

HEATLOCK®

YOUR GLOBAL HOT-RUNNER SOLUTION



THE STRAIGHT EN

www.heatlock.com

HEATLOCK®

HOT RUNNER PERFECTION MADE BY SWEDEN

The STRAIGHT nozzle series with
mega performance!



Our passion is hot runner solutions and we pride ourselves on simplicity whilst maintaining maximum performance, achieving modular perfection.

In this development are we pleased to offer a nozzle series, both single cavity nozzle and multi cavity screw in nozzles, designed for longevity and high performance. Suitable for all kinds of resins, commodity or engineering, filled or un-filled. You simply choose the model suitable for your resin, our total super modularity makes it possible.

For this nozzle series have we together with our heater supplier developed the heater to suit the design and application. Regardless of melt temperature of mould temperature do we have an excellent temperature profile, so good we simply call the heater series THE STRAIGHT!

Of course with our signum, easy to service and maintain



→ Nozzle Selection Guide

(mm)

										
Type	NOS	NOX	NPS	NPX/NSX	POS	PPS	PPX/PSX	VOS	VGS	VGX/VSX
ΦFeed	7	7	7	7	7	7	7	7	7	7
ΦGate	0.8-3	0.8-3	0.8-3	0.8-3	0.8-3	0.8-3	0.8-3	1~3	1~3	1~3

Max. Recommended shot weight

Low	400	400	400	400	600	600	600	500	500	500
Medium	260	260	260	260	310	310	310	200	200	200
High	50	50	50	50	60	60	60	50	50	50

Suitability

PP	***	***	***	***	***	***	***	***	***	***
PS/PE	***	***	***	***	***	***	***	***	***	***
ABS/SAN	***	***	***	***	***	***	***	***	***	***
POM	***	***	***	***	***	***	***	***	***	***
LCP	*	*	*	*	*	*	*	*	*	*
PBT	*	*	*	*	*	*	*	*	*	*
PET	*	*	*	*	*	*	*	*	*	*
PA6/PA66	***	***	***	***	***	***	***	***	***	***
PC	***	***	***	***	***	***	***	***	***	***
PMMA	***	***	***	***	***	***	***	***	***	***
PPO	*	*	*	*	*	*	*	*	*	*
PES/PEK	*	*	*	*	*	*	*	*	*	*
PPS/PEI	*	*	*	*	*	*	*	*	*	*

Viscosity:

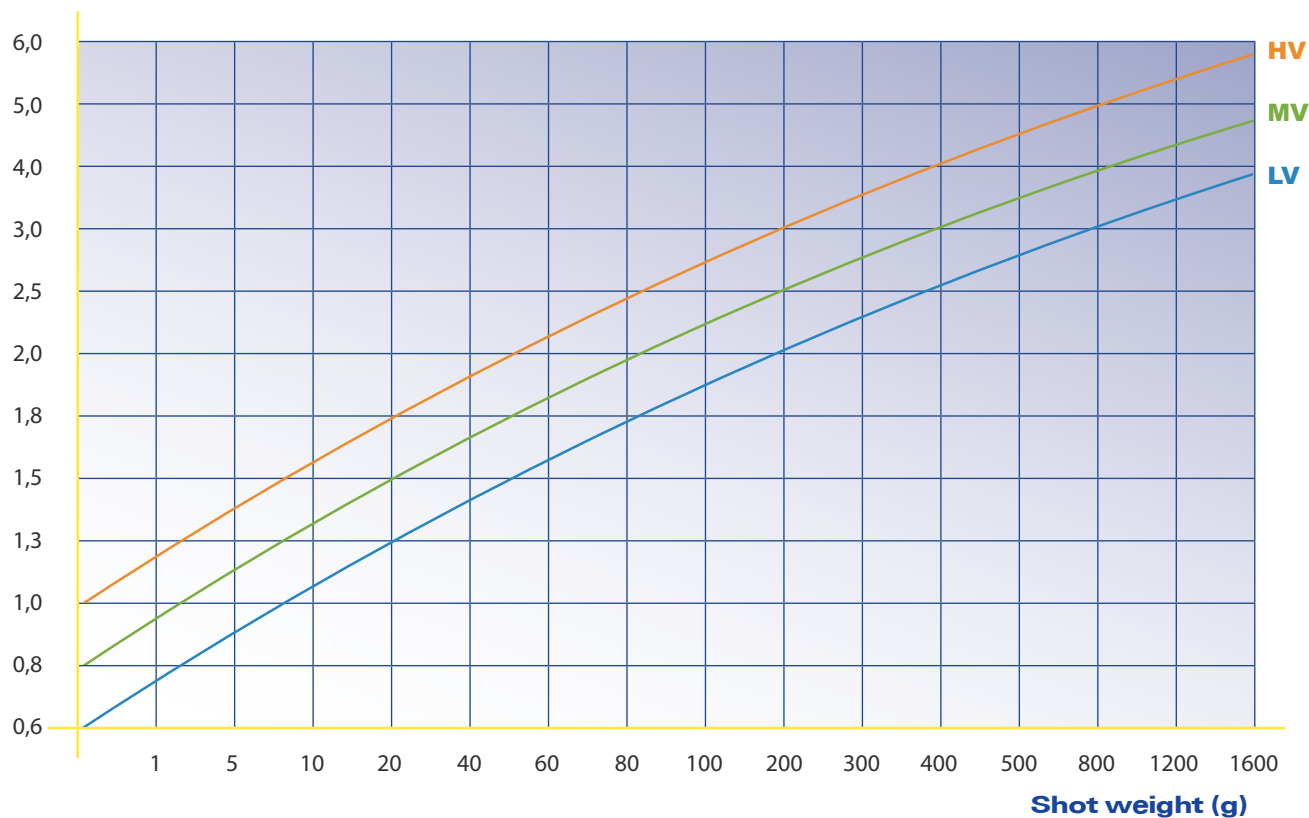
Low	Medium	High
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*** Good ** Ok * Contact HEATLOCK -- Not recommended

All value above & approximate. For details regarding your product welcome to contact Heatlock.

→ Nozzle Gate Diameter

Gate Ø



NOTE:

1. For "TP" type reduce gate Ø -30%
2. For filled materials increase gate Ø +20%

1. **LV** Low viscosity materials PS, PE, PP
2. **MV** Medium viscosity materials ABS, SAN, PA, POM
3. **HV** High viscosity materials PC, PMMA, PC/ABS, PUR

Above diagram is a guideline built on experience from thousands of applications. However is the result depending on numerous conditions in your mould; balance between shot weight, injection speed, injection pressure, mould temperature, temperature control around the gate area, temperature control opposite the gate.

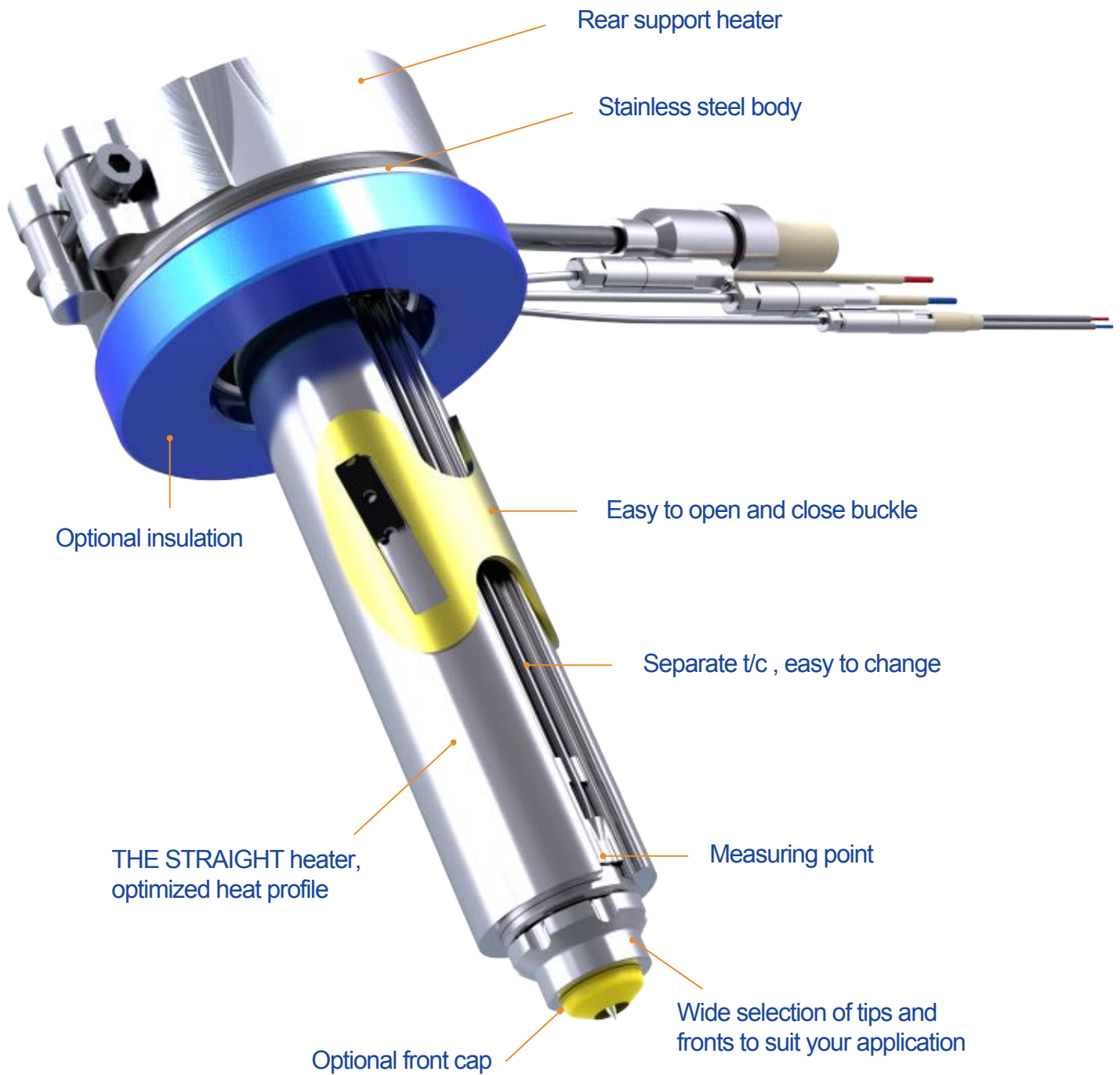
A smaller gate freeze faster compared with a larger gate, a faster cycle time allow smaller gate, long cycle time requires bigger gate.

If cycle time is short and injection speed fast it may be necessary to design gate cooling to avoid gate to overheat.

When you gate on a runner is it recommended to make the gate slightly larger to reduce pressure drop and decrease shear rates. Runner shall be adjusted in size to suit Hot Runner moulding to get shortest cycle time.

Above diagram is a guideline only, final decision is to be decided by the moulder or simulation considering all factors of the process.

Product features



→ A2-07 Single Cavity Nozzle Series

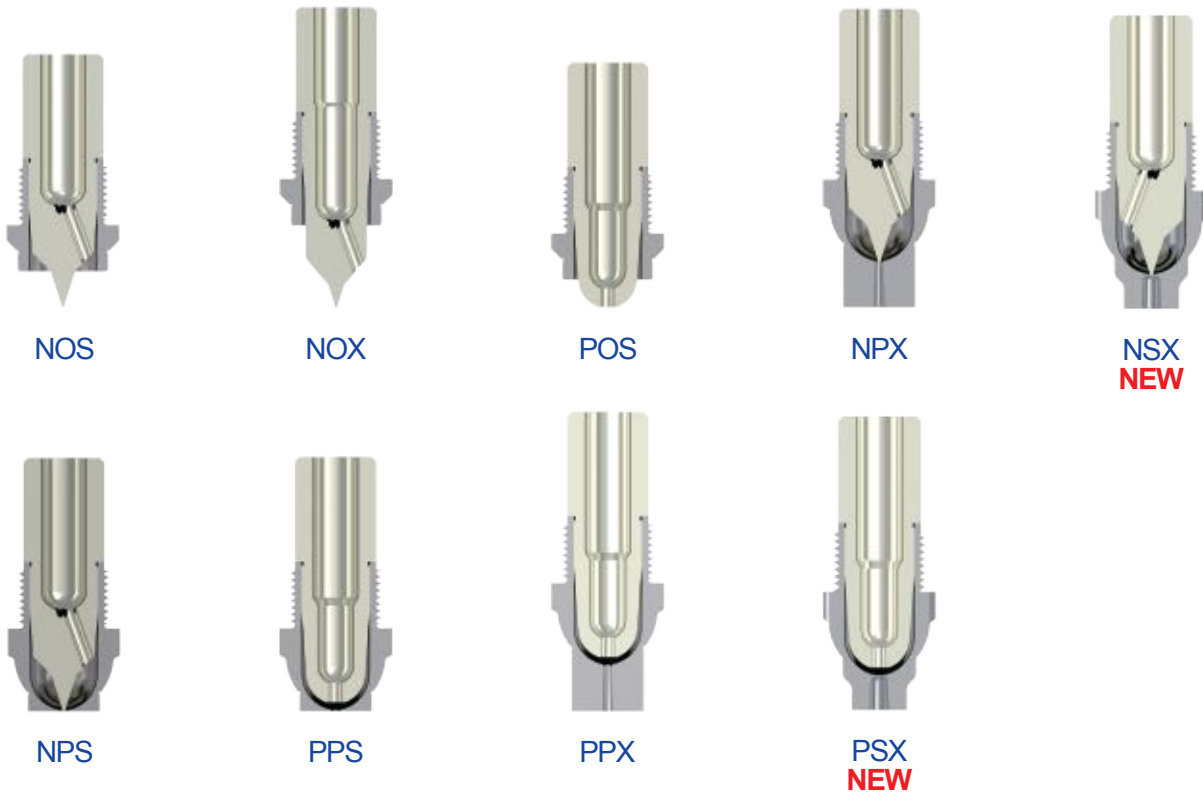


Our modular single cavity work-horse series, simplicity for easy to use and service, modularity to suit your requirement.

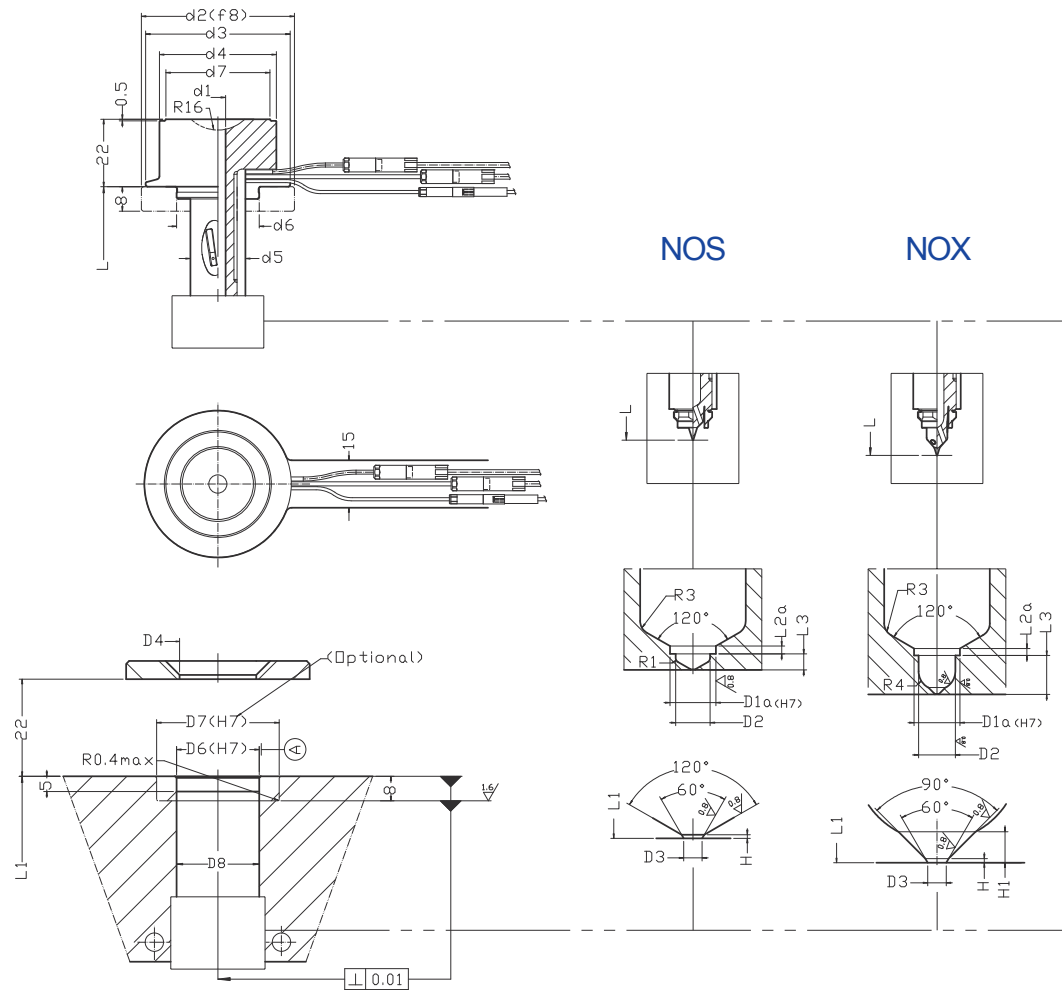
All modular elements for this A2 series is the same as used for our A3 All-In-One series. To find nozzle that suit your parts' gate requirements, simply select nozzle length and front style using our nozzle guide.

All 9 front styles available with tips in one exit or three exit tips. For glass filled resins and other materials requiring wear resistant tip select our HBM or TZM tips for maximized life, available in one exit style.

All tips are designed to give minimum stress to material while maintaining a stable controlled gate temperature.



→ A2-07 Single Cavity Nozzle Guide



Order example:



A2SC - NOS - 085 - 07 - 1 - 3 - BH - R16

Nozzle series	Front type	L	Feed dia	Tip mat.	Exits in tip	Band heater	Radius
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Tip codes:

material: 1=copper alloy, 3=HBM-CDC, 4=TZM-SHN
Exits: 1=one exit, 3=three exits

- Y/N - Y/N - Y/N

Front cap (optional)	Front Ti ring (optional)	Ti ring (optional)
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NPS

NPX

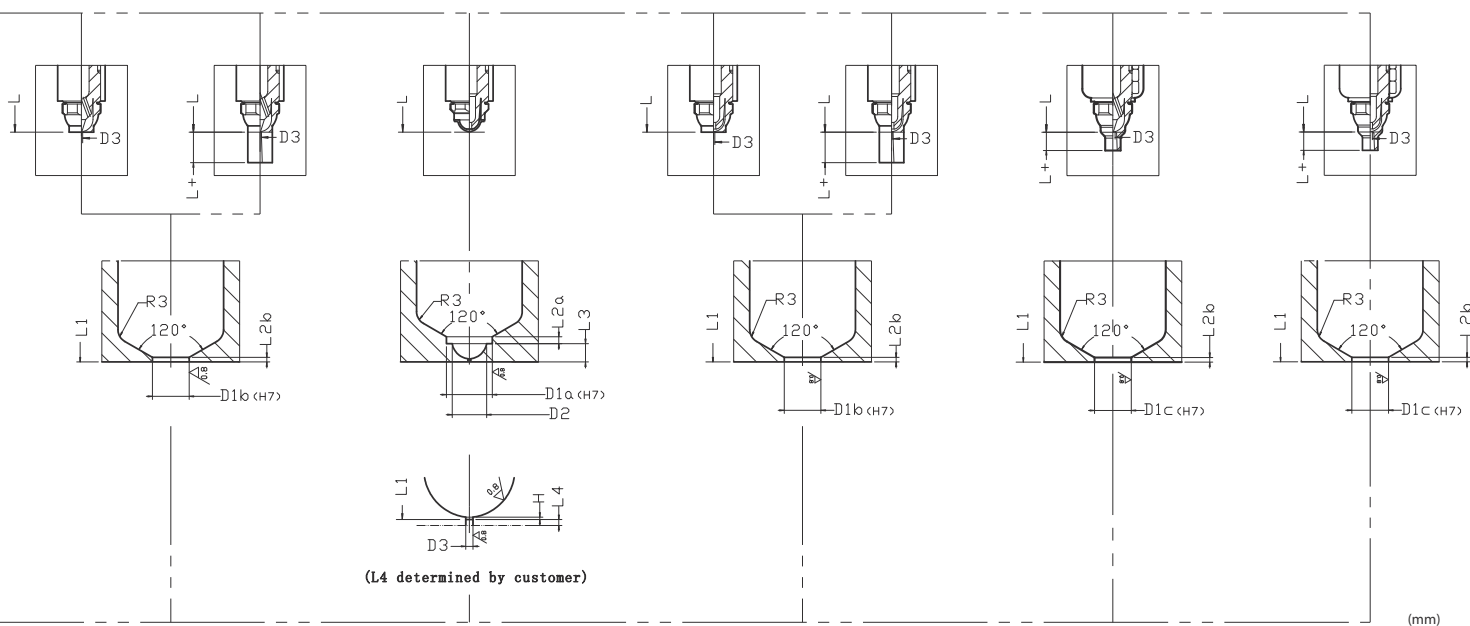
POS

PPS

PPX

NSX

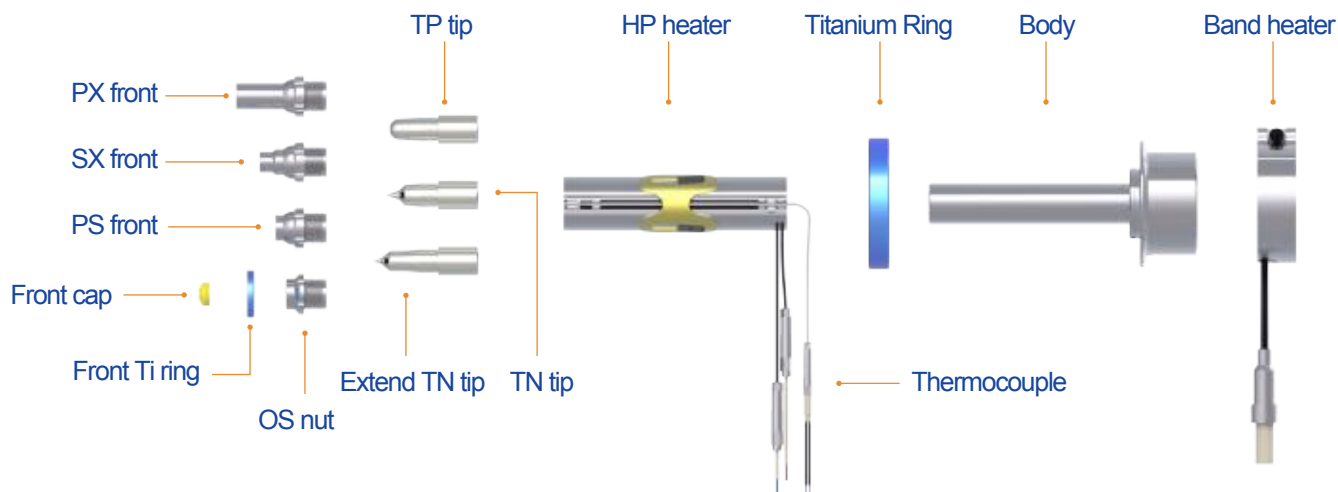
PSX



		A2-07 SC																	
Nozzle	Size	NOS NPS NPX POS PPS PPX NSX PSX									NOX								
	L	35	50	60	75	85	100	110	135	160	40	55	65	80	90	105	115	140	165
	L+	15(PX),7(SX)									-								
	d1	7									7								
	d2	T50									T50								
	d3	48									48								
	d4	39									39								
	d5	23									23								
	d6	27									27								
	d7	34.8									34.8								
Mould	L1	35.12	50.13	60.15	75.18	85.22	100.23	110.27	135.31	160.34	40.12	55.15	65.18	80.19	90.22	105.23	115.27	140.31	165.34
	L2a	2.5									2.5								
	L2b	1.5									-								
	L3	3.5									8.5								
	H	0.2									0.2								
	H1	-									1.5								
	D1a	12									12								
	D1b	10									-								
	D1c	7									-								
	D2	9									9								
	D3	3≥0.8									3≥0.8								
	D4	36.8									36.8								
	D6	27									27								
	D7	T50									T50								
	D8	27									27								

T=Titanium

→ A2-07 Single Cavity Nozzle Spare Parts



Nozzle body spare parts list

Size	Nozzle L	Body	HP heater	Spare Thermocouple	Band heater	Front Ti Ring	Titanium Ring	Front cap
A2-07 SC	35	A2SCBD203507	HS15150310160	TC00160160-17	BH239150	OS Nut	TIM05002708 (optional)	A3FC079443 (optional)
	50	A2SCBD205007	HS15150430229	TC00160160-26		TIM01801203 (optional)		
	60	A2SCBD206007	HS15150560239	TC00160160-39				
	75	A2SCBD207507	HS15150690248	TC00160160-26				
	85	A2SCBD208507	HS15150810258	TC00160210-29				
	100	A2SCBD210007	HS15150940267					
	110	A2SCBD211007	HS15151070277					
	135	A2SCBD213507	HS15151320295	TC00160260-29				
	160	A2SCBD216007	HS15151580314					

Front Assembly Spare Parts

POS+PPS+PPX+PSX			NOS+NPS+NPX+NSX		
Item code	Nut/Front	Tip	Item code	Nut/Front	Tip
A3POS21212	A3OS21212	A3TP211331	A3NOS212121-1	A3OS21212	A3TN211351-1
A3PPS21012	A3PS21012		A3NOS212123-1		A3TN211353-1
A3PPX21012	A3PX21012		A3NOS212124-1		A3TN211354-1
A3PSX20712	A3SX20712		A3NOS212121-3		A3TN211351-3
NOX			A3NPS210121-1	A3PS21012	A3TN211351-1
Item code	Nut	Tip	A3NPS210123-1		A3TN211353-1
A3NOX212121-1	A3OS21212	A3TN211401-1	A3NPS210124-1		A3TN211354-1
A3NOX212121-3		A3TN211401-3	A3NPS210121-3		A3TN211351-3
			A3NPX210121-1	A3PX21012	A3TN211351-1
			A3NPX210123-1		A3TN211353-1
			A3NPX210124-1		A3TN211354-1
			A3NPX210121-3		A3TN211351-3
			A3NSX207121-1	A3SX20712	A3TN211351-1
			A3NSX207123-1		A3TN211353-1
			A3NSX207124-1		A3TN211354-1
			A3NSX207121-3		A3TN211351-3



Tip spare parts list

	1 exit			3 exits
Material	Copper	HBM-CDC	TZM-SHN	Copper
size 07	A3TN211351-1	A3TN211353-1	A3TN211354-1	A3TN211351-3
	A3TN211401-1			A3TN211401-3
	A3TP211331	-	-	-

Product features



→ A3-07 MC Nozzle Series



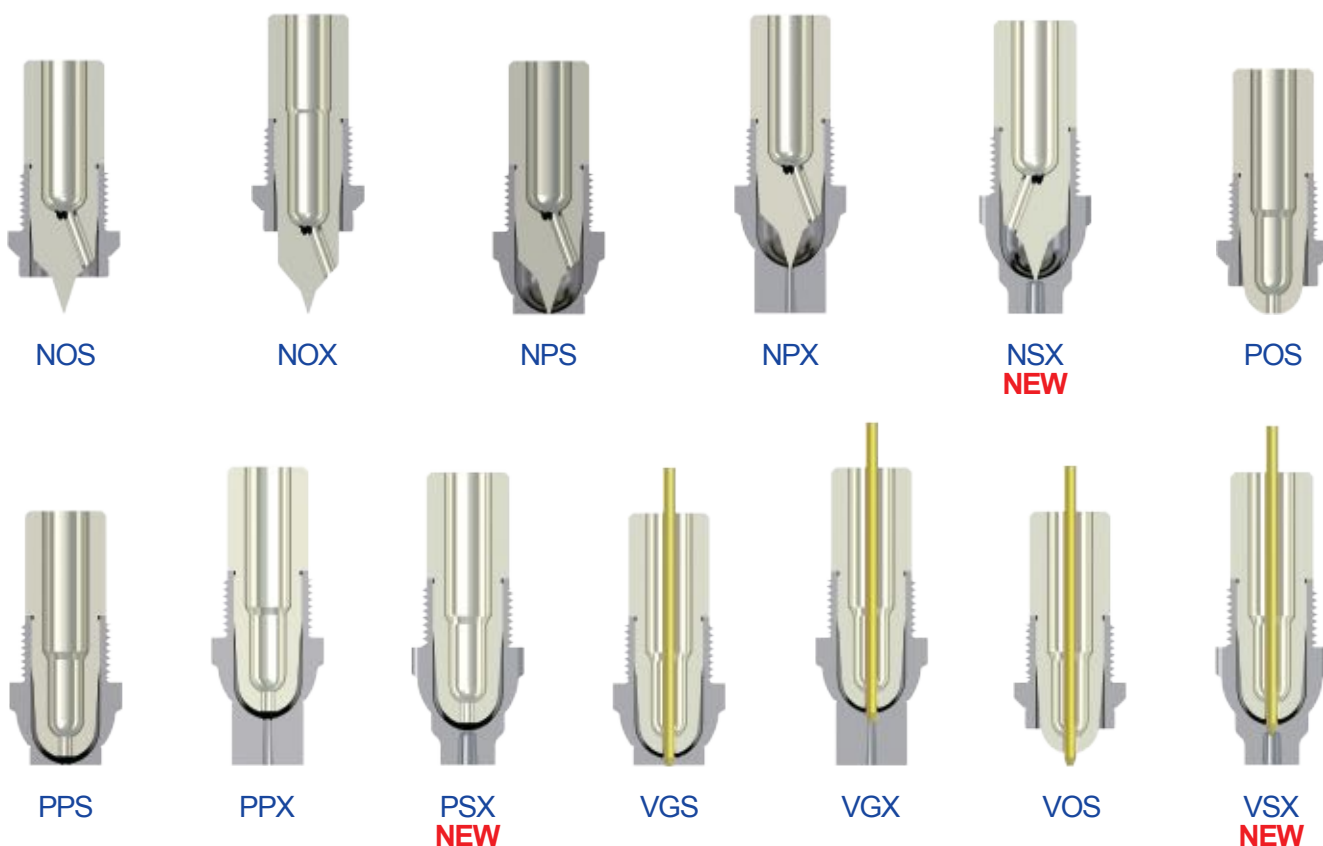
HOT RUNNER PERFECTION MADE BY SWEDEN; The multi purpose A3 All-in-One, screw in nozzle, mega performance!

Our passion is hot runner solutions and we pride ourselves on simplicity whilst maintaining maximum performance, achieving modular perfection.

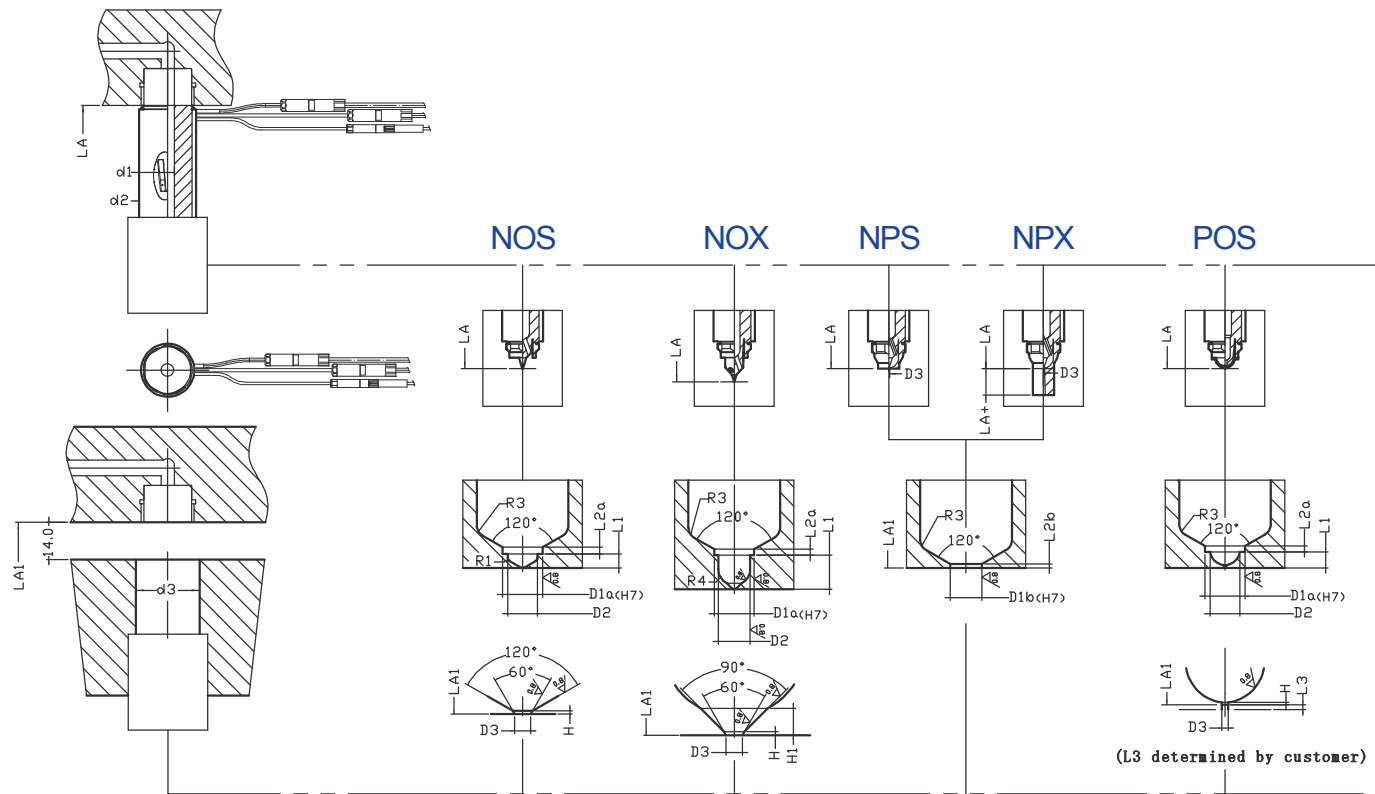
In this development are we pleased to offer a multi cavity nozzle designed for longevity and high performance. Suitable for all kinds of resins, commodity or engineering, filled or un-filled. You simply choose the model for your resin, our total modularity makes it possible.

For this multi purpose multi cavity nozzle series have we together with our heater supplier developed the heater to suit the design and application. Regardless of melt temperature of mould temperature do we have an excellent temperature profile, so good we simply call the heater series THE STRAIGHT!

Of course with our signum, easy to service and maintain



→ A3-07 MC Nozzle Guide



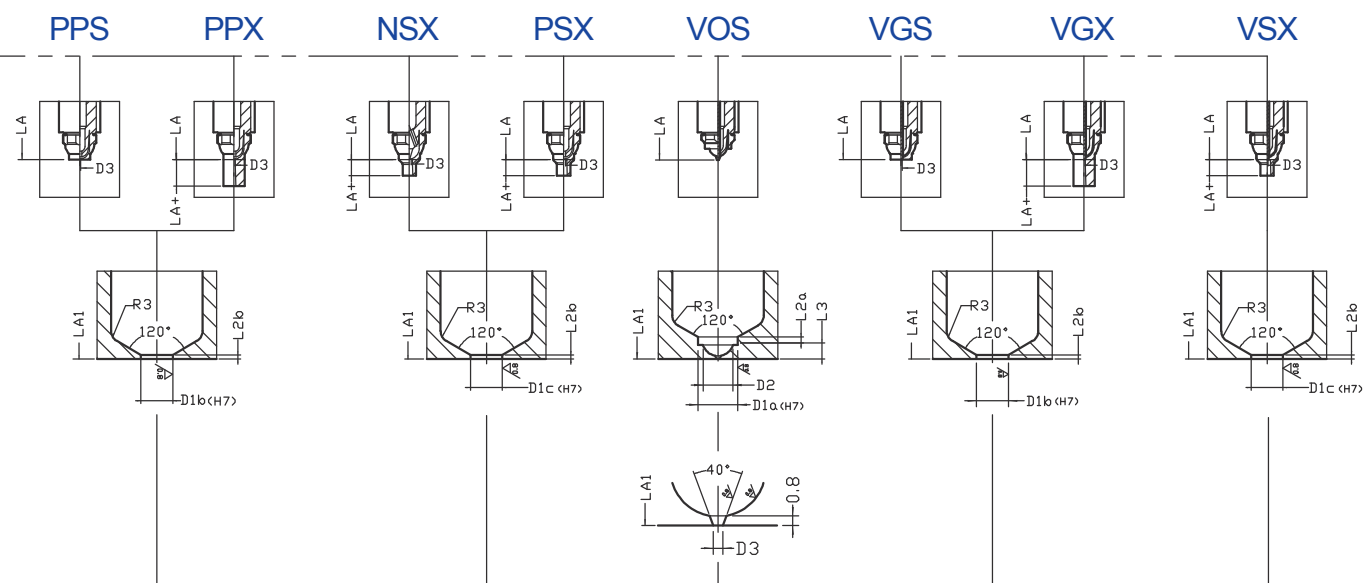
Order example:

→ **A3MC - NOS - 080 - 07 - 1 - 3**

Nozzle series	Nut/Front type	LA	Feed dia	Tip mat.	Exits in tip
A3MC	NOS	080	07	1	3

Tip codes:

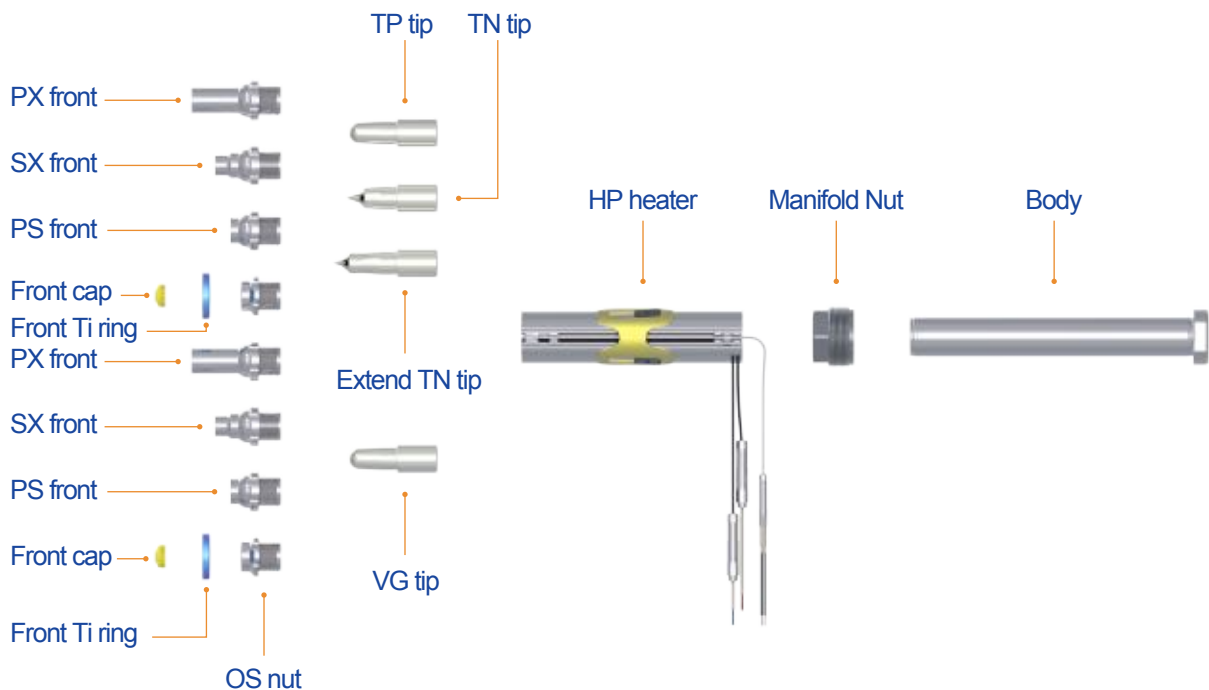
material: 1=copper alloy, 3=HBM-CDC, 4=TZM-SHN
Exits: 1=one exit, 3=three exits



		A3-07 MC																		(mm)	
Nozzle	Size	NOS NPS NPX POS PPS PPX NSX PSX VOS VGS VGX VSX										NOX									
	LA	55	65	80	90	105	115	130	155	180	60	70	85	95	110	120	135	160	185		
	L+	15(PX),7(SX)										-									
	d1	7										7									
	d2	23										23									
Mould	LA1	55.15	65.17	80.2	90.22	105.25	115.28	130.31	155.35	180.4	60.16	70.18	85.21	95.23	110.25	120.28	135.31	160.36	185.41		
	L2a	2.5										2.5									
	L2b	1.5										-									
	L3	3.5										8.5									
	D1a	12										12									
	D1b	10										-									
	D1c	7										-									
	D2	9										9									
	D3	3≥0.8										3≥0.8									
	D4	27										27									
	H	0.2, 0.8(VG)										0.2									

T=Titanium

→ A3-07 MC Nozzle Spare Parts



Nozzle body spare parts list

Size	Nozzle L	Body	Manifold Nut	HP heater	Spare Thermocouple	Front Ti Ring	Front cap
A3-07 MC	55	A3MCBD205507	A3KG2416	HS15150310160	TC00160160-17	OS Nut	A3FC079443 A3VGFC079441 (optional)
	65	A3MCBD206507		HS15150430229	TC00160160-26	TIM01801203 (optional)	
	80	A3MCBD208007		HS15150560239	TC00160160-39		
	90	A3MCBD209007		HS15150690248	TC00160160-26		
	105	A3MCBD210507		HS15150810258	TC00160210-29		
	115	A3MCBD211507		HS15150940267			
	130	A3MCBD213007		HS15151070277			
	155	A3MCBD215507		HS15151320295	TC00160260-29		
	180	A3MCBD218007		HS15151580314			

Front Assembly Spare Parts

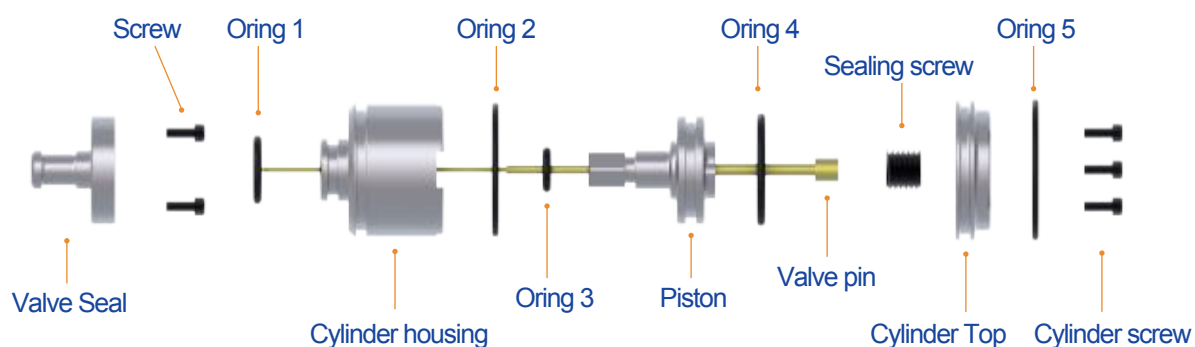
POS+PPS+PPX+PSX			NOS+NPS+NPX+NSX			VOS+VGS+VGX+VSX		
Item code	Nut/Front	Tip	Item code	Nut/Front	Tip	Item code	Nut/Front	Tip
A3POS21212	A3OS21212	A3TP211331	A3NOS212121-1	A3OS21212	A3TN211351-1	A3VOS212121	A3OS21212	A3TV211331
A3PPS21012	A3PS21012		A3NOS212123-1		A3TN211353-1	A3VGS210121	A3GS21012	
A3PPX21012	A3PX21012		A3NOS212124-1		A3TN211354-1	A3VGX210121	A3GX21012	
A3PSX20712	A3SX20712		A3NOS212121-3		A3TN211351-3	A3VSX207121	A3VS20712	
			A3NPS210121-1	A3PS21012	A3TN211351-1	A3VOS212123	A3OS21212	A3TV211333
NOX			A3NPS210123-1		A3TN211353-1	A3VGS210123	A3GS21012	
Item code	Nut	Tip	A3NPS210124-1		A3TN211354-1	A3VGX210123	A3GX21012	
A3NOX212121-1	A3OS21212	A3TN211401-1	A3NPS210121-3		A3TN211351-3	A3VSX207123	A3VS20712	
A3NOX212121-3		A3TN211401-3						
			A3NPX210121-1	A3PX21012	A3TN211351-1			
			A3NPX210123-1		A3TN211353-1			
			A3NPX210124-1		A3TN211354-1			
			A3NPX210121-3		A3TN211351-3			
			A3NSX207121-1	A3SX20712	A3TN211351-1			
			A3NSX207123-1		A3TN211353-1			
			A3NSX207124-1		A3TN211354-1			
			A3NSX207121-3		A3TN211351-3			



Tip spare parts list

	1 exit			3 exits
Material	Copper	HBM-CDC	TZM-SHN	Copper
size 07	A3TN211351-1	A3TN211353-1	A3TN211354-1	A3TN211351-3
	A3TN211401-1			A3TN211401-3
	A3TP211331	-	-	-
	A3TV211331	A3TV211333	-	-

→ A3MC VG Cylinder Spare Parts



A3MC VG Cylinder spare parts

Size	Valve seal	Cylinder housing	Piston	Cylinder top	Valve pins	Screw	Sealing screw	Cylinder screw
A3MCVG07	CPVS063124	CPCY063835	CPPT063136	CPCT064010	PN0415230 PN0415230-G2 PN0620260 PN0620260-G2 PN0625260 PN0625260-G2 PN0625350 PN0625350-G2	M4X8	GS1215-10	M5X12X10

Size	O-Ring 1	O-Ring 2	O-Ring 3	O-Ring 4	O-Ring 5
A3MCVG07	ORIN-00228	ORIN-00234	ORIN-00227	ORIN-00233	ORIN-00235

A3MC VG Cylinder bore dimension

(mm)

Size	D0	D4	D5	D9	D10	D11	E1	E2	E3	E4
ACCP20260 ACCP25260	42	6	12	40	38	18	24	23	15	18

MARKET : **AUTOMOTIVE**

PROJECT NO. : **E180-9466**

SOLUTION : **ANGLED INJECTION, STRAIGHT HEATER**

HR SYSTEM/GATE : **A3-VALVE GATE SYSTEM, DIRECT GATE**

RESIN : **ULTRAMID® B3WG8 BK564(PA6+GF40)**

PART WEIGHT : **80g**

GATE TYPE : **DIRECT GATE,(A3MC VOS)**



HEATLOCK®

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please visit our website **www.heatlock.com**



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