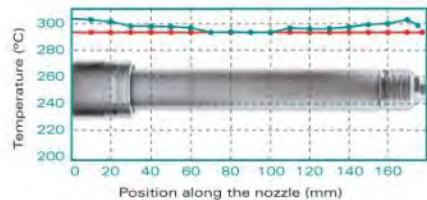


METALLERSTATNING MED PLAST

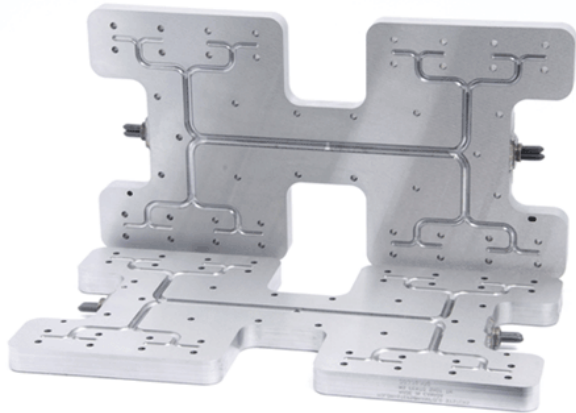
Sprøjtestøbning af
højtemperatur materialer med

Glasforstærkning op til 70%

HVAD SKAL DER TIL !



Processing Temperature Master-Series Nozzle



englmayer

repræsentant for

MOLD-MASTERS

i Danmark, Norge og Sverige

Tel.: +45 46 73 38 47

Fax.: +45 46 73 38 59

E-mail: support@englmayer.dk

www.englmayer.dk





Anke Englmayer
Technical
Manager



Maj-Britt Englmayer
Financial & Marketing
Manager



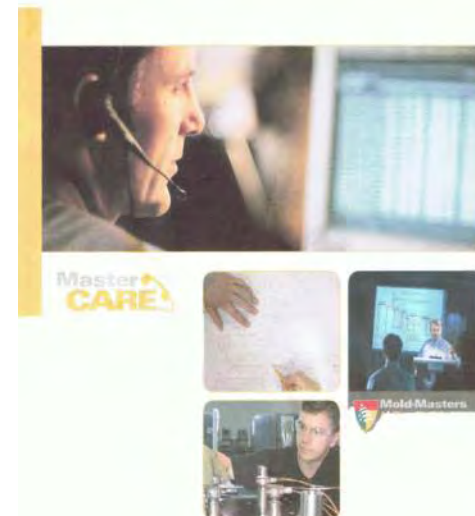
Günter Englmayer
Senior Consultant



Jens Lundsby
Sales- & Service
Consultant

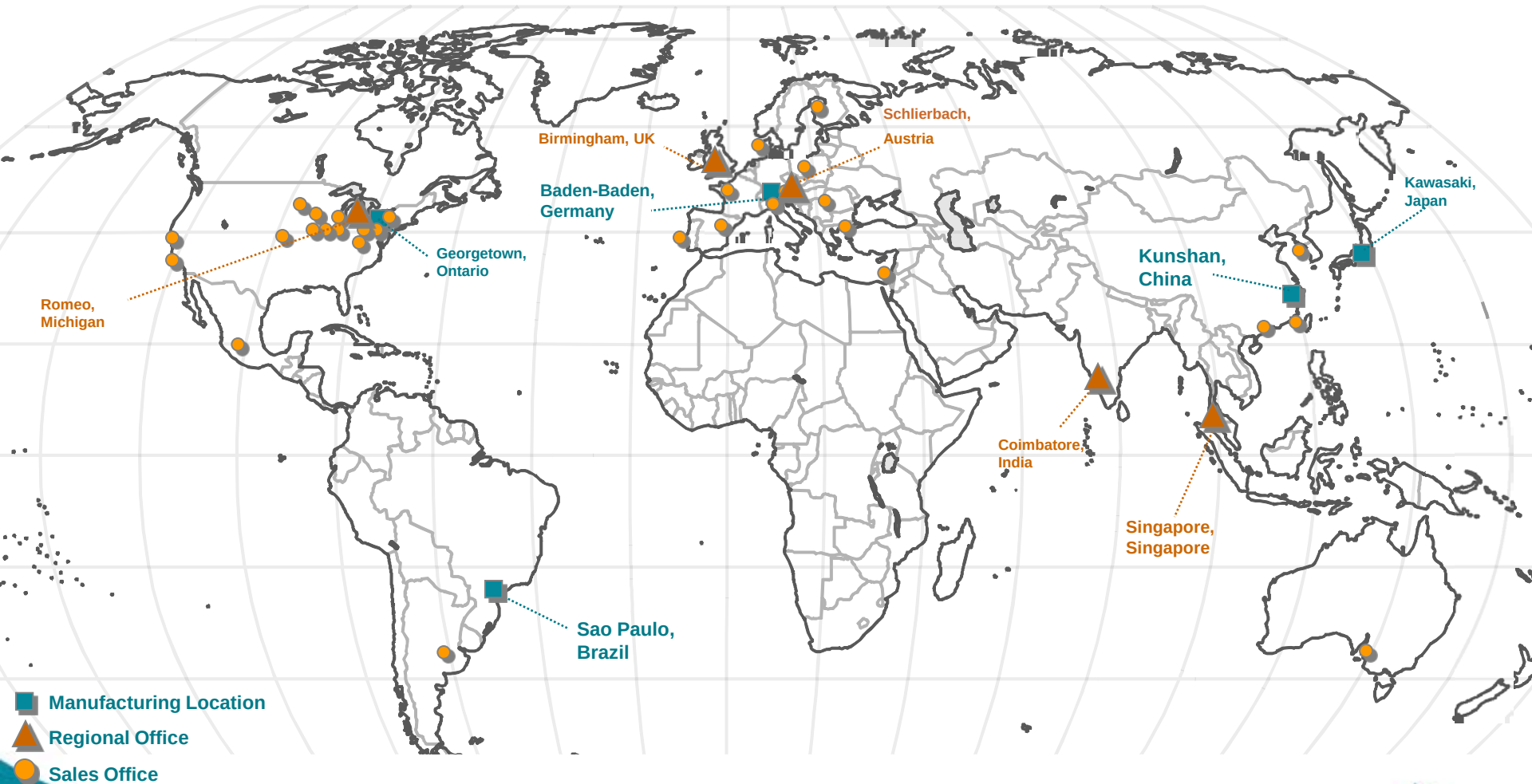
Englmayer Service

- Rådgivning ved konstruktion både hos værktøjsmager, sprøjtestøber eller slutbruger
- Installation af varmekanalsystem
- Deltagelse ved første prøvekørsel
- Lagerføring af reservedele
- Hurtig respons på dele & service
- Skoling af medarbejder i Hot runner teknologi



Industry's Leading Supplier with Over 1,000 Employees

5 manufacturing locations, 22 sales and service offices globally



Global Operations



180,000 ft²

70,000 ft²

60,000 ft²



Agent/Reseller Locations

- ◆ Mexico
- ◆ Argentina
- ◆ France *
- ◆ Italy
- ◆ Australia
- ◆ Denmark
- ◆ Portugal
- ◆ Finland
- ◆ Spain
- ◆ Romania
- ◆ Turkey
- ◆ Israel
- ◆ Hong Kong
- ◆ Taiwan
- ◆ Vietnam
- ◆ South Korea
- ◆ Australia

Sales & Regional Offices

- ▲ Canada
- ▲ U.S.
- ▲ U.K.
- ▲ Austria
- ▲ Belgium
- ▲ Czech Republic
- ▲ Switzerland
- ▲ Japan
- ▲ India
- ▲ China
- ▲ Singapore

Manufacturing Facilities

- Canada
- Brazil
- Germany
- China
- Japan

>350,000 ft² of manufacturing space

Development Facility

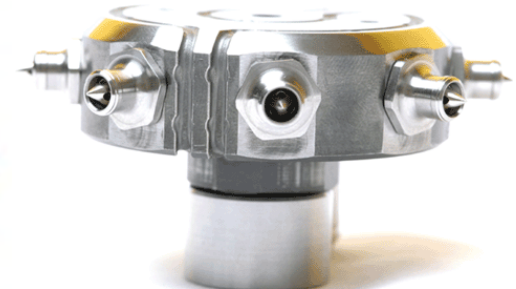
- Largest Research & Development budget in hot runner industry
- Dedicated R&D team (manufacturing, engineering, intellectual property, business development)



E-Drive™



Melt-Disk™



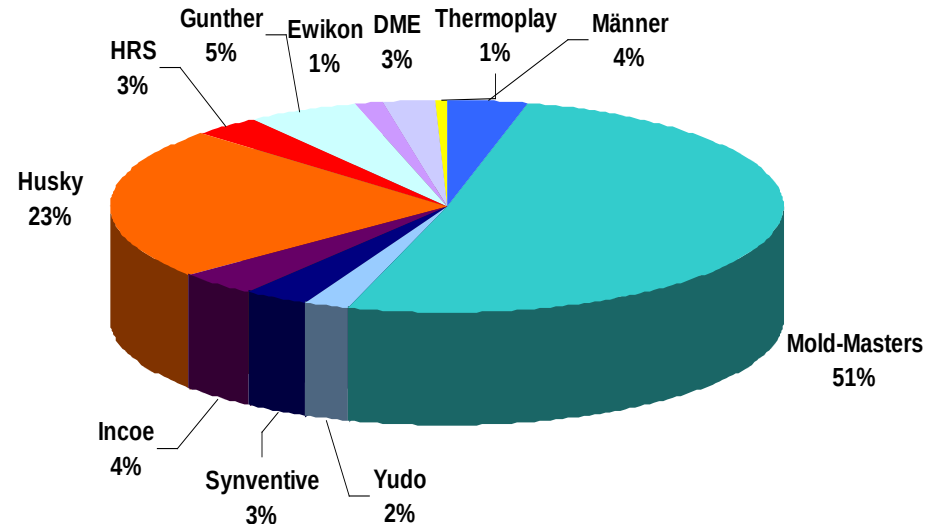
Innovation Leader

- Over 1,600 patents, more than all of the competitors combined

Most Innovative Companies

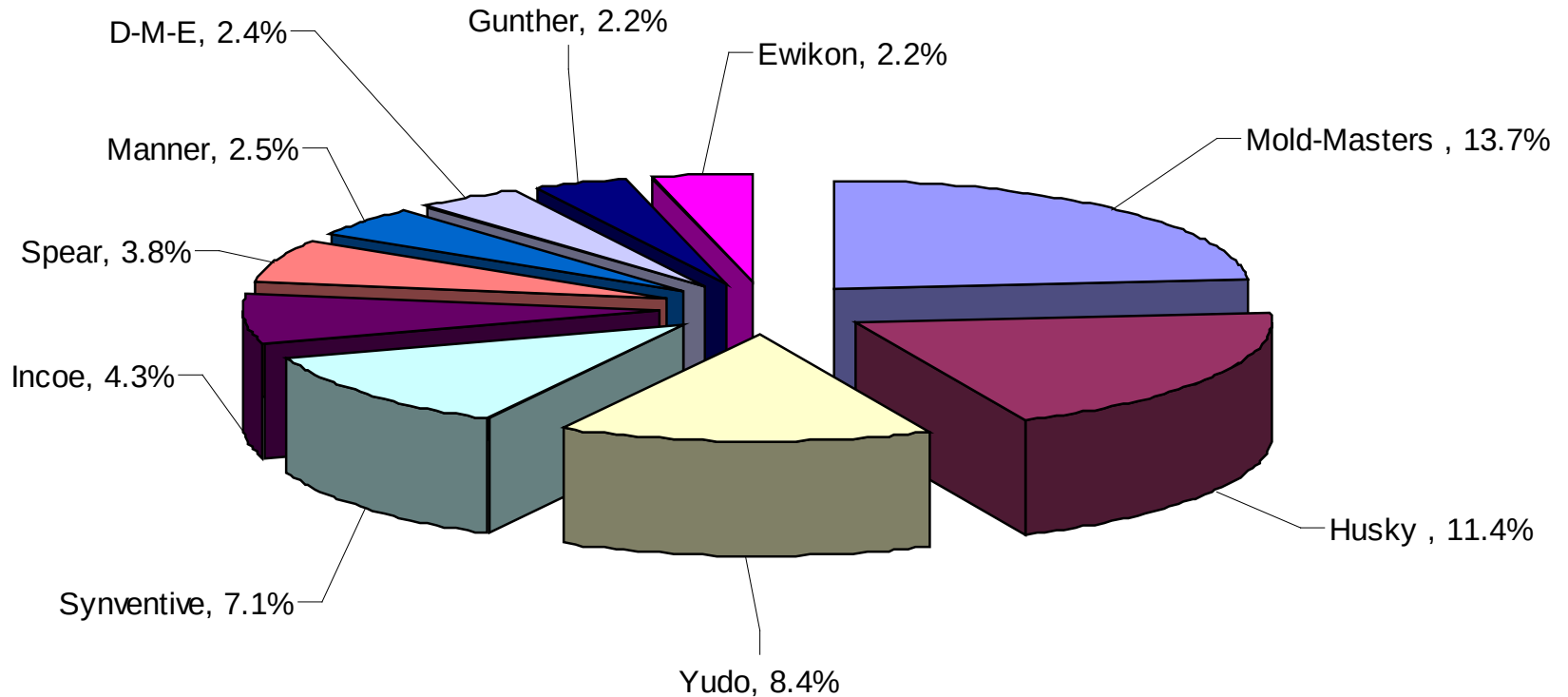
Ranking	Tech Strength	Company	Patents Granted
1	184.2	Leviton Mfg	45
2	160.5	Illinois Tool Wrks	242
3	139.0	Matsushita Elec	160
4	122.8	Sumitomo Elec Indus	134
5	118.4	Rockwell Automatn	101
6	106.9	3M	69
7	102.5	Eaton	140
8	100.7	Schneider SA	102
9	95.7	Mold-Masters	36
10	91.0	FCI	69
11	88.2	General Electric	110
12	83.5	Fanuc	106
13	79.6	United Techno	143
14	76.0	Invensys	55
15	72.8	Emerson Electric	72

Issued Patents



World Market: Top 10 Hot Runner Suppliers

Average Market Share (2005-2007)*



* Percentages shown are based on IC (Interconnection Consulting) Marketing Tracking® findings

Product Overview



Master[™]
series

Foundation of our product



Accu-Valve[™]

Premium valve gate solutions

Melt-Disk[™]

Superior direct side gating made simple

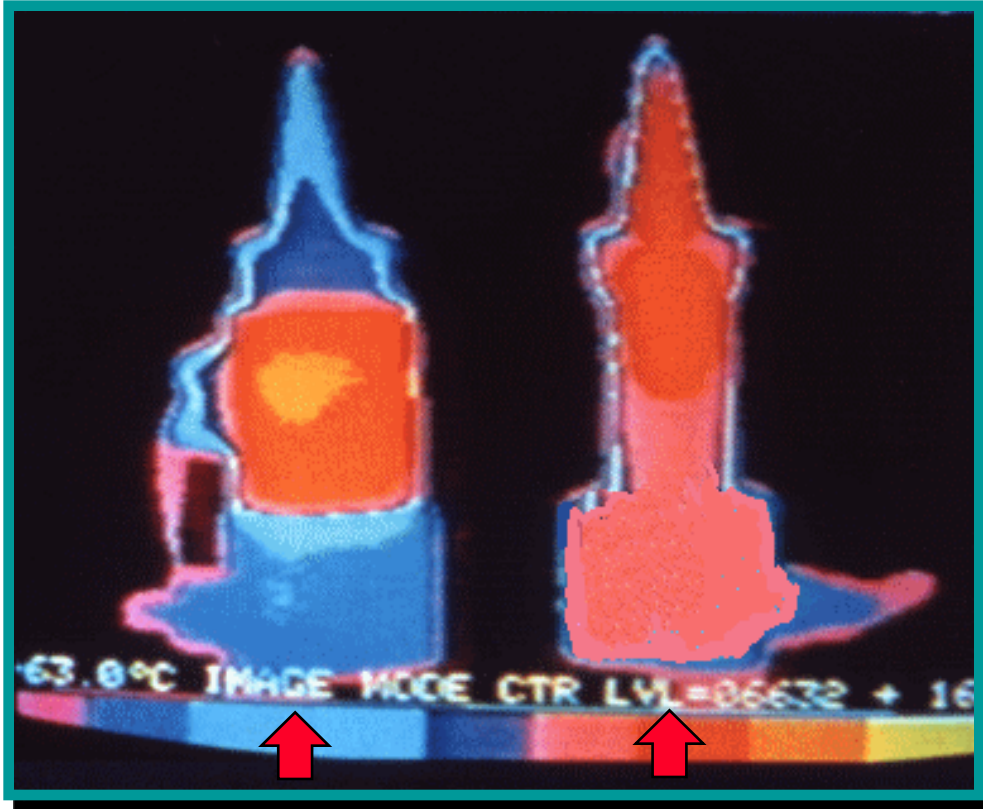
TempMaster[™]
series

Temperature controllers from
2- 240 zones



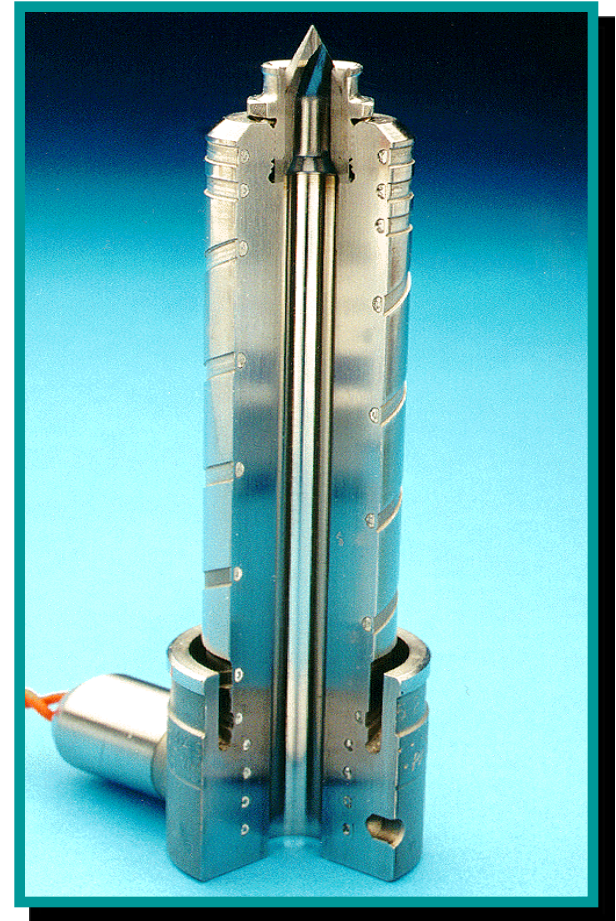
**Mold
Masters**[®]
performance delivered

Fusion Technology

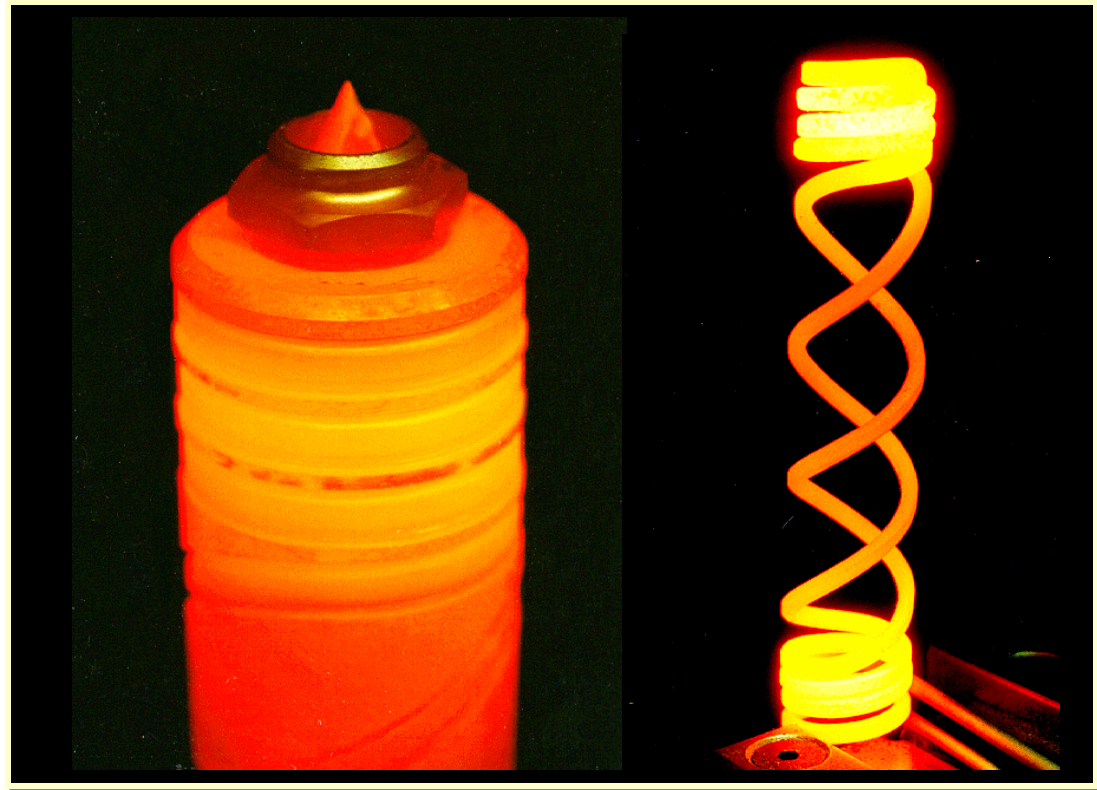


Nozzle with
heater band

Mold-Masters nozzle
with
fused heater



Unsurpassed Dura-bility

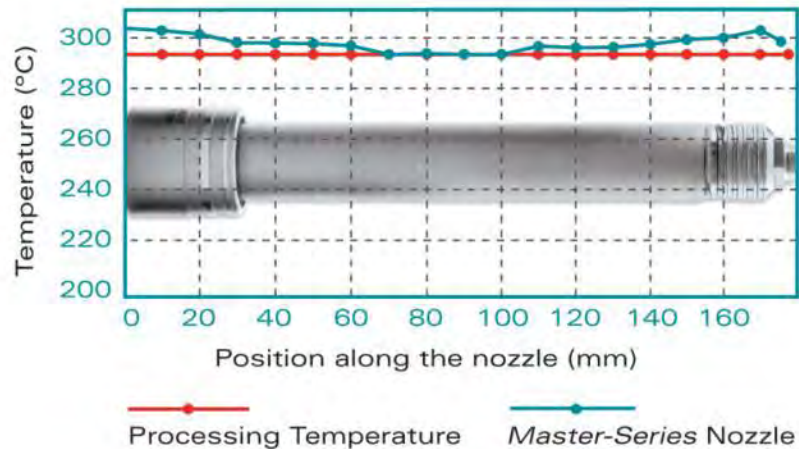


Heater Fusion with H13 Steel allows for enduring the highest of injection pressures

solution

■ Mold-Masters Flagship product line

- 12 standard gate options
- 6 standard nozzle sizes
- Precise temperature control with brazed heater technology and integrated T/C



Industry's Broadest Nozzle Range



Hecto



Deci



Centi



Pico



Femto



Femto Lite

Non-Valved



12mm – 16mm



8mm



6mm



5mm

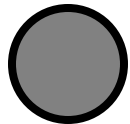


5mm



3.5mm

Valved



16mm – 18mm



11mm



8mm



7mm



6mm

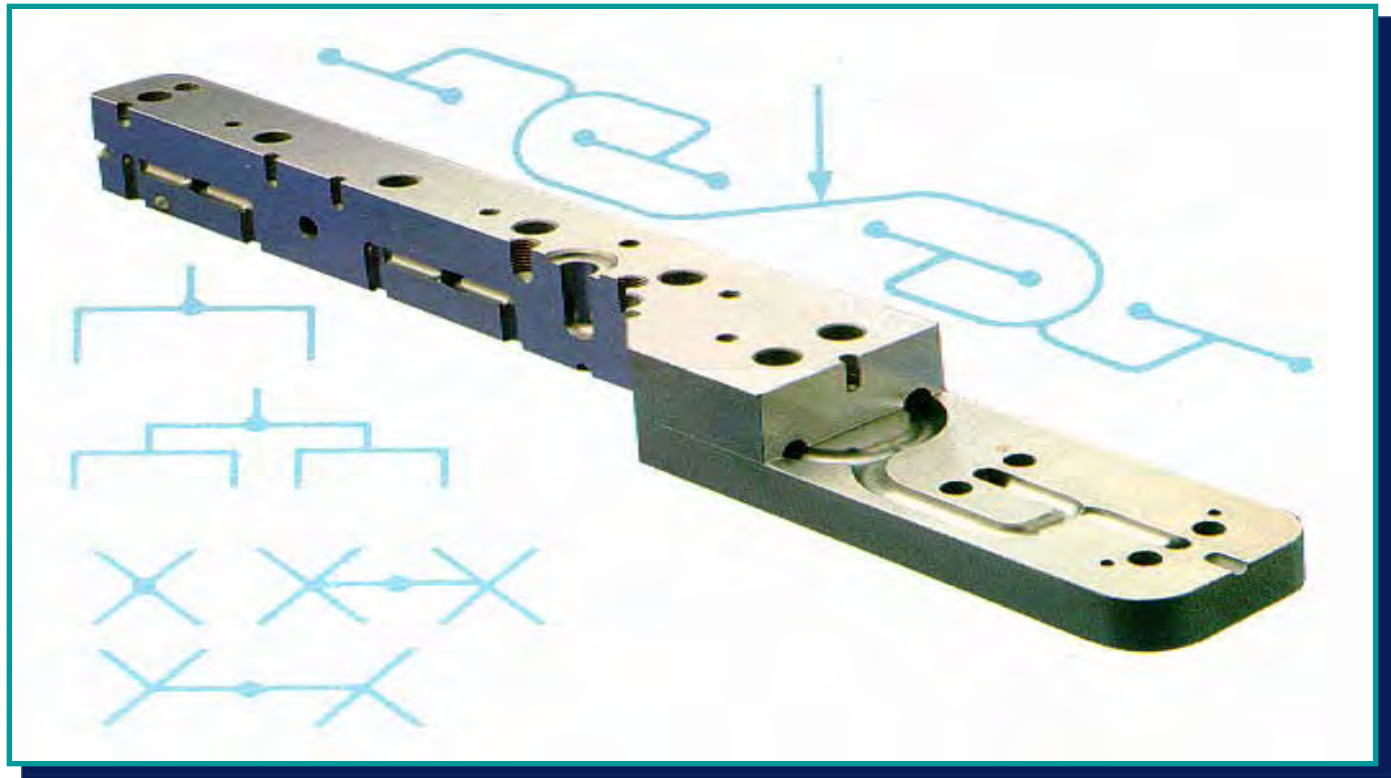
n/a

Shot Sizes: 1g - 3500g

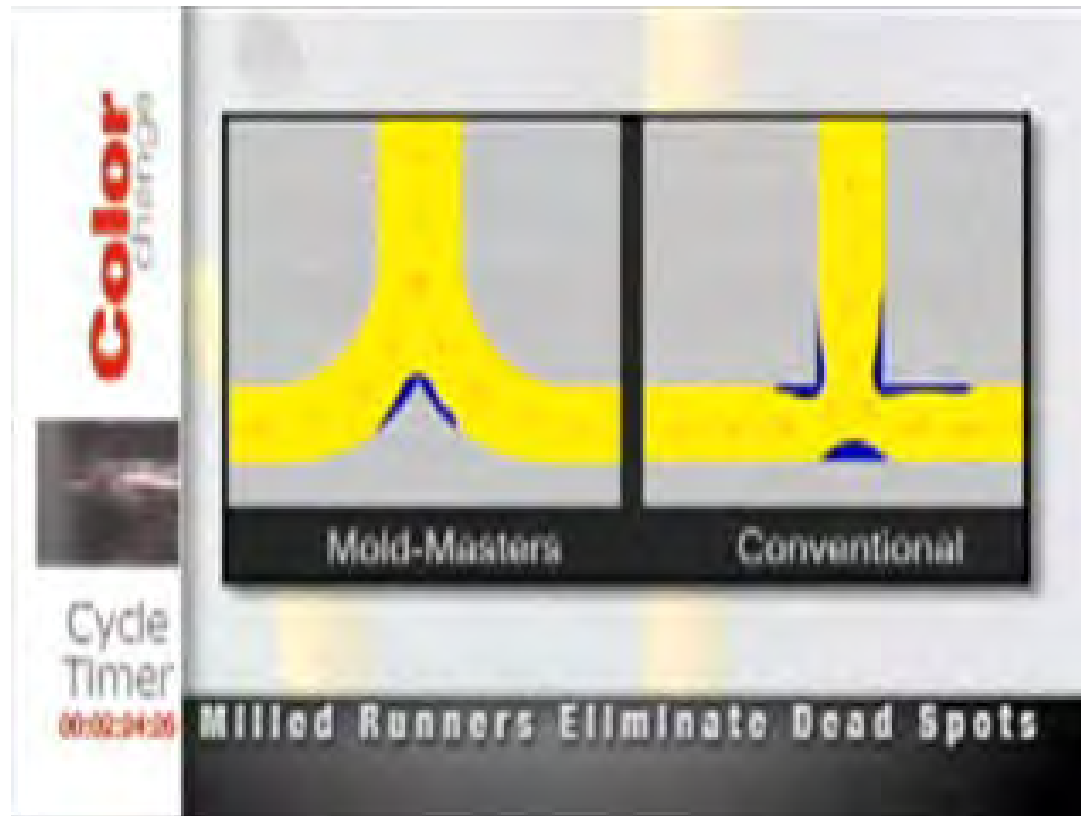
Standard Lengths: 27mm – 440mm

Manifolds “2-piece brazing”

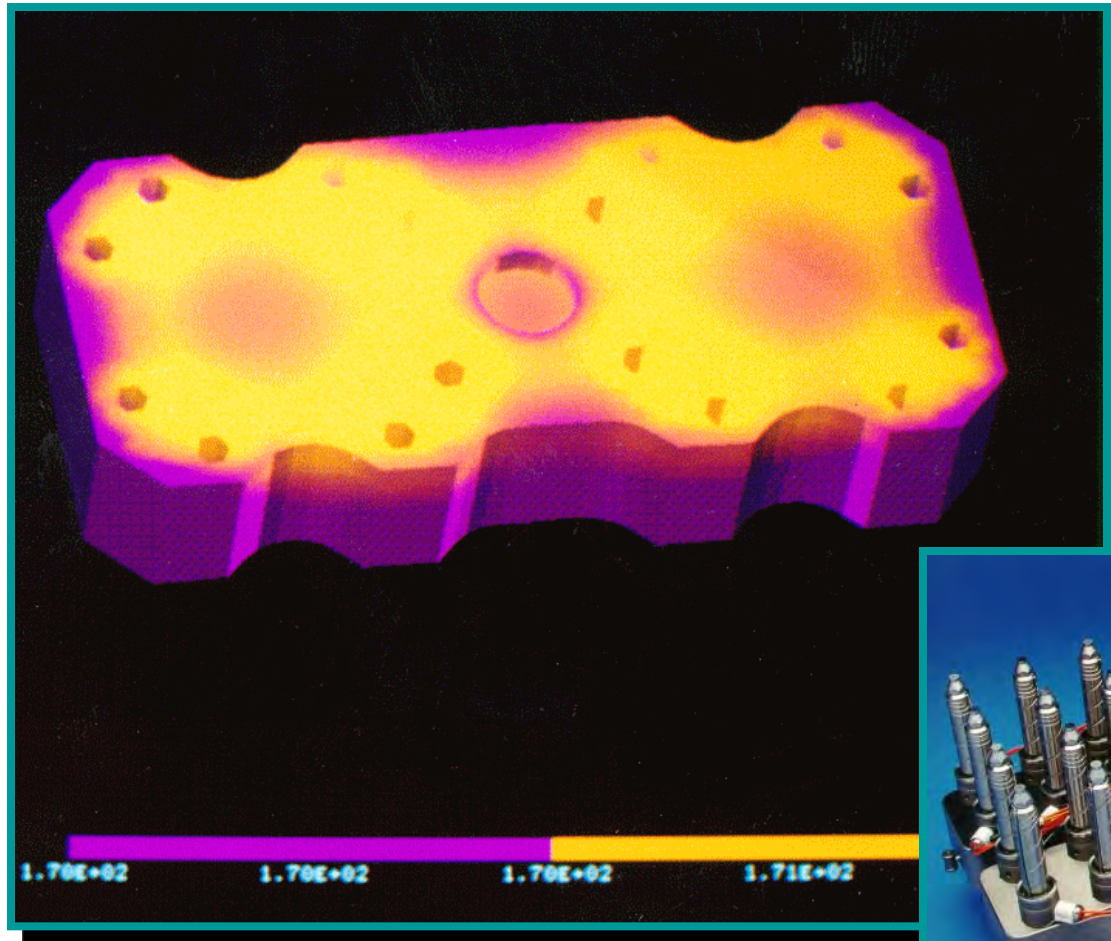
- Identical flow lengths
- Same number of turns
- Same diameters
- Isothermal



Optimeret flydekanal

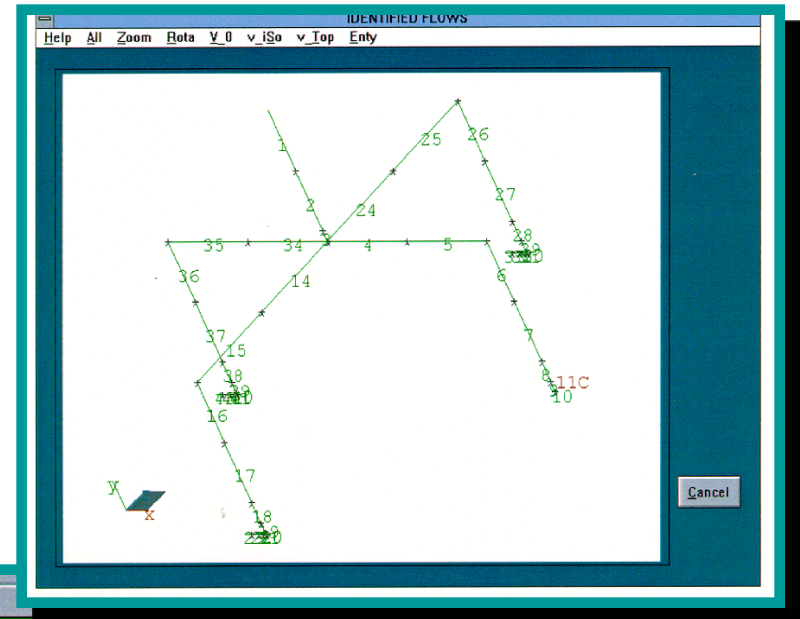


Thermally Balanced Systems

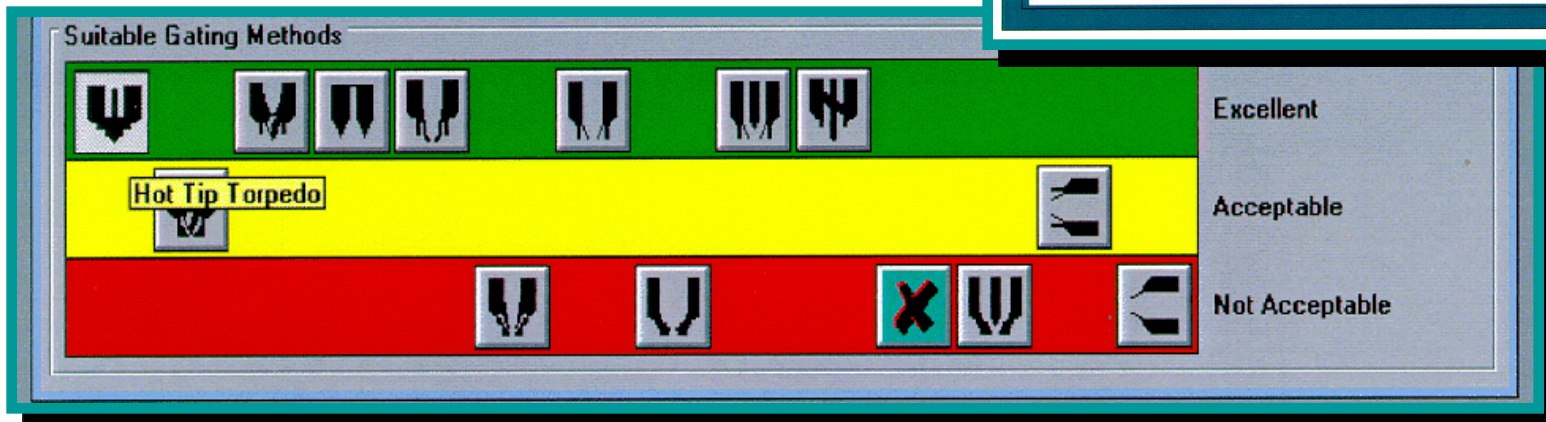


Computer Technology for Hot Runner Applications

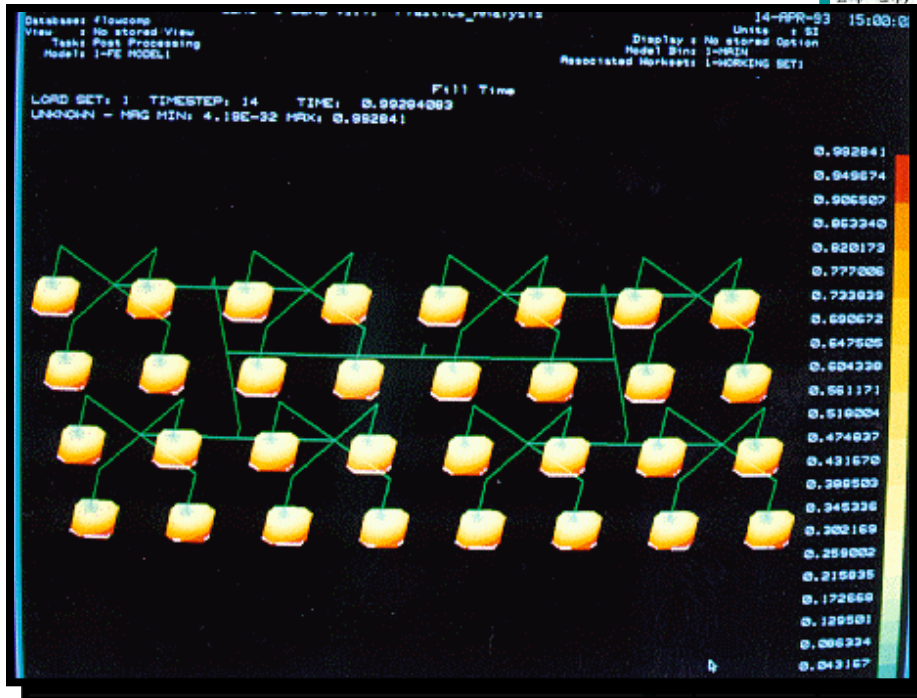
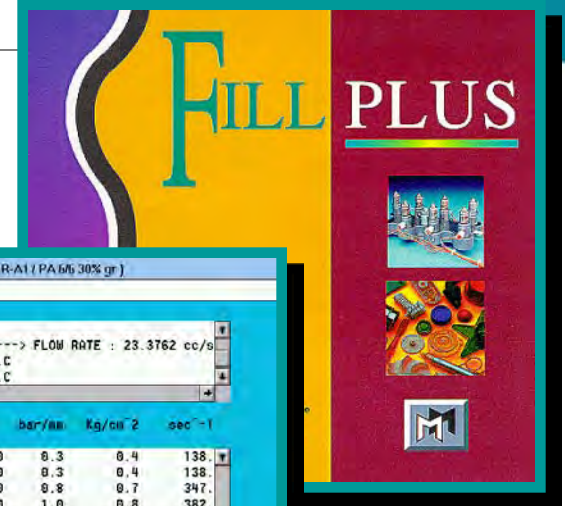
■ FLOW ANALYSIS SOFTWARE



■ SELECTION ASSISTANCE SOFTWARE



■ Flow Analysis Software



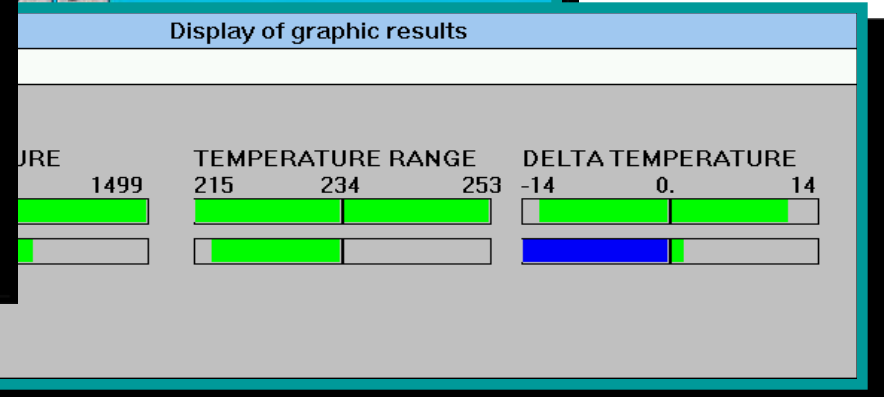
Display of numeric results [GEAR-M / PA 6/6 30% gr]

Help Copy

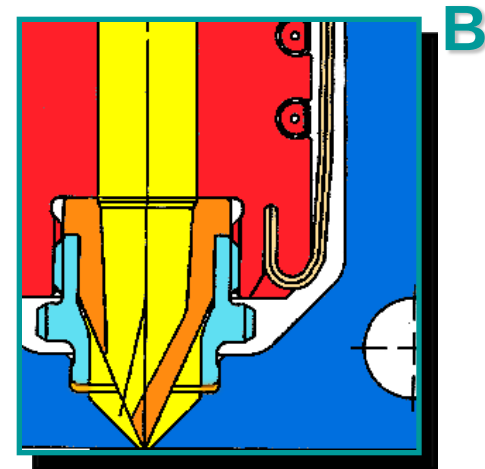
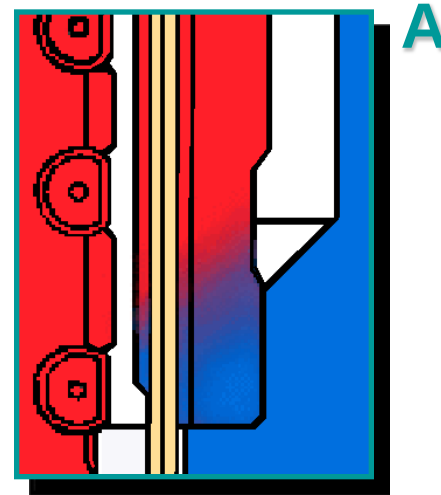
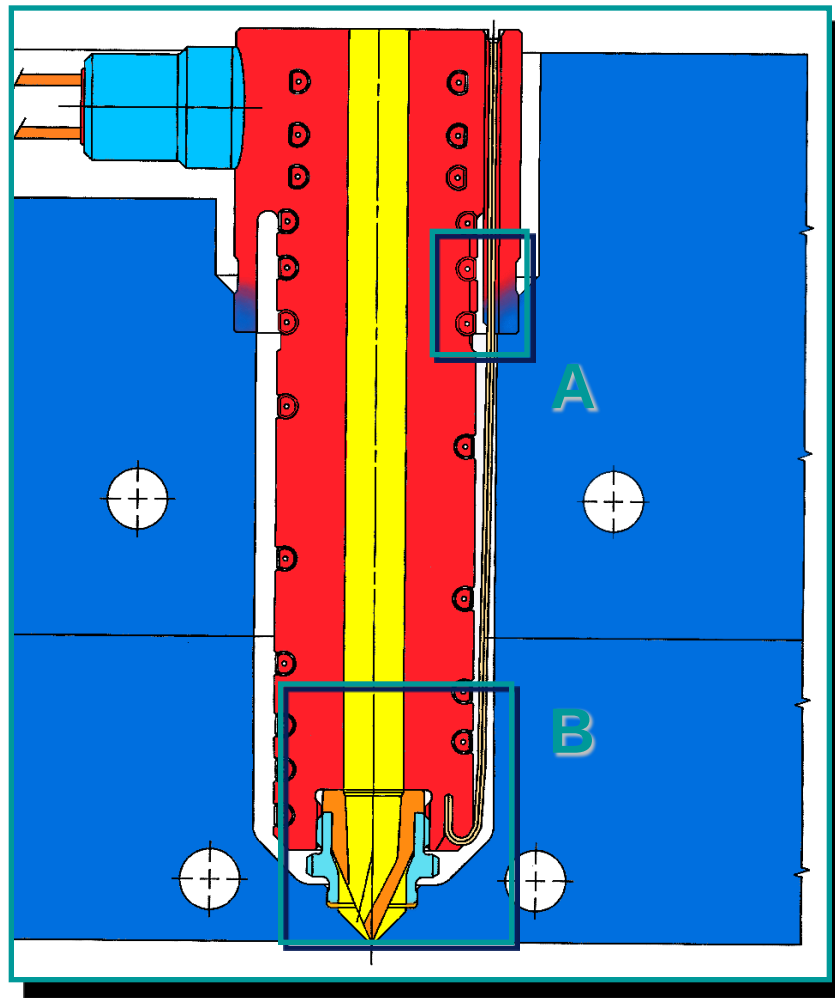
OF MOLD	48.781	cc
TIME	0.240	sec ---> FLOW RATE : 23.3762 cc/s
TEMPERATURE	290.0	degr. C
TEMPERATURE	89.0	degr. C

	bar	degr. C	sec	sec	bar/mm	kg/cm ²	sec ⁻¹
3	8.5	290.2	0.0	0.0	0.3	0.4	138.
9	6.9	290.2	0.0	0.0	0.3	0.4	138.
0	4.6	290.2	0.0	0.0	0.8	0.7	347.
4	5.4	290.2	0.0	0.0	1.0	0.8	382.
9	14.3	290.3	0.0	0.0	1.4	0.9	529.
6	4.9	290.2	0.0	0.0	1.0	0.8	382.
7	3.8	290.2	0.0	0.0	1.0	0.8	453.
9	14.4	290.1	3.4	4.8	19.2	6.2	14476.
5	14.5	290.2	2.7	4.6	72.5	14.5	61703.
0	3.2	289.1	18.3	25.5	0.6	0.7	289.
8	3.3	287.9	17.8	24.9	0.7	0.7	292.
4	3.4	286.8	17.8	24.9	0.7	0.7	295.

low Print

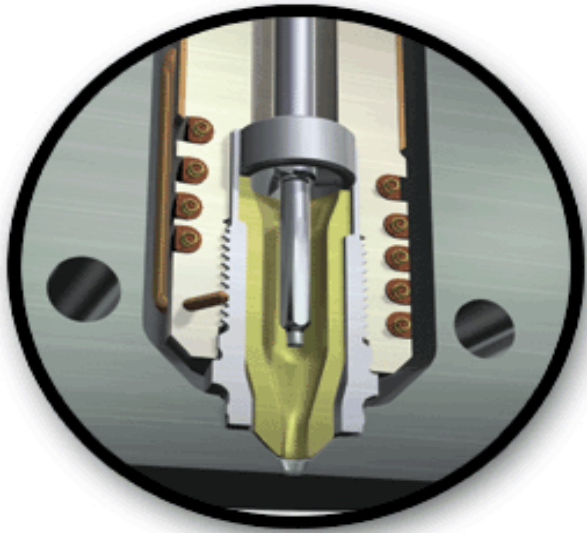


Individual Thermocouples



Lang fiber Verton

Nåle lukning



Color Change Performance

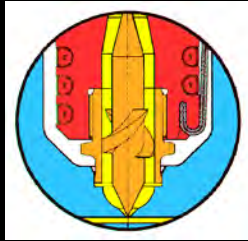


- Traditional gun drilled runner channel contains dead spots

- Runner plug designed to minimize stagnant material area



Indløbs- typer



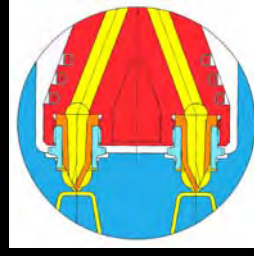
Hot Tip Torpedo



E-Type Torpedo



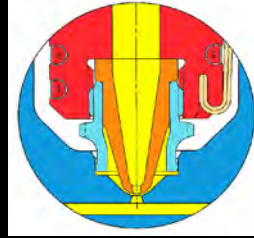
F-Type Torpedo



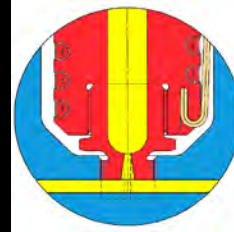
Multi Tip



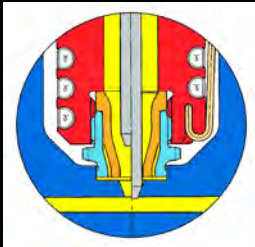
Bi-Metallic C-Sprue



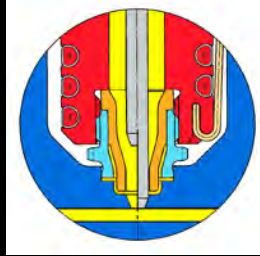
Bi-Metallic Direct Sprue



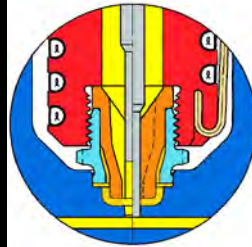
Hot Sprue



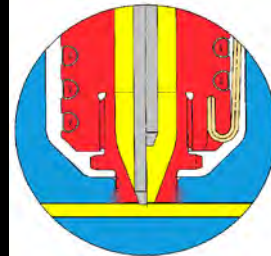
Bi-Metallic
C-Valve



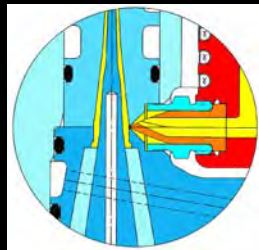
Extended Bi-Metallic
C-Valve



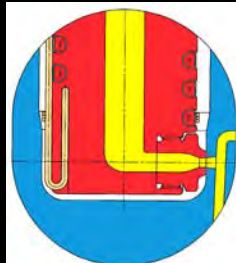
Guided Pin
Valve



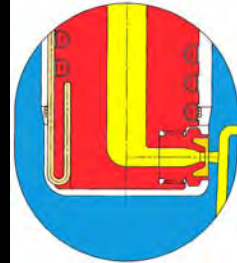
Hot Valve



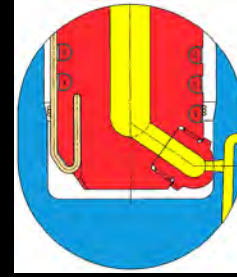
Horizontal Hot Tip



E-Type Tit Edge



C-Type Tit Edge

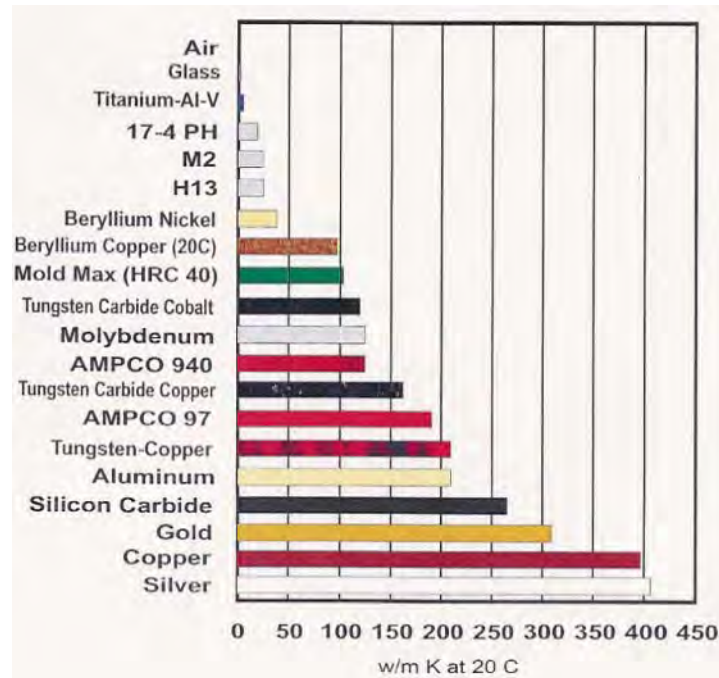


Angled Tit Edge

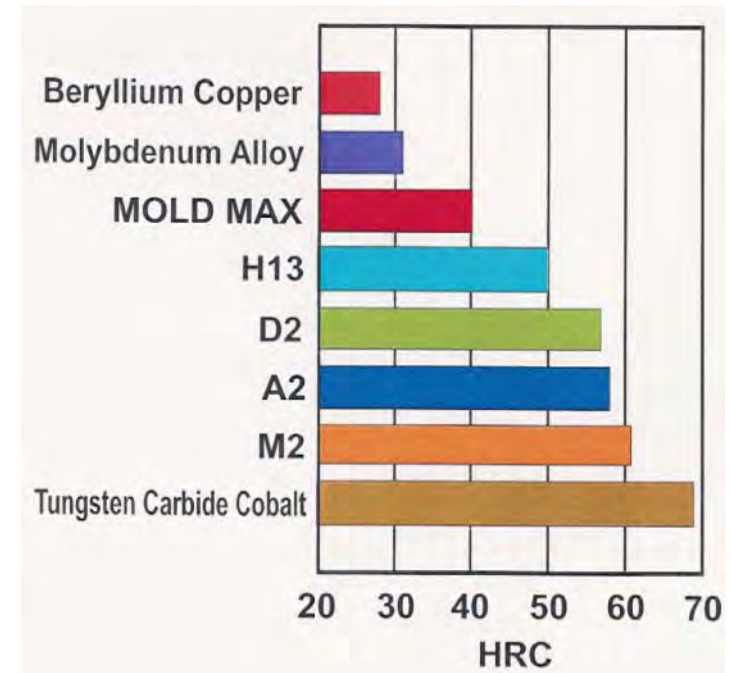
Master Series

Only the best prerequisites
- for the performance of our Hot Runner Systems -

Heat Transfer



Resistance



Feature #1 Endura Technology

The “no-compromise tip”



wear-resistant

surface hardness – 3200 Vickers ~ 2 times that of Tungsten Carbide

corrosion-resistant

outperformed Tungsten Carbide tips.

improved thermo-conductivity

gate freeze off temp reduced

improved release properties

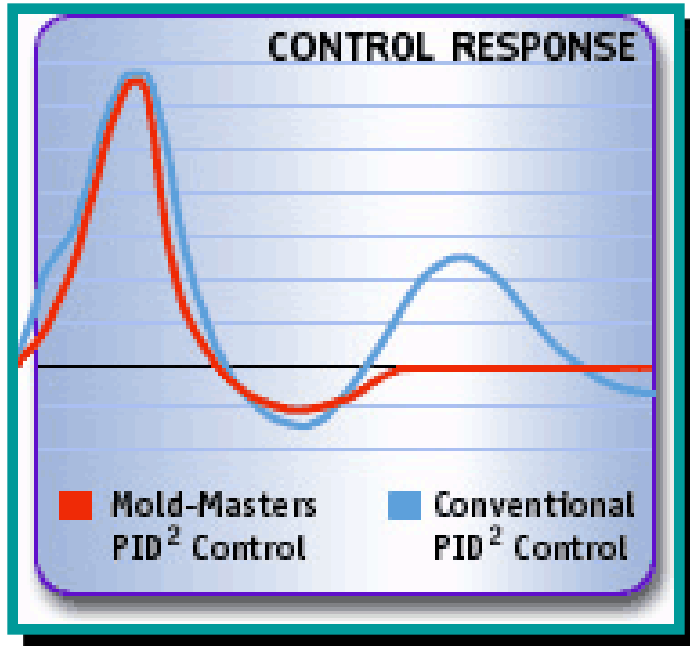


- 2 to 240 zone systems
- Easily switchable to different global power sources
- Large 260mm screen (800x600 resolution)
- Fused power and T/C
- Menu driven setup
- Advanced diagnostics for troubleshooting
- Boost and MeltStart options for better color changes and startups



Temperature Control

PID² Control

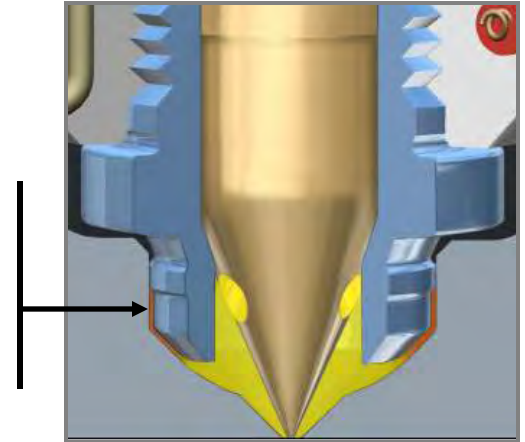


- 100% reduction in peak stabilization time vs. conventional algorithms
- Better control
- Wider processing window

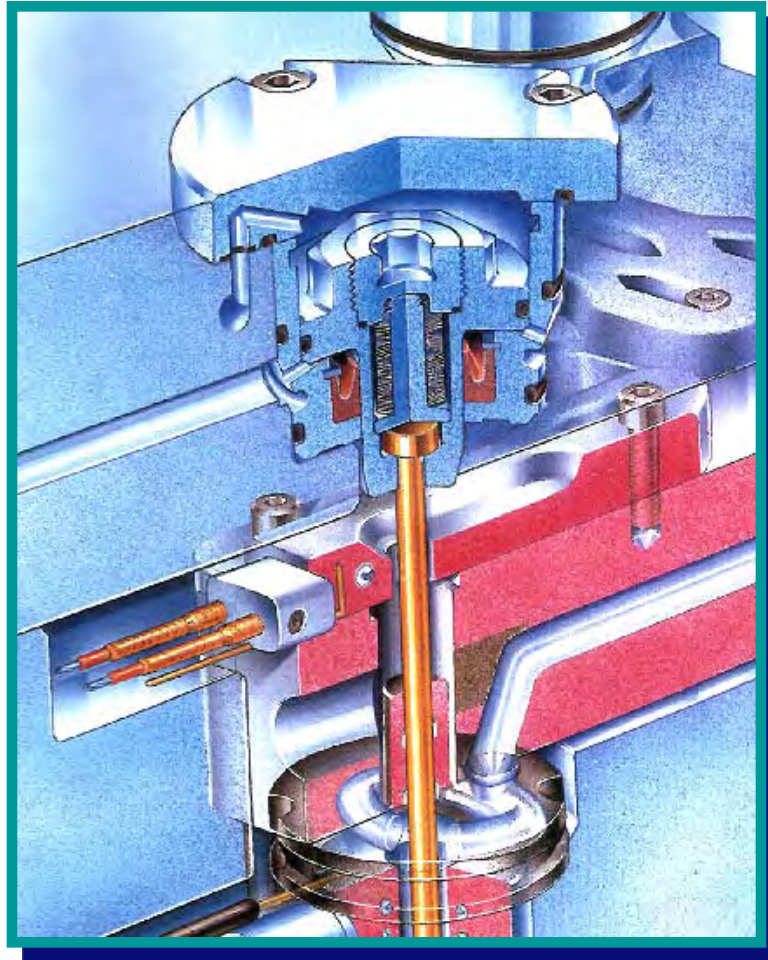
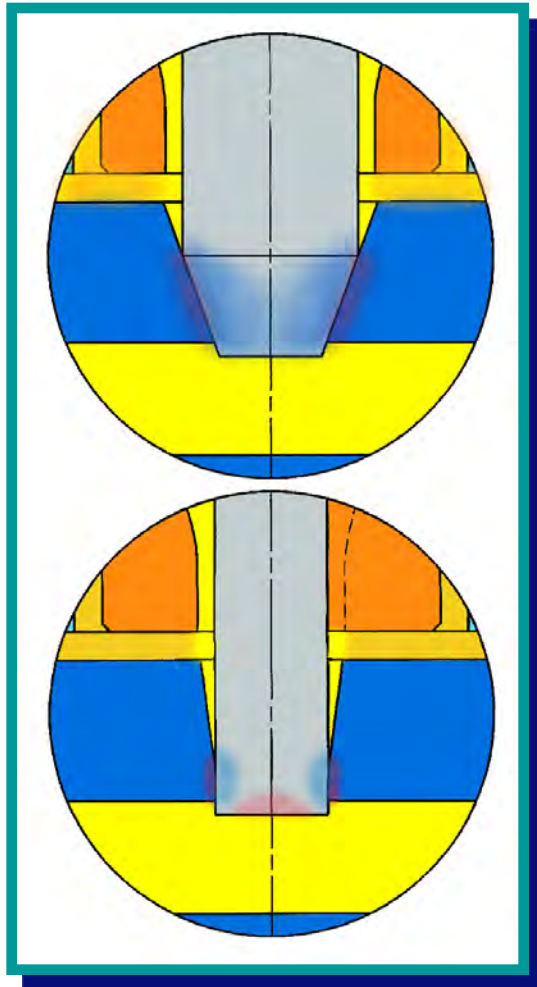
Hot Tip

Visco-Seal™: Additional leak-proof protection achieved with a thin plastic membrane that solidifies at edge of seal

- Seals and liners can be easily replaced in the press
- Liners are made from various materials depending on resin properties and requirements
 - Thermal cycling
 - Wear resistance

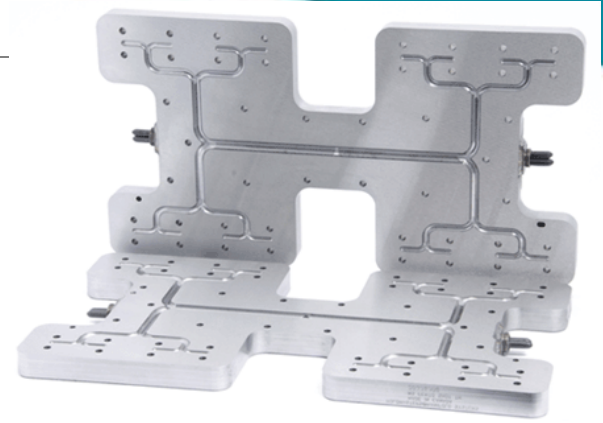


Valve Gates



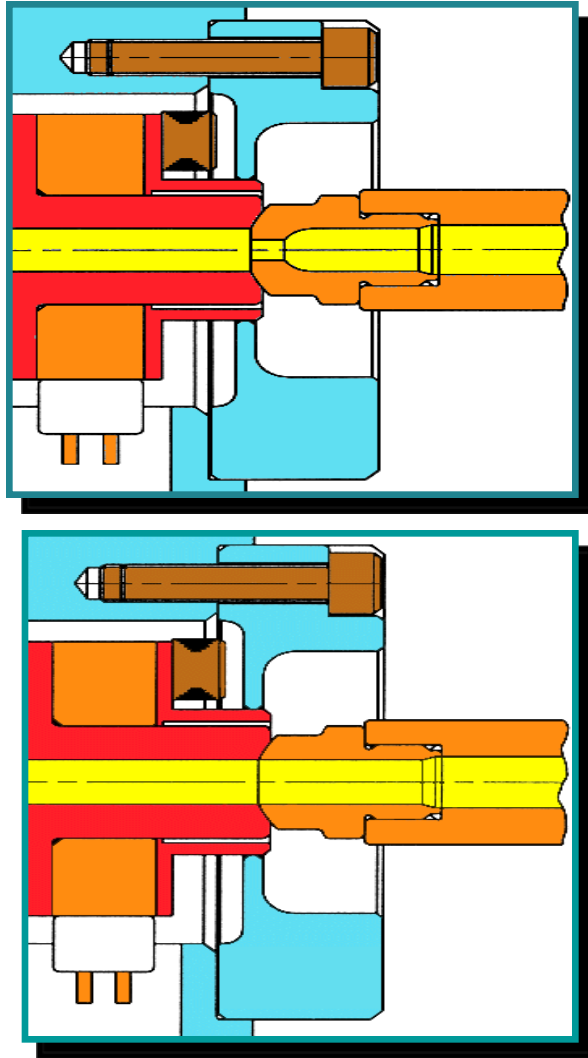
Manifold Technologies

- 2 Piece Brazed Manifolds
 - Eliminates dead spots and optimizes flow paths for balanced filling
 - Large channels for low pressure fill
 - Thinner manifolds save plate steel
- Heaters
 - Moveable cast heater plates to optimize heat profiles
 - Brazed in heaters for balanced heating

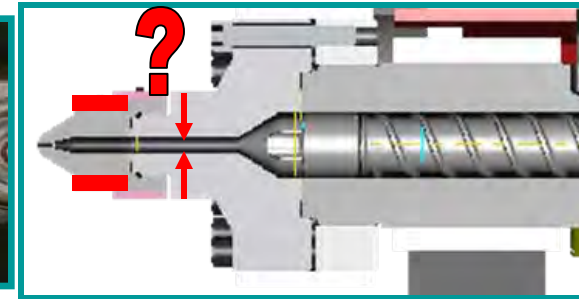


Die richtige Maschinendüse

Plastifizierung im Massezylinder



- Starke Scherung
- Druckverlust
- “Tote Bereiche”

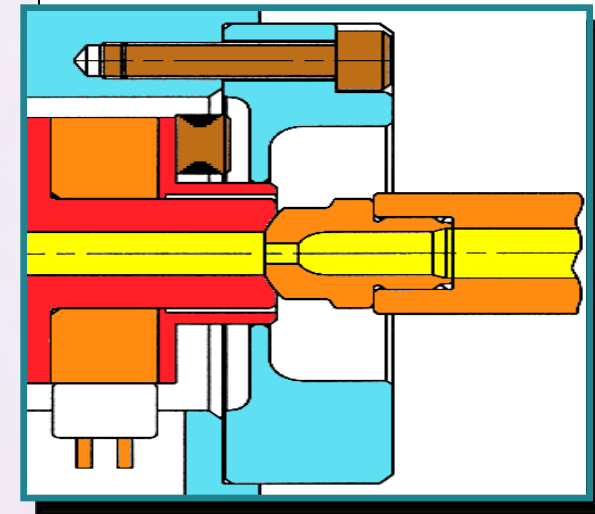
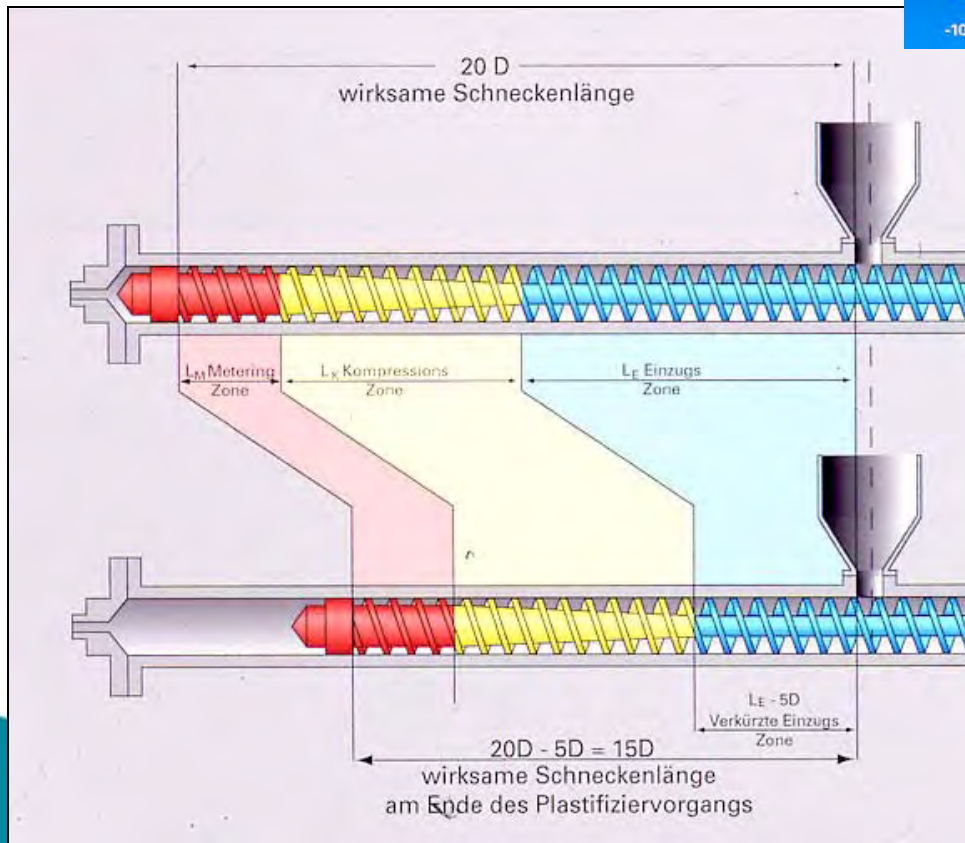
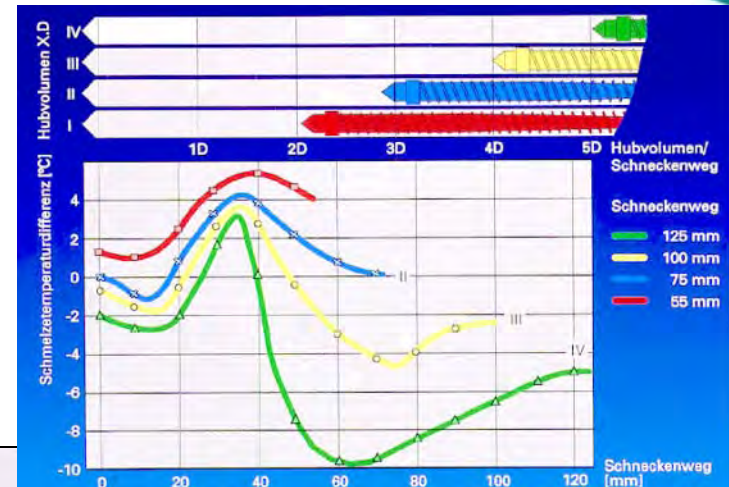
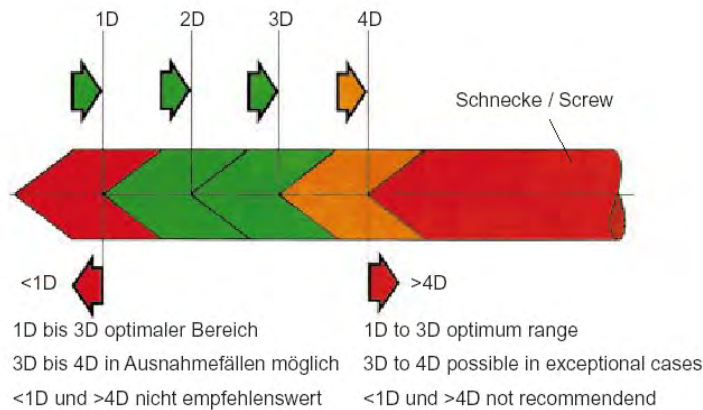


- minimierte Scherung
- geringer Druckverlust
- Keine “Tote Ecken”
- Sauberer Farbwechsel
- wirksame Dekompression



Qualität der Schmelze

Plastifizierung im Massezylinder



Mold-Masters Renseteknik

1. RENSNING AF MANIFOLD
2. EXTRUDER HONING AF FLYDEKANAL
3. INSPEKTION AF FLYDEKANAL

Renseovn med 450 C varmt sand



VIRVELBAD

Extruderhoner



Polering af smeltekanaler



Inspektion af flydekanal



Commitment to Customer

Design Support



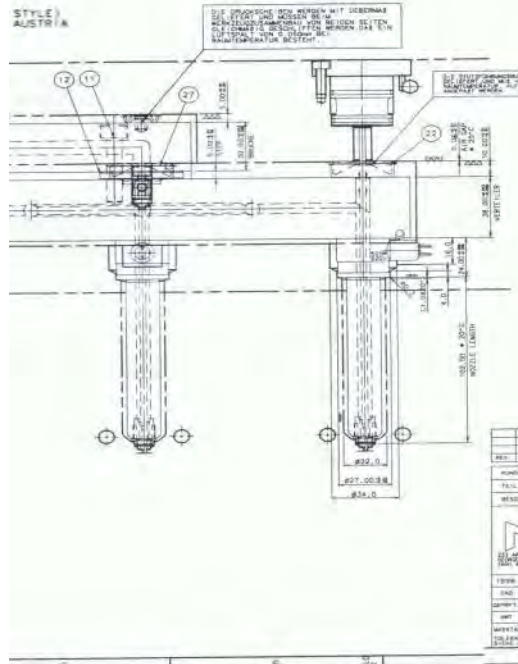
Multi-Language
Ressource Guide



Merlin Online
2D & 3D Download

www.moldmasters.com

www.englmayer.dk



MEDICINE ARTIKEL
 1. ANHANGSNUMMERN: 1. N/A
 2. ANHANGSNUMMERN: 2. N/A
 3. ANHANGSNUMMERN: 3. 0
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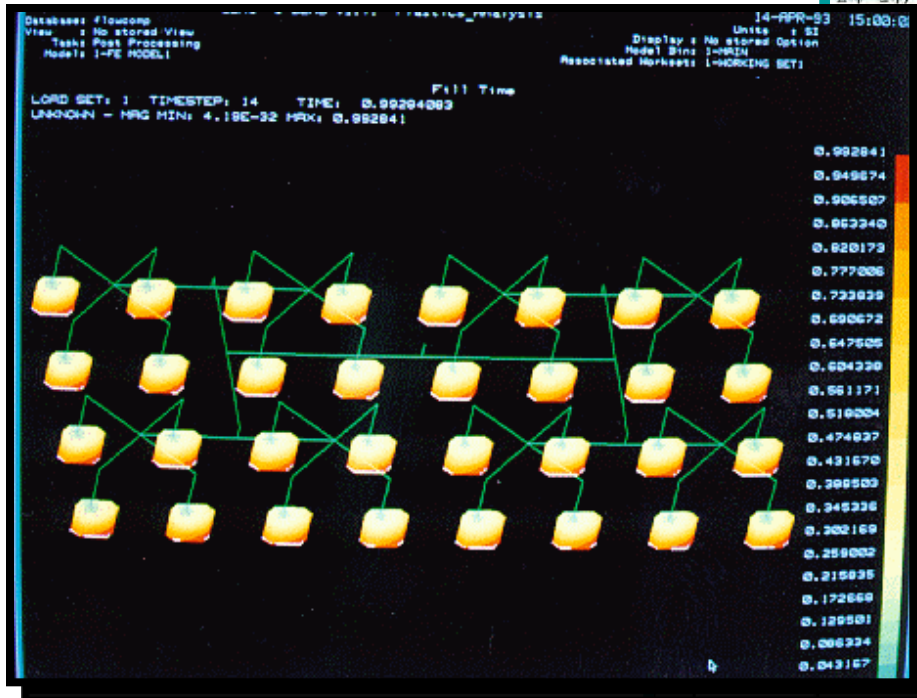
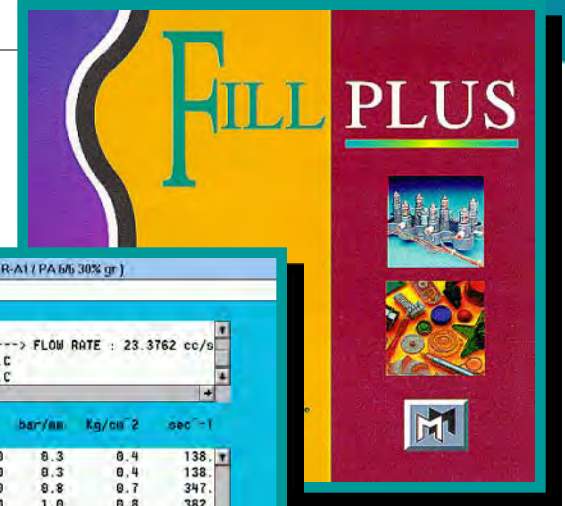
[illegible]

CUSTOMER PARTS LIST

DWN BY: GU CHK BY: _____

ITEM	COMPONENT	UM	DESCRIPTION	QTY
001	NZDP185A090	EA	DP1 B5 BODY NOZL 7 RUNR L=90	6.00
002	TCC1.0X250	EA	GND T*COUPLE 1.0 L=250 +1m EXT	6.00
003	TS0618	EA	DP1 BI-MET. GUIDED VALVE TSEAL	6.00
004	TS1127	EA	DP1 BI-MET. CYL. VALVE LINER	6.00
005	MN108300C	EA	MAIN CUSTOM UPTO 300 BRAZED	1.00
006	ML0015	EA	MAN. LOCATOR OD=44.0 x 31.0 LG.	1.00
007	TCC1.5X110	EA	GND T*COUPLE 1.5 L=110 +1m EXT	1.00
008	TWA14X2000	EA	TEF. WIRE WHITE 14 GAUGE x 2m	2.00
009	TCWASHER	EA	THERMOCOUPLE WASHER	2.00
010	PHSM5X8	EA	PAN HEAD SCREW 5X58 (PLATED)	4.00
011	SHCSM8X40	EA	SOCKET HEAD CAP SCREW M8X40	2.00
012	STEP	EA	SPECIAL STEP	2.00
013	DPMSX15	EA	DOWEL PIN 5 DIA. X 15mm LG.	1.00
014	TWR146X1000	EA	TEF. WIRE GREEN 14G x 1m +RINS	1.00
015	MNDP1C2000CVC	EA	DP1 2 Pc CUST. BRAZED VLV. MAN.	2.00
016	ML0006	EA	MAN. LOCATOR OD=19.04 x 12.95LG	2.00
017	TCC1.5X110	EA	GND T*COUPLE 1.5 L=110 +1m EXT	2.00
018	TWA14X2000	EA	TEF. WIRE WHITE 14 GAUGE x 2m	4.00
019	TCWASHER	EA	THERMOCOUPLE WASHER	4.00
020	PHSM5X8	EA	PAN HEAD SCREW 5X58 (PLATED)	4.00
021	DPMSX20	EA	DOWEL PIN 5 DIA. X 20mm LG.	2.00
022	VD00SP	EA	VALVE DISK SPECIAL	4.00
023	SHCSMSX50	EA	SOCKET HEAD CAP SCREW 5X50	12.00

■ Flow Analysis Software



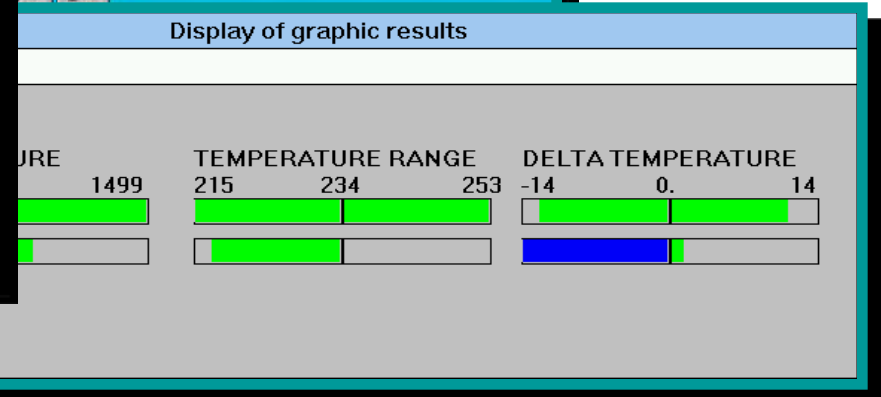
Display of numeric results [GEAR-M / PA 6/5 30% gr]

Help Copy

OF MOLD	48.781	cc
TIME	0.240	sec ---> FLOW RATE : 23.3762 cc/s
TEMPERATURE	290.0	degr. C
TEMPERATURE	89.0	degr. C

	bar	degr. C	sec	sec	bar/mm	kg/cm ²	sec ⁻¹
3	8.5	290.2	0.0	0.0	0.3	0.4	138.
9	6.9	290.2	0.0	0.0	0.3	0.4	138.
0	4.6	290.2	0.0	0.0	0.8	0.7	347.
4	5.4	290.2	0.0	0.0	1.0	0.8	382.
9	14.3	290.3	0.0	0.0	1.4	0.9	529.
6	4.9	290.2	0.0	0.0	1.0	0.8	382.
7	3.8	290.2	0.0	0.0	1.0	0.8	453.
9	14.4	290.1	3.4	4.8	19.2	6.2	14476.
5	14.5	290.2	2.7	4.6	72.5	14.5	61703.
0	3.2	289.1	18.3	25.5	0.6	0.7	289.
8	3.3	287.9	17.8	24.9	0.7	0.7	292.
4	3.4	286.8	17.8	24.9	0.7	0.7	295.

low Print



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Global Standards



Numerous awards received for excellence in industry, quality control and community initiatives.



1st ISO Hot Runner manufacturer in N. America

1st ISO Hot Runner manufacturer in Europe



1st C.E. Certified Hot Runner manufacturer



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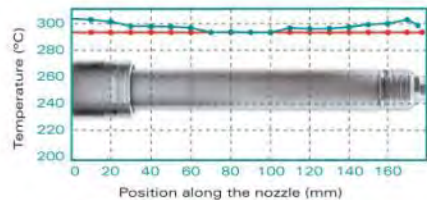
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