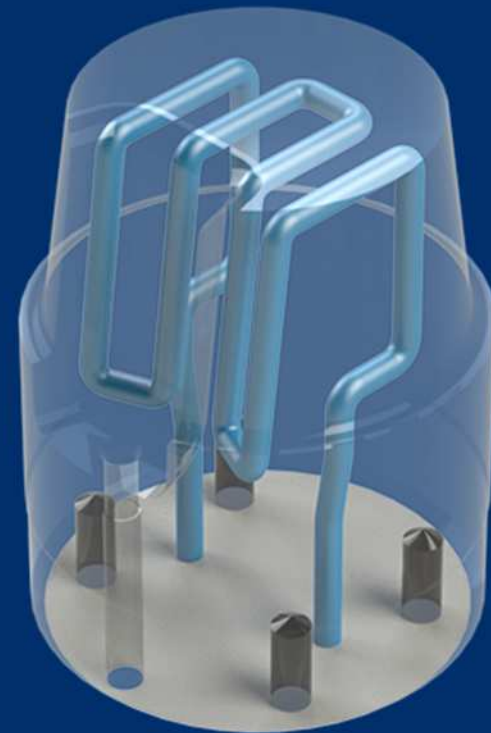
MFT



iTherm® brand stands for ultimate productivity solutions, based on principles of conformal cooling.

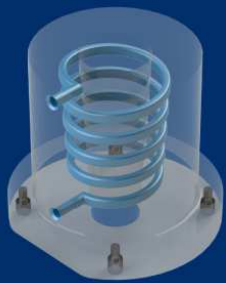
iTherm® components are made using different additive manufacturing technologies, among which also MFT and DED.

iTherm® components are used in die casting, injection moulding, hot stamping, aerospace and nuclear energy industries

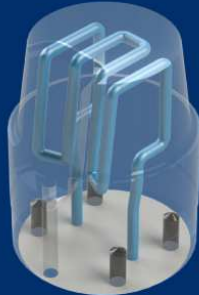




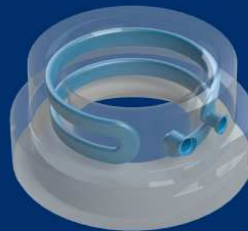
## iTherm® APPLICATION AREAS DIE CASTING



**SPRUE  
BUSHINGS**



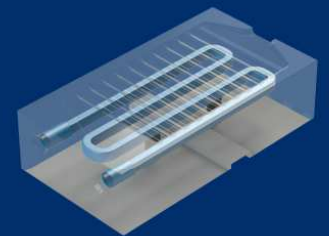
**SHOT  
BLOCKS**



**FEED  
RINGS**



**ENGINE BLOCK  
CASTING CORES**



**CHILL  
VENTS**

# PRODUCTS FOR DIE CASTING



## Injection system components

iTherm® Distributor / Shot block

iTherm® Sprue bushing

iTherm® Plunger

iTherm® Feed ring

Plunger ring

Cooling ring

Shot sleeve

Integral insert / liner

Replaceable insert / liner

HTS Rod spray lubrication



## Die components

iTherm® Core for engine block casting

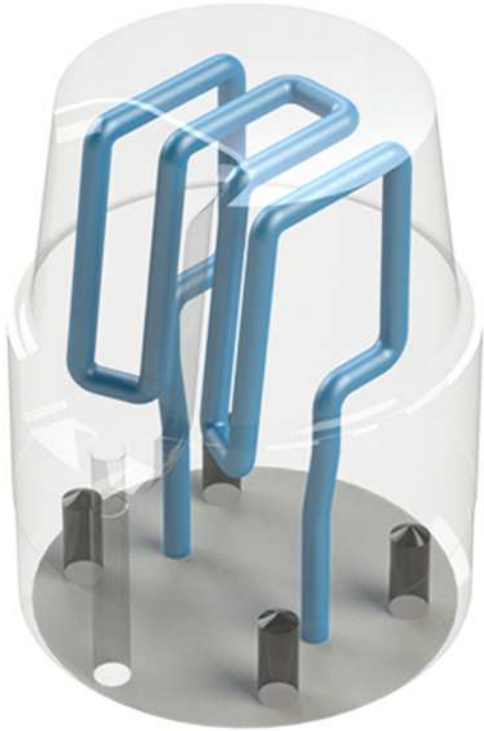
iTherm® Chill vent



## Monitoring software

DCTM system

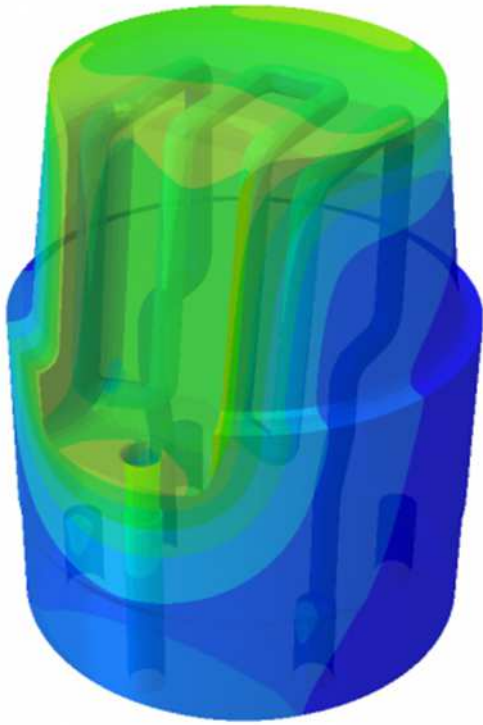
# iTherm<sup>®</sup> SHOT BLOCK



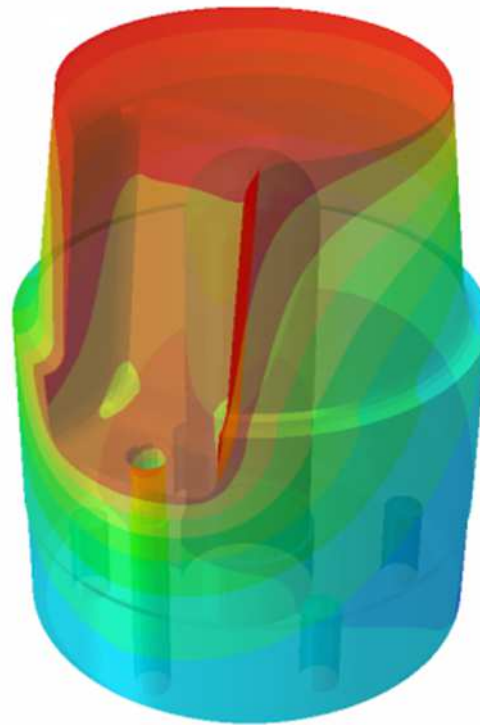
## ADVANTAGES

- more freedom designing cooling channels
- even heat distribution on the working surface
- faster biscuit solidification
- shorter cycle time

# iTherm<sup>®</sup> SHOT BLOCK

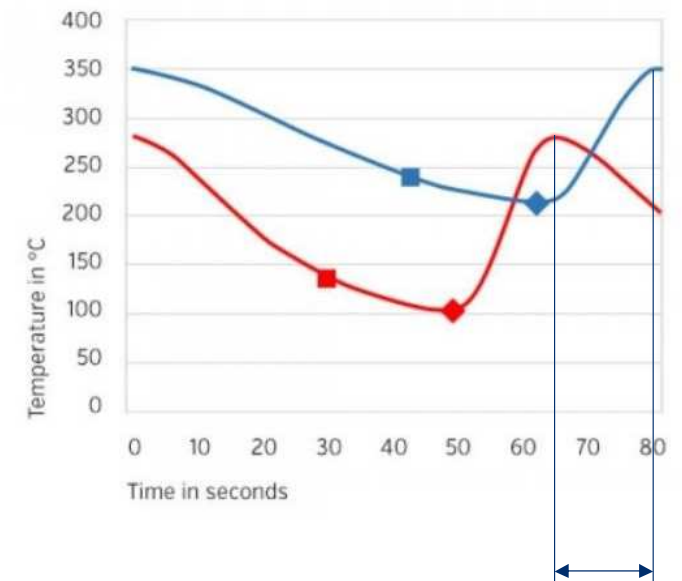


iTherm<sup>®</sup>



conventional

## CYCLE TIME IMPROVEMENT





# PISTONS



**Conducta**



**Endura**



**Performa**

**\*All the plungers in our product range are produced by OUR daughter companies, HTS IC d.o.o. and Alrotec s.a.**



# iTherm® PLUNGER LIFETIME

With iTherm® Plunger, the conformal cooling of the steel allows the heat removal rate to exceed that of BeCu tips while extending its lifetime due to low transient stresses in the membrane.

Our customers have reported [more than 120.000 shots](#) lifetime of iTherm® Plunger (with 3x ring replacements).



iTherm® Plunger: new (left) and after 120.000 shots and 3 ring replacements (right)



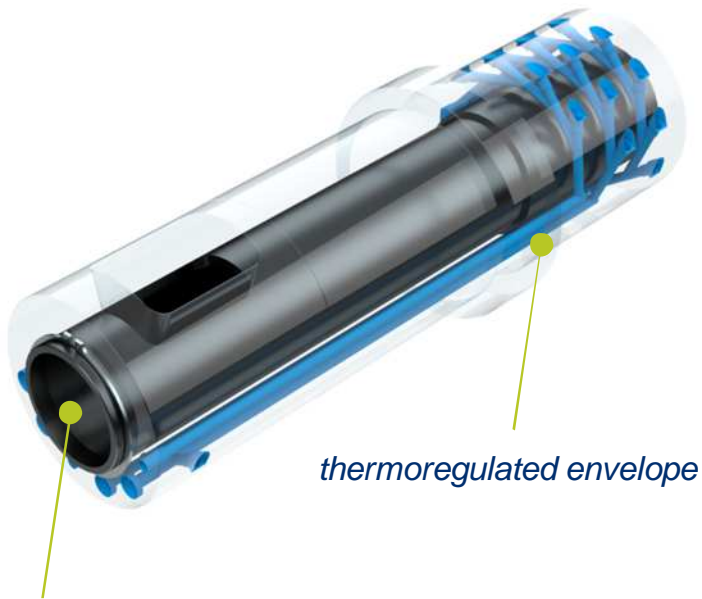


06.2023





# INNOSLEEVE IS A WIN-WIN SOLUTION FOR DIE CASTING



*thermoregulated envelope*

 **innoSleeve** insert

## GENERAL INFORMATION

- **patented** solution for sleeve cost optimization developed by HTS
- made with special in-house developed alloy

## ADVANTAGES

- **longer life time** (20% - 40% compared to standard sleeve)
- **lower frequency** of shot sleeve replacements
- **shorter** production stoppages (quick & easy replacement)
- **substantially lower overall costs**

 **up to 70% less CO<sub>2</sub> generated**

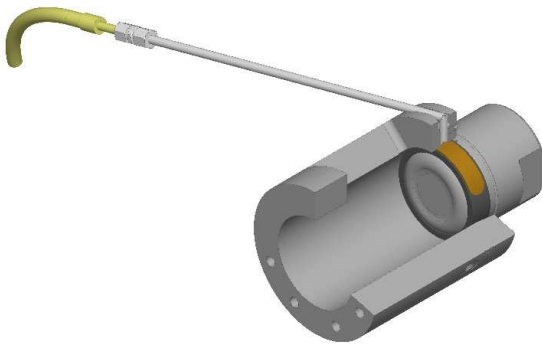
# HOW INNOSLEEVE IS USED?

IMPLEMENTATION	1st REPLACEMENT	2nd REPLACEMENT	...	CONCLUSION
 O innoSleeve			...	1×  n× 
CONVENTIONAL SLEEVE				... n× 

- When using the innoSleeve insert, the OD of the sleeve remains the same (majority of conventional sleeves can be remachined for usage with innoSleeve insert)
- After the initial implementation when envelope and insert have are aquired, users only replace the inside insert, while the envelope remains
- innoSleeve insert can be quickly replaced with specially designed tool we supply

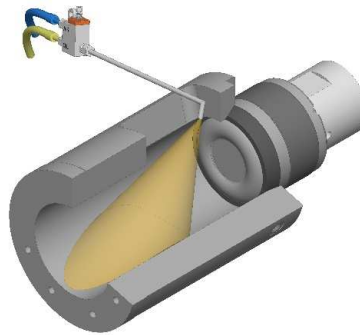
# HTS LUBRICATION SYSTEMS

## ① EASY LUB DROP



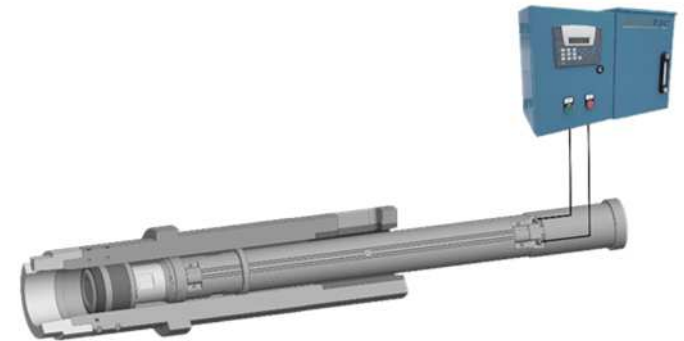
drop over the ring

## ② EASY LUB SPRAY



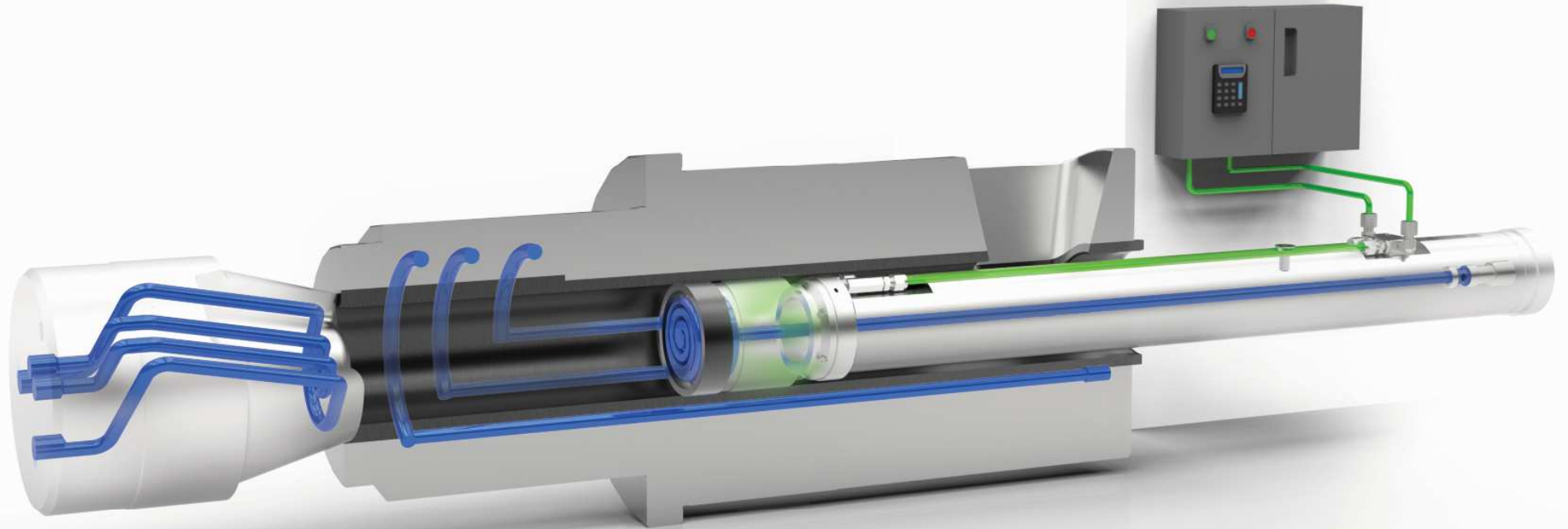
spray in pour hole

## ③ ROD SPRAY



spray on whole sleeve length

# WE OFFER COMPLETE INJECTION SYSTEM SOLUTIONS



**iTherm®**  
CORE



**iTherm®**  
SHOT BLOCK



**iTherm®**  
SPRUE



**iTherm®**  
FEED RING



**iTherm®**  
COOLING RING



**iTherm®**  
PLUNGERS



**COOPER**  
PLUNGER



**SHOT SLEEVES**  
STANDARD  
TERMO REGULATED  
WITH INTEGRAL INSERT



**PISTON**  
RODS

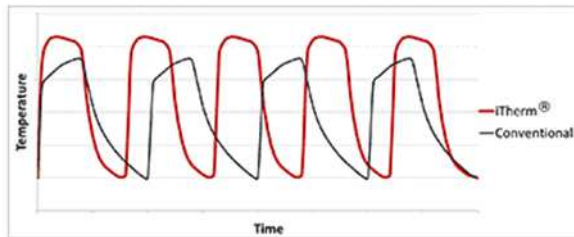
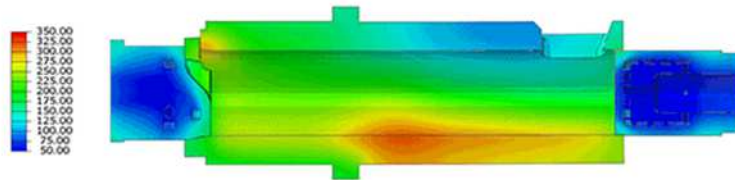


**LUBRICATION**  
SYSTEMS

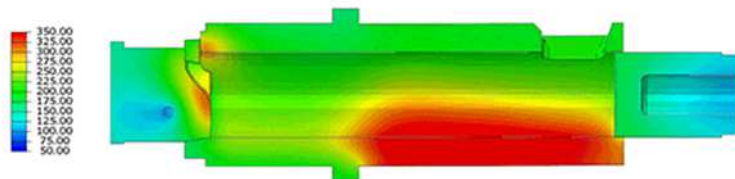


# CASE STUDY: HTS INJECTION SYSTEM

iTHERM® PISTON and iTHERM®  
DISTRIBUTOR delivered in THERM® CASTING SET  
[example of performance]



STANDARD SOLUTION  
[example of performance]



## GENERAL INFORMATION

- HTS Injection system consists of three innovative products
- iTHERM® Plunger
- HTS Shot sleeve
- iTHERM® Distributor/Shot block

## ADVANTAGES

It guarantees required manufacturing tolerances and product performance, and as such is subject to our full warranty. Each of our Injection systems installed reduced the process cycle time by not less than 10%.



# CONTACTS

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