

HEATLOCK®

YOUR GLOBAL HOT-RUNNER SOLUTION



HEATLOCK®

Global Hot Runner Solution Provider

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

Our Operation is set up according to international business standards with strict quality and management system as key ingredients. We have more than 30 years' experience with Hot Runner Solutions.

We supply standardised products or special hot runner solutions, hot half's all up to your specific requirements. All simulated in depth, if needed, by our global partners. Our network has top of the line tech know-how.

Ceramic insulated, CE technology

HEATLOCK Hot Runners are known for their ceramic insulation, which insulates all the contact- and location-points from the mould. With our patented CE fix technology have we made ceramics even easier to use with increased sustainability

Service fanatics

Heatlock is a service company fanatic about customer care, we deliver hot runner solutions, your lean partner.

Global partners

Throughout our global network of partners, HEATLOCK guarantees high quality service no matter where your mould is produced or in production. You make your mould in China, Germany, Portugal, UK.....our Global Call service takes care of you.

Tech centre and spare part stock in;

China * Germany * US

**GLOBAL ASSISTANCE, HELP ANYWHERE=
GLOBAL CALL BY HEATLOCK**





A2 Series Modular Perfection

Hot runners re-engineered to make it simple and easy to use with maximum performance and modularity.

Use the standard configurations in case of commodity resins, for engineering resins simply up-grade with our high performance modules.

Install the A2 Hot Runner system in your mould and adjust gate position to your maximised position using our virtual gate position technology. Grind back spacers to adjust for calculated heat expansion close the clamp plate and your ready to go.

Individually designed nozzle solutions available to suit your production needs.

→ A2 Nozzle Selection Guide -1

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Max. Recommended shot weight																									
Low	80	200	400	800	200	400	80	200	400	800	80	200	400	100	300	600	1100	100	300	600	1100	100	300	600	1100
Medium	60	100	260	400	100	260	60	100	260	400	60	100	260	60	125	310	500	60	125	310	500	60	125	310	500
High	5	20	50	100	20	50	5	20	50	100	5	20	50	7	25	60	115	7	25	60	115	7	25	60	115

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.

→ A2 Nozzle Selection Guide -2

(mm)

																					
Type	VOS			VGS			VGX/VSX			XL-NPX/NSX		XL-NOS		XL-PPX/PSX		XL-POS		MEGA-NOS	MEGA-POS	MT	
Φ Feed	5	7	10	5	7	10	5	7	10	10	17	10	17	10	17	10	17	24	24	4	5
Φ Gate	0.8~2	1~3	1.2~3	0.8~2	1~3	1.2~3	0.8~2	1~3	1.2~3	1.2~3	1.8~5	1.2~3	1.8~5	1.2~3	1.8~5	1.2~3	1.8~5	*	*	0.6~1.5	0.6~2

Max. Recommended shot weight

Low	200	500	900	200	500	900	200	500	900	1100	2800	800	2500	1100	2800	1100	2800	*	*	80	200
Medium	80	200	380	80	200	380	80	200	380	500	1750	400	1500	500	1750	500	1750	*	*	60	100
High	20	50	100	20	50	100	20	50	100	115	1000	100	800	115	1000	115	1000	*	*	-	-

Suitability

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

Viscosity:

Low

Medium

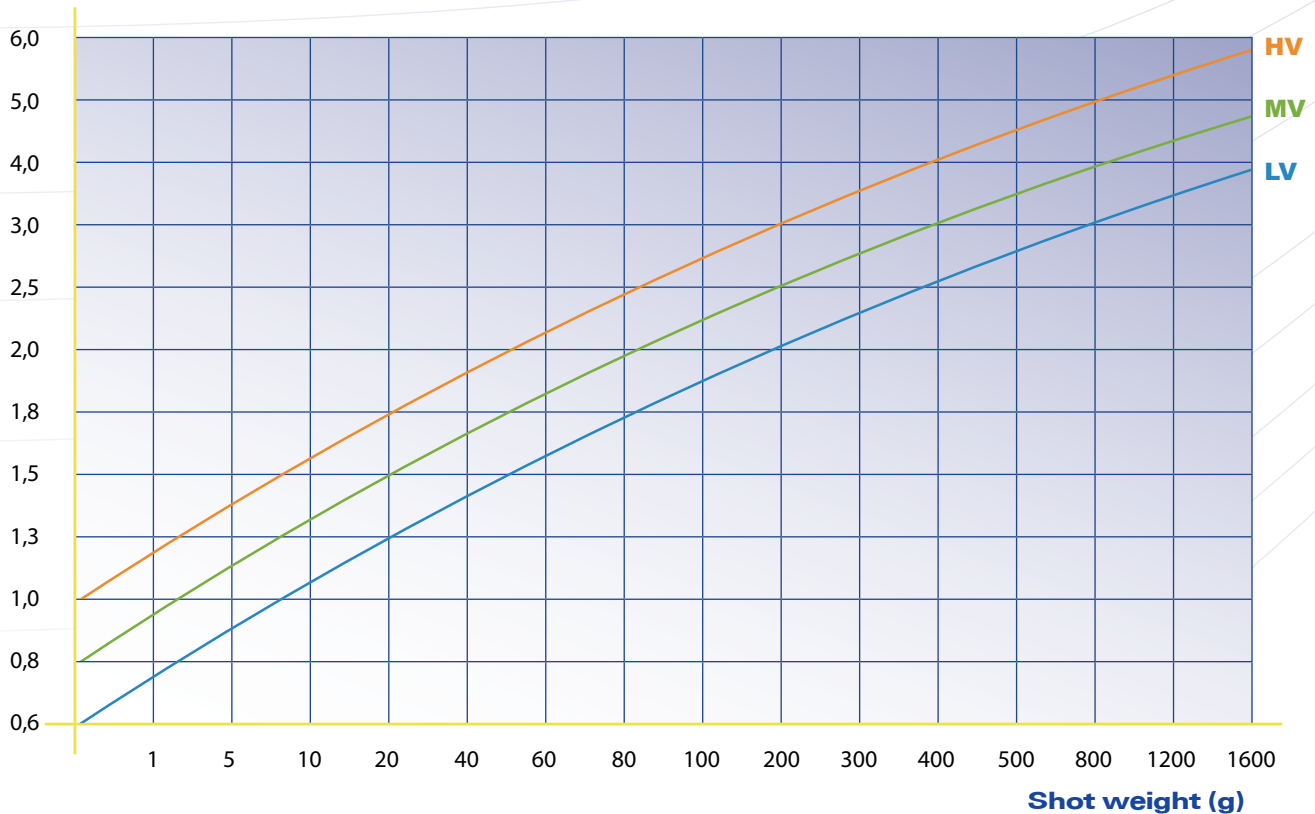
High

*** Good ** Ok * Contact HEATLOCK -- Not recommended

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

→ A2 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.

→ A2 Technology

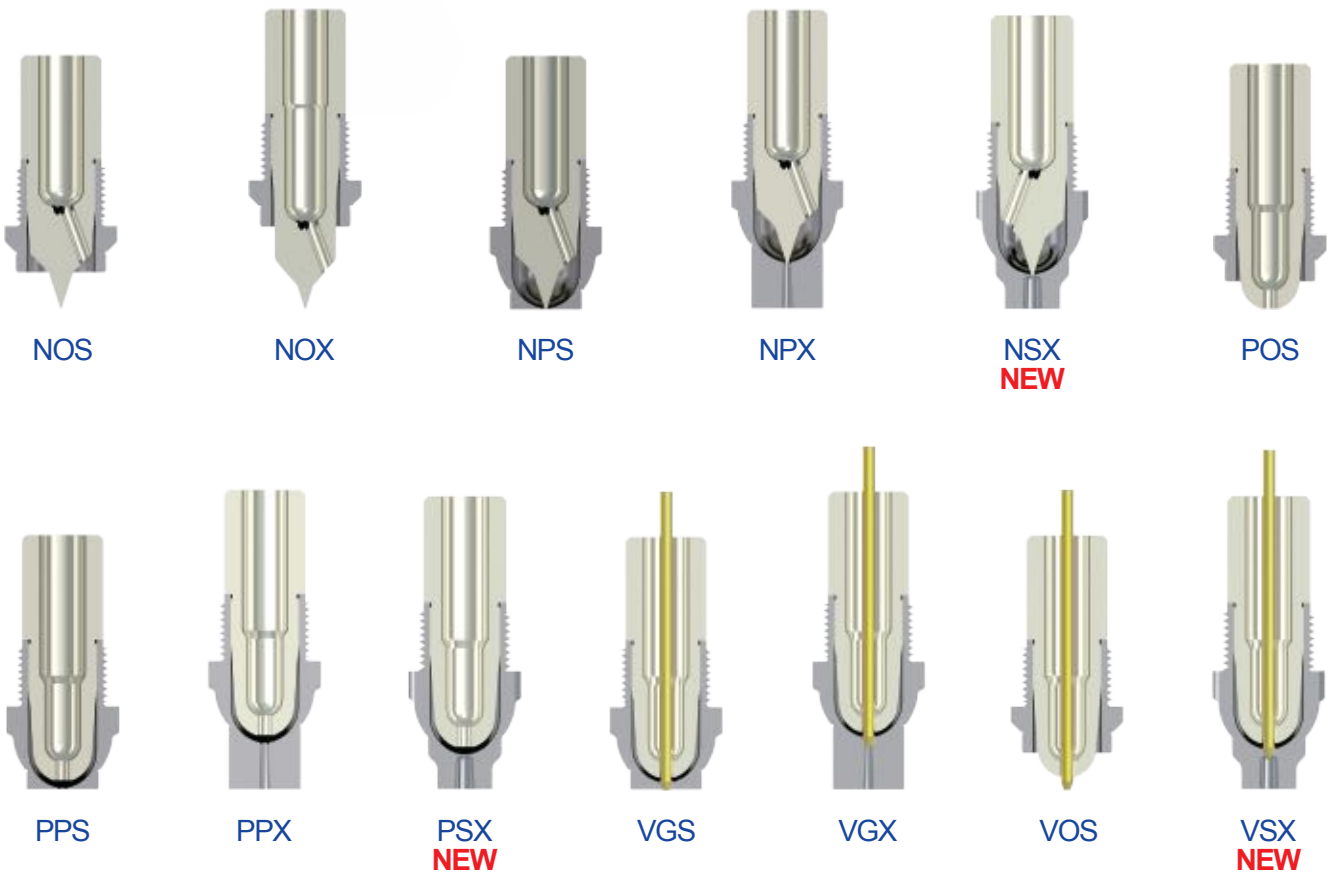


Our modular work-horse series, simplicity for easy to use and service, modularity to suit your requirement, All modular elements for the A2 series is the same as use for our A3 All-In-One series.

To find nozzle that suit your parts' gate requirements, simply select nozzle size, length and front style using our nozzle guide.

All 13 front styles are available in one exit or three exit tip option. For glass filled resins and other materials requiring wear resistant tip select our TZM tip 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.

Simply drop the Hot Runner system in your mould and adjust gate position to the optimum position using our virtual gate position technology, V-GATE, can it get easier?



→ A2 NOS+NPS+NPX+NSX Series



NOS

- Topless direct gate small residue on the part
- One hole options for shear sensitive materials
- TZM one exit tips for reinforced materials

NPX

- Direct gate small residue on the part, reduced stringing
- One exit options for shear sensitive materials, TZM one exit tips for reinforced materials
- Gating on contour or with a sprue gate
- Exchangeable gate, gate separated from mould plate

NPS

- Direct gate small residue on the part, reduced stringing
- One exit options for shear sensitive materials, TZM one exit tips for reinforced materials
- Exchangeable gate, gate separated from mould plate

NSX

- Perfect hot to cold solution
- Direct gate on the part, reduced stringing
- One exit options for shear sensitive materials, TZM tips for reinforced materials
- Exchangeable front, gate separated from mould plate
- Excellent for glass filled resins and high temperature moulding



NOS



NPS



NPX



NSX
NEW

(mm)

Size	Size 04	Size 05	Size 07	Size 10
L	50~100	40~120	40~160	60~180
Feed ϕ	4	5	7	10
Gate ϕ	0.6~1.5	0.6~2	0.8~3	1.2~3

Shot Weight(g)				
Low-viscosity	80	200	400	800
Medium-viscosity	60	100	260	400
High-viscosity	5	20	50	100

→ A2 NOS+NPS+NPX+NSX Guide

Order example:



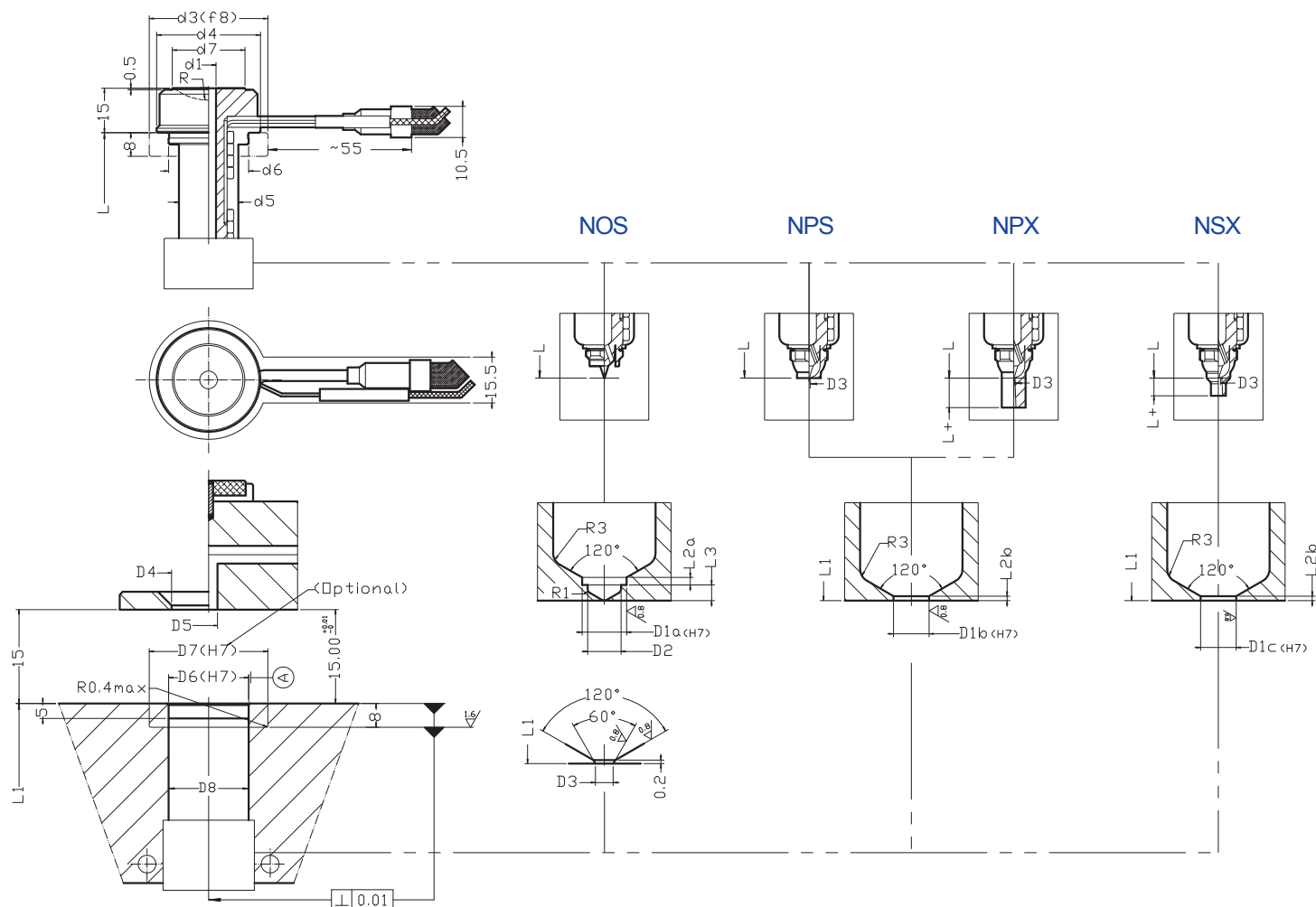
A2 - NOS - 080 - 05 - 1 - 3

Nozzle series	Nut/Front type	L	Feed dia.	Tip mat.	Exits in tip
A2	NOS	080	05	1	3

Tip codes:

material: 1=copper alloy, 3=HBM-CDC, 4=TZM-SHN

Exits: 1=one exit, 3=three exit



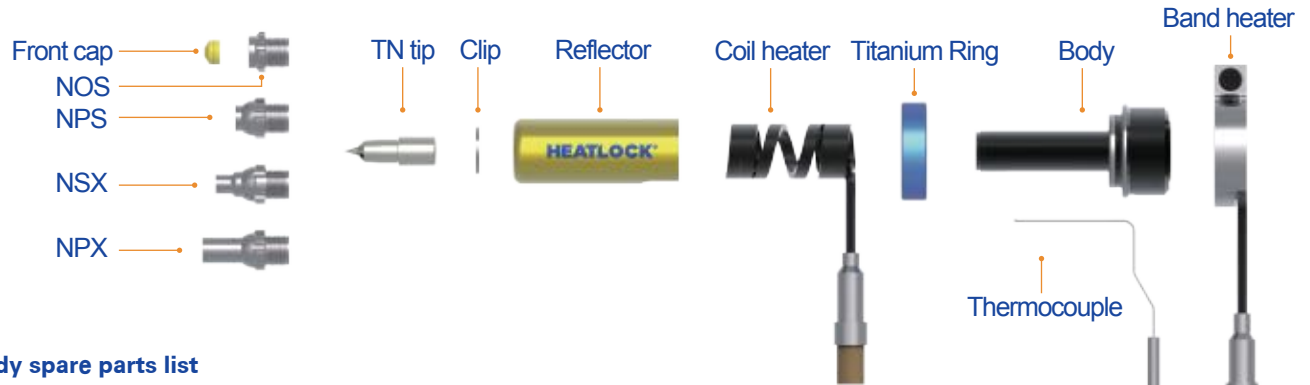
→ A2 NOS+NPS+NPX+NSX Dimension

(mm)

Nozzle	A2 + NOS NPS NPX NSX																									
	Size	04				05						07						10								
	L	50	60	80	100	40	50	60	80	100	120	40	60	80	100	120	140	160	60	80	100	120	140	160	180	
	L+	5				10(PX),6(SX)						15(PX),7(SX)						15(PX),7(SX)								
	d1	4				5						7						10								
	d3	T23				C30,T30						T36,T40,T50						T50								
	d4	23				29						35						48								
	d5	13				20						24						34								
	d6	17				23						27						39								
	d7	14				18						24.5						32								
Mould	L1	50.13	60.15	80.18	100.22	40.11	50.13	60.15	80.18	100.22	120.26	40.12	60.15	80.19	100.23	120.27	140.31	160.34	60.26	80.32	100.38	120.44	140.50	160.57	180.63	
	L2a	1.1				2						2.5						2.6								
	L2b	1				1						1.5						2								
	L3	1.7				3.5						3.5						4.4								
	D1a	6				10						12						18								
	D1b	6				8						10						14								
	D1c	5				5						7						10								
	D2	4.5				7.5						9						12.4								
	D3	1.5≥0.6				2≥0.6						3≥0.8						≥2								
	D4	16				20						26.5						34								
	D5	4				5						7						10								
	D6	17				23						27						39								
	D7	T23				C30,T30						T36,T40,T50						T50								
	D8	17				23						27						39								

C=Ceramic T=Titanium

→ A2 NOS+NPS+NPX+NSX Spare Parts



Nozzle body spare parts list

Size	Nozzle L	Body	Coilheater	Thermocouple	Reflector	Spring Clip	Front cap	Titanium Ring	Band heater
04	50	A2BD105004	CS20080500200	TC00140200	GRFT113120-050	F-S-SPRINGCLIP-8408	A3FC044724 (optional)	TIM02301708 (optional)	BH121150 (optional)
	60	A2BD106004	CS20080600250	TC00140210	GRFT113120-060				
	80	A2BD108004	CS20080800300	TC00140220	GRFT113120-080				
	100	A2BD110004	CS20081000350	TC00140220	GRFT113120-100				
05	40	A2BD104005	CS14120330200	TC00140195	GRFT120120-040	F-S-SPRINGCLIP-1210	A3FC057939 A3FC057949 (optional)	TIM03002308 (optional)	BH127150 (optional)
	50	A2BD105005	CS14120430200	TC00140200	GRFT120120-050				
	60	A2BD106005	CS14120530225	TC00140210	GRFT120120-060				
	80	A2BD108005	CS14120730250	TC00140220	GRFT120120-080				
	100	A2BD110005	CS14120930350	TC00140220	GRFT120120-100				
07	120	A2BD112005	CS14121130350	TC00140250	GRFT120120-120	F-S-SPRINGCLIP-1410	A3FC079443 (optional)	TIM03602708 TIM04002708 TIM05002708 (optional)	BH233200 (optional)
	40	A2BD204007	CS14150310260	TC00140195	GRFT224200-040				
	60	A2BD206007	CS14150510300	TC00140210	GRFT224200-060				
	80	A2BD208007	CS14150710350	TC00140220	GRFT224200-080				
	100	A2BD210007	CS14150910450	TC00140220	GRFT224200-100				
	120	A2BD212007	CS14151110450	TC00140250	GRFT224200-120				
10	140	A2BD214007	CS14151310500	TC00140250	GRFT224200-140	F-S-SPRINGCLIP-1912	A3FC101372 (optional)	TIM05003908 (optional)	BH347250 (optional)
	160	A2BD216007	CS14151510550	TC00140250	GRFT224200-160				
	60	A2BD306010	CS14210490400	TC00140210	GRFT334200-060				
	80	A2BD308010	CS14210690450	TC00140220	GRFT334200-080				
	100	A2BD310010	CS14210890500	TC00140220	GRFT334200-100				
	120	A2BD312010	CS14211090600	TC00140230	GRFT334200-120				
	140	A2BD314010	CS14211290650	TC00140250	GRFT334200-140				
	160	A2BD316010	CS14211490700	TC00140250	GRFT334200-160				
	180	A2BD318010	CS14211690750	TC00140270	GRFT334200-180				

Front Assembly Spare Part

Item code	Size 04		Item code	Size 05		Item code	Size 07		Item code	Size 10	
	Nut/Front	Tip		Nut/Front	Tip		Nut/Front	Tip		Nut/Front	Tip
A3NOS0307061-1	A3OS030706	A3TN0306161-1	A3NOS110101-1	A3OS11010	A3TN109281-1	A3NOS212121-1	A3OS21212	A3TN211351-1	A3NOS316181-1	A3OS31618	A3TN314401-1
A3NOS0307061-2		A3TN0306163-2	A3NOS110103-1		A3TN109283-1	A3NOS212123-1		A3TN211353-1	A3NOS316183-1		A3TN314403-1
A3NOS0307063-1		A3TN0306161-1	A3NOS110104-1		A3TN109284-1	A3NOS212124-1		A3TN211354-1	A3NOS316184-1		A3TN314404-1
A3NPS0307061-1		A3TN0306163-1	A3NOS110101-3		A3TN109281-3	A3NOS212121-3		A3TN211351-3	A3NOS316181-3		A3TN314401-3
A3NPS0307061-2	A3PS030706	A3TN0306161-2	A3NPS108101-1	A3PS10810	A3TN109281-1	A3NPS210121-1	A3PS21012	A3TN211351-1	A3NPS314161-1	A3PS31416	A3TN314401-1
A3NPS0307063-1		A3TN0306163-1	A3NPS108103-1		A3TN109283-1	A3NPS210123-1		A3TN211353-1	A3NPS314163-1		A3TN314403-1
A3NPX0307061-1		A3TN0306161-1	A3NPS108104-1		A3TN109284-1	A3NPS210124-1		A3TN211354-1	A3NPS314164-1		A3TN314404-1
A3NPX0307061-2		A3TN0306163-2	A3NPS108101-3		A3TN109281-3	A3NPS210121-3		A3TN211351-3	A3NPS314161-3		A3TN314401-3
A3NPX0307063-1	A3PX030706	A3TN0306161-1	A3NPX108101-1	A3PX10810	A3TN109281-1	A3NPX210121-1	A3PX21012	A3TN211351-1	A3NSX310161-1	A3PX31416	A3TN314401-1
A3NSX0305071-1		A3TN0306163-1	A3NPX108103-1		A3TN109283-1	A3NPX210123-1		A3TN211353-1	A3NSX310163-1		A3TN314403-1
A3NSX0305071-2		A3TN0306161-2	A3NPX108104-1		A3TN109284-1	A3NPX210124-1		A3TN211354-1	A3NPX314164-1		A3TN314404-1
A3NSX0305073-1		A3TN0306163-1	A3NPX108101-3		A3TN109281-3	A3NPX210121-3		A3TN211351-3	A3NPX314161-3		A3TN314401-3
		A3NSX105101-1	A3SX10510		A3TN109281-1	A3NSX207121-1	A3SX20712	A3TN211351-1	A3NSX310161-1	A3SX31016	A3TN314401-1
		A3NSX105103-1			A3TN109283-1	A3NSX207123-1		A3TN211353-1	A3NSX310163-1		A3TN314403-1
		A3NSX105104-1			A3TN109284-1	A3NSX207124-1		A3TN211354-1	A3NSX310164-1		A3TN314404-1
		A3NSX105101-3			A3TN109281-3	A3NSX207121-3		A3TN211351-3	A3NSX310161-3		A3TN314401-3

TN tip spare part list

Size	1 exit			3 exits copper
	copper	HBM-CDC	TZM-SHN	
Size 04	A3TN0306161-1	A3TN0306163-1	*	*
	A3TN0306161-2			
Size 05	A3TN109281-1	A3TN109283-1	A3TN109284-1	A3TN109281-3
Size 07	A3TN211351-1	A3TN211353-1	A3TN211354-1	A3TN211351-3
Size 10	A3TN314401-1	A3TN314403-1	A3TN314404-1	A3TN314401-3

→ A2 POS+PPS+PPX+PSX Series



POS

- Topless direct gate or on a sprue gate
- Open flow little shear stress
- Fast gate cooling

PPS

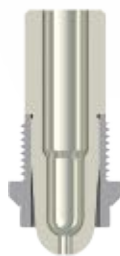
- Topless direct gate or on a sprue gate
- Open flow little shear stress
- Exchangeable gate, gate separated from mould plate

PPX

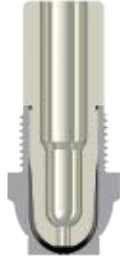
- Direct gate or on a sprue gate small residue on the part
- Open flow little shear stress
- Gating on contour or with a sprue gate
- Exchangeable gate, gate separated from mould plate

PSX

- Perfect hot to cold solution
- Direct gate on the part, reduced stringing
- Exchangeable front, gate separated from mould plate
- Excellent for glass filled resins and high temperature moulding



POS



PPS



PPX



PSX
NEW

(mm)

Size	Size 04	Size 05	Size 07	Size 10
L	50~100	40~120	40~160	60~180
Feed ϕ	4	5	7	10
Gate ϕ	0.6~1.5	0.6~2	0.8~3	1.2~3

Shot Weight(g)				
Low-viscosity	100	300	600	1100
Medium-viscosity	60	125	310	500
High-viscosity	7	25	60	115

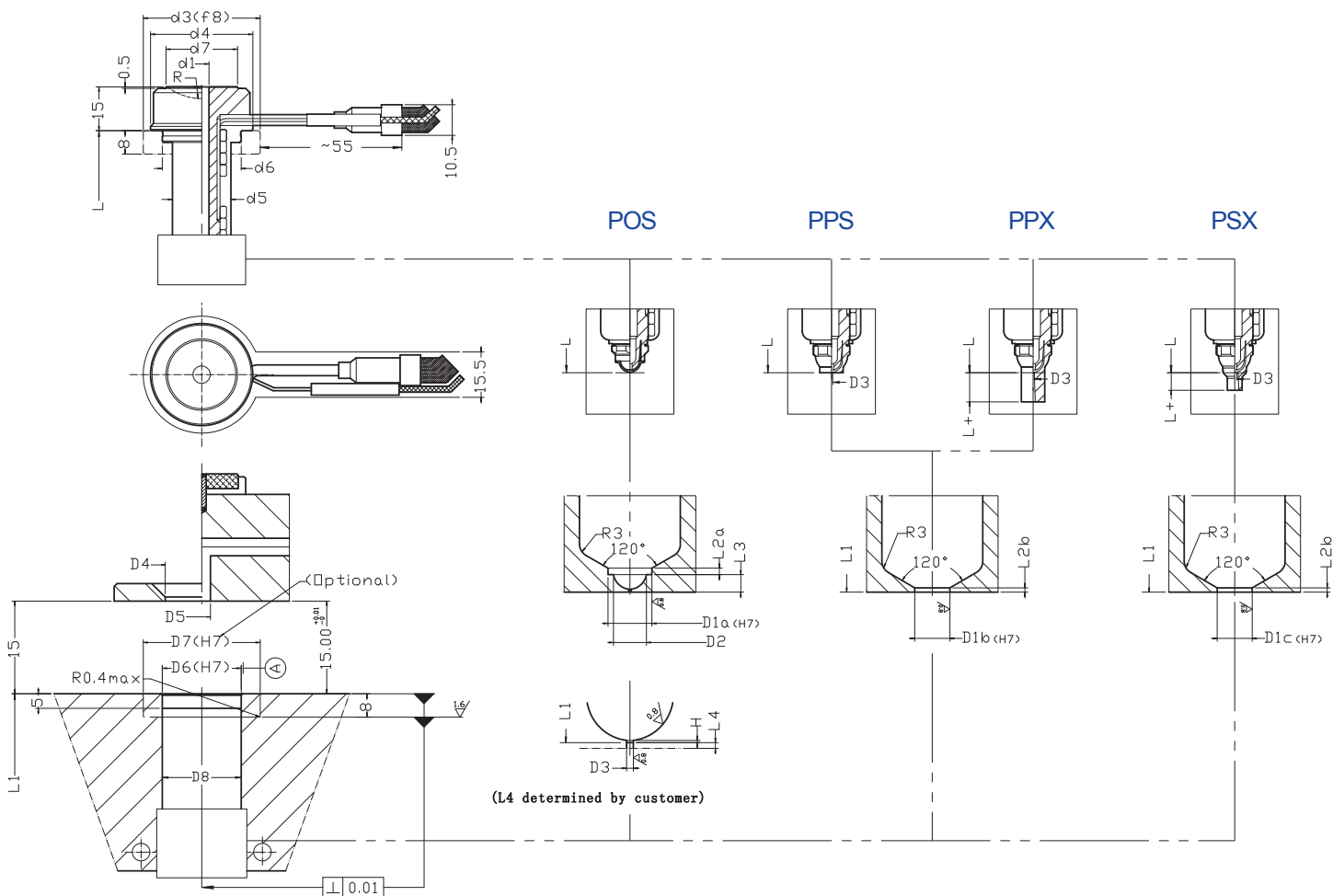
→ A2 POS+PPS+PPX+PSX Guide

Order example:



A2 - POS - 080 - 05

Nozzle series Nut/Front type L Feed dia

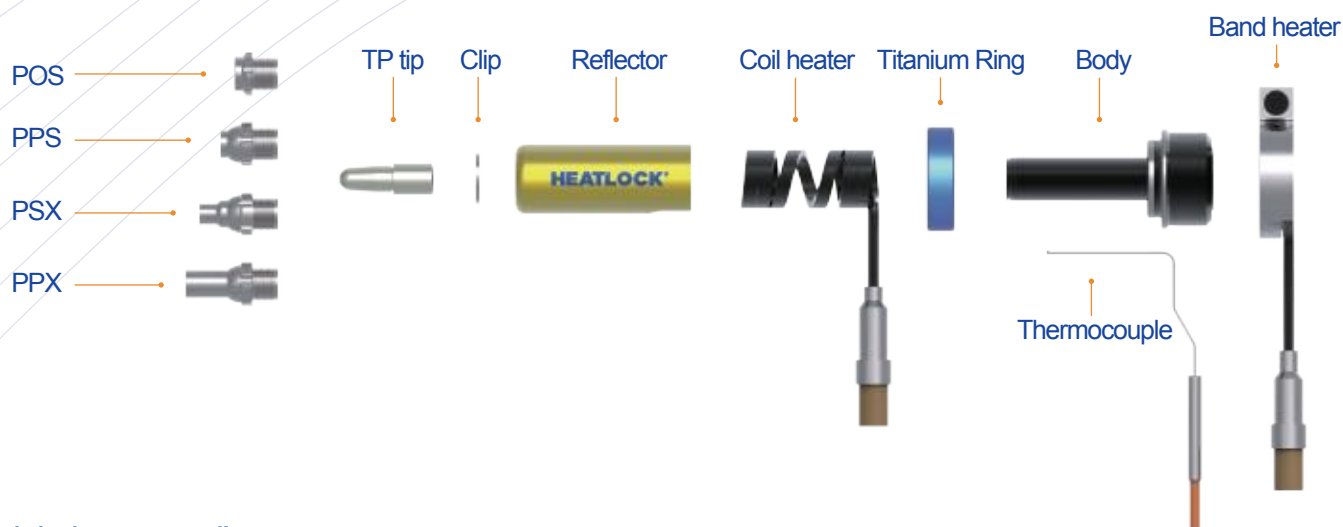


→ A2 POS+PPS+PPX+PSX Dimension

(mm)																										
	A2 + POS PPS PPX PSX																									
	Size	04				05						07						10								
Nozzle	L	50	60	80	100	40	50	60	80	100	120	40	60	80	100	120	140	160	60	80	100	120	140	160	180	
	L+	5				10(PX),6(SX)						15(PX),7(SX)						15(PX),7(SX)								
	d1	4				5						7						10								
	d3	T23				C30,T30						T36,T40,T50						T50								
	d4	23				29						35						48								
	d5	13				20						24						34								
	d6	17				23						27						39								
	d7	14				18						24.5						32								
Mould	L1	50.13	60.15	80.18	100.22	40.11	50.13	60.15	80.18	100.22	120.26	40.12	60.15	80.19	100.23	120.27	140.31	160.34	60.25	80.32	100.38	120.44	140.50	160.56	180.62	
	L2a	1.1				2						2.5						2.6								
	L2b	1				1						1.5						2								
	L3	1.7				3.5						3.5						4.4								
	D1a	6				10						12						18								
	D1b	6				8						10						14								
	D1c	5				5						7						10								
	D2	4.5				7.5						9						12.4								
	D3	1.5≥0.6				2≥0.6						3≥0.8						≥2								
	D4	16				20						26.5						34								
	D5	4				5						7						10								
	D6	17				23						27						39								
	D7	T23				C30,T30						T36,T40,T50						T50								
	D8	17				23						27						39								

C=Ceramic T=Titanium

→ A2 POS+PPS+PPX+PSX Spare Parts



Nozzle body spare parts list

Size	Nozzle L	Body	Coilheater	Thermocouple	Reflector	Spring Clip	Titanium Ring	Band heater
04	50	A2BD105004	CS20080500200	TC00140200	GRFT113120-050	F-S-SPRINGCLIP-8408	TIM02301708 (optional)	BH121150 (optional)
	60	A2BD106004	CS20080600250	TC00140210	GRFT113120-060			
	80	A2BD108004	CS20080800300	TC00140220	GRFT113120-080			
	100	A2BD110004	CS20081000350	TC00140220	GRFT113120-100			
05	40	A2BD104005	CS14120330200	TC00140195	GRFT120120-040	F-S-SPRINGCLIP-1210	TIM03002308 (optional)	BH127150 (optional)
	50	A2BD105005	CS14120430200	TC00140200	GRFT120120-050			
	60	A2BD106005	CS14120530225	TC00140210	GRFT120120-060			
	80	A2BD118005	CS14120730250	TC00140220	GRFT120120-080			
	100	A2BD110005	CS14120930350	TC00140220	GRFT120120-100			
	120	A2BD112005	CS14121130350	TC00140250	GRFT120120-120			
07	40	A2BD204007	CS14150310260	TC00140195	GRFT224200-040	F-S-SPRINGCLIP-1410	TIM03602708 TIM04002708 TIM05002708 (optional)	BH233200 (optional)
	60	A2BD206007	CS14150510300	TC00140210	GRFT224200-060			
	80	A2BD208007	CS14150710350	TC00140220	GRFT224200-080			
	100	A2BD210007	CS14150910450	TC00140220	GRFT224200-100			
	120	A2BD212007	CS14151110450	TC00140250	GRFT224200-120			
	140	A2BD214007	CS14151310500	TC00140250	GRFT224200-140			
	160	A2BD216007	CS14151510550	TC00140250	GRFT224200-160			
10	60	A2BD306010	CS14210490400	TC00140210	GRFT334200-060	F-S-SPRINGCLIP-1912	TIM05003908 (optional)	BH347250 (optional)
	80	A2BD308010	CS14210690450	TC00140220	GRFT334200-080			
	100	A2BD310010	CS14210890500	TC00140220	GRFT334200-100			
	120	A2BD312010	CS14211090600	TC00140230	GRFT334200-120			
	140	A2BD314010	CS14211290650	TC00140250	GRFT334200-140			
	160	A2BD316010	CS14211490700	TC00140250	GRFT334200-160			
	180	A2BD318010	CS14211690750	TC00140270	GRFT334200-180			

Front Assembly Spare Parts

Item code	Size 04		Item code	Size 05		Item code	Size 07		Item code	Size 10	
	Nut/Front	Tip		Nut/Front	Tip		Nut/Front	Tip		Nut/Front	Tip
A3POS030706	A3OS030706	A3TP030615	A3P0S11010	A3OS11010	A3TP109271	A3POS21212	A3OS21212	A3TP211331	A3POS31618	A3OS31618	A3TP1438
A3PPS030706	A3PS030706		A3PPS10810	A3PS10810		A3PPS21012	A3PS21012		A3PPS31416	A3PS31416	
A3PPX030706	A3PX030706		A3PPX10810	A3PX10810		A3PPX21012	A3PX21012		A3PPX31416	A3PX31416	
A3PSX030507	A3SX030507		A3PSX10510	A3SX10510		A3PSX20712	A3SX20712		A3PSX31016	A3SX31016	



→ A2 VOS+VGS+VGX+VSX Series

VOS

- Pneumatic valve gate
- No residue on part
- Fast gate cooling

VGS

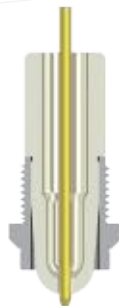
- Pneumatic valve gate
- No residue on part
- Exchangeable gate, gate separated from mould plate

VGX

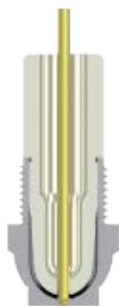
- Pneumatic valve gate
- Direct gate or on a sprue gate small residue on the part
- Gating on contour or with a sprue gate
- Exchangeable gate, gate separated from mould plate

VSX

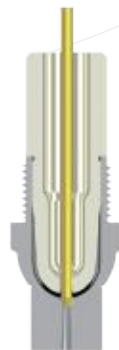
- Pneumatic valve gate
- Perfect hot to cold solution
- Direct gate on the part, reduced stringing
- Exchangeable front, gate separated from mould plate
- Excellent for glass filled resins and high temperature moulding



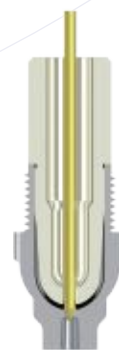
VOS



VGS



VGX



VSX
NEW

(mm)

Size	Size 05	Size 07	Size 10
L	40~120	40~160	60~180
Feed Φ	5	7	10
Gate Φ	≥ 0.8	≥ 1.0	≥ 1.2

Shot Weight(g)			
Low-viscosity	200	500	900
Medium-viscosity	80	200	380
High-viscosity	20	50	100

→ A2 VOS+VGS+VGX+VSX Guide

Order example:



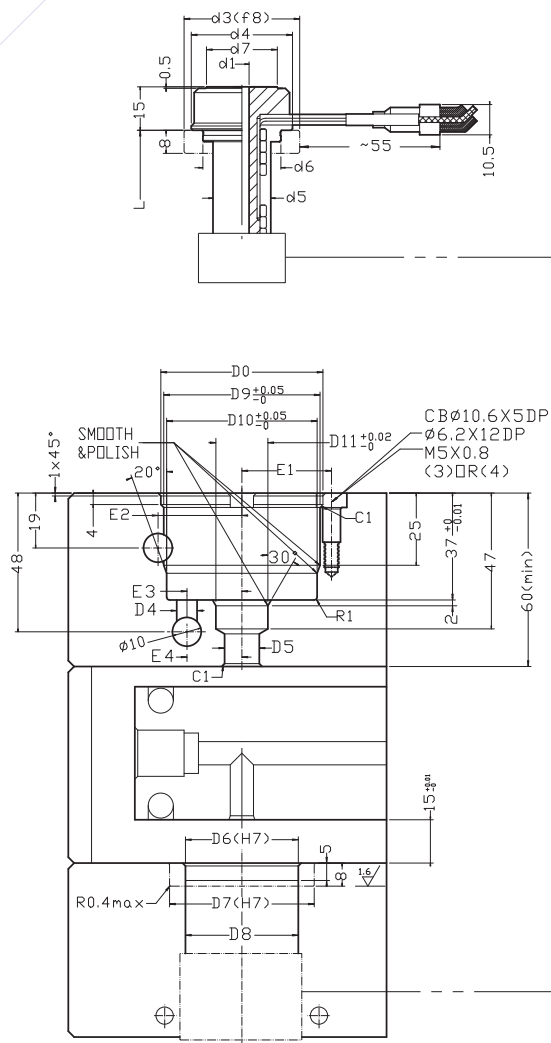
A2 - VOS - 080 - 05

Nozzle series

Nut/Front
type

1

Feed
dia

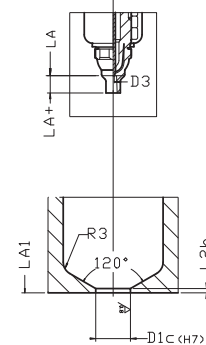
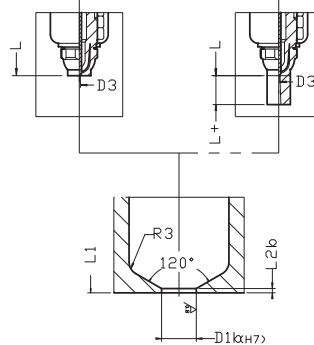
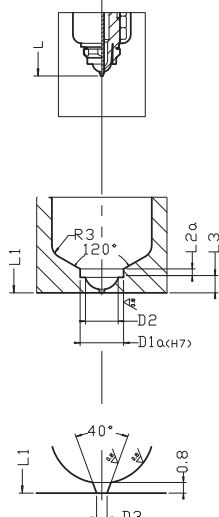


VOS

VGS

VGX

VSX



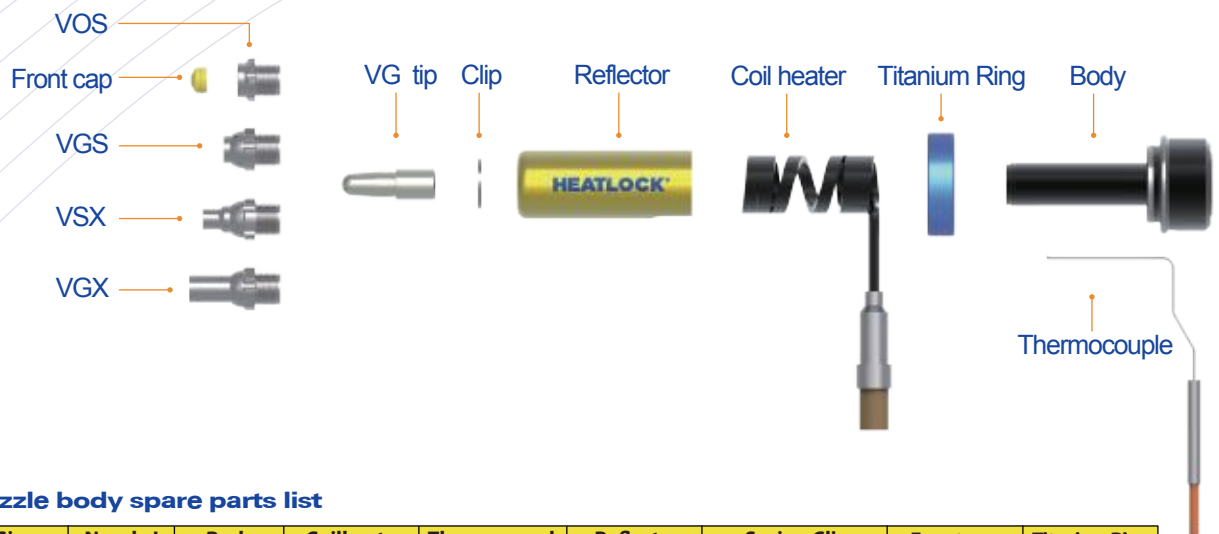
→ A2 VOS+VGS+VGX+VSX Dimension

(mm)

	Size	A2 + VOS VGS VGX VSX																			
		05						07						10							
Nozzle	L	40	50	60	80	100	120	40	60	80	100	120	140	160	60	80	100	120	140	160	180
	L+	10(PX),6(SX)						15(PX),7(SX)						15(PX),7(SX)							
	d1	5						7						10							
	D3	≥0.8						≥1						≥1.2							
Mould	L1	40.11	50.13	60.15	80.18	100.2	120.3	40.12	60.15	80.19	100.2	120.3	140.3	160.3	60.26	80.32	100.38	120.44	140.50	160.57	180.63
	L2a	2						2.5						2.5							
	L2b	1						1.5						2							
	L3	3.5						3.5						4.5							
	D1a	10						12						18							
	D1b	8						10						14							
	D1c	5						7						10							
	D2	7.5						9						12.5							
	D4	6						6						7							
	D5	12						12						12							
	D6	23						27						39							
	D7	C30,T30						T36,T40,T50						T50							
	D8	23						27						39							

d3:C=Ceramic T=Titanium

→ A2 VOS+VGS+VGX+VSX Spare Parts



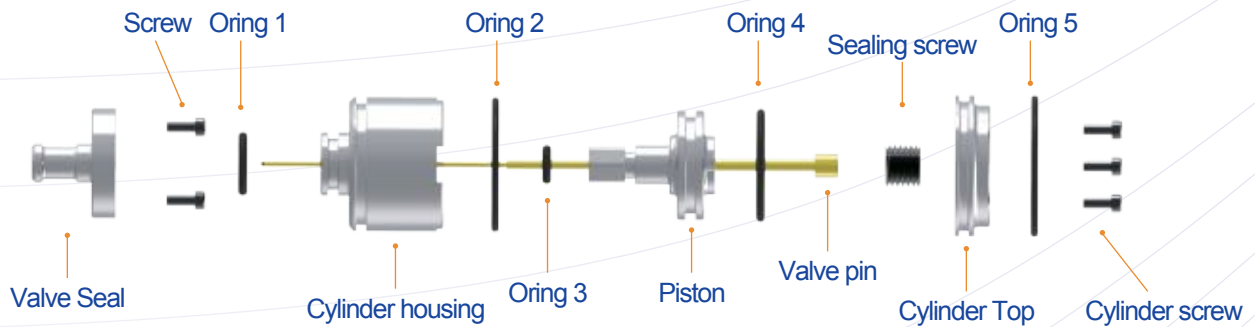
Nozzle body spare parts list

Size	Nozzle L	Body	Coilheater	Thermocouple	Reflector	Spring Clip	Front cap	Titanium Ring
05	40	A2BD104005	CS14120330200	TC00140195	GRFT120120-040	F-S-SPRINGCLIP-1210	A3VGFC057939 (optional)	TIM03002308 (optional)
	50	A2BD105005	CS14120430200	TC00140200	GRFT120120-050			
	60	A2BD106005	CS14120530225	TC00140210	GRFT120120-060			
	80	A2BD118005	CS14120730250	TC00140220	GRFT120120-080			
	100	A2BD110005	CS14120930350	TC00140220	GRFT120120-100			
	120	A2BD112005	CS14121130350	TC00140250	GRFT120120-120			
07	40	A2BD204007	CS14150310260	TC00140195	GRFT224200-040	F-S-SPRINGCLIP-1410	A3VGFC079441 (optional)	TIM03602708 TIM04002708 TIM05002708 (optional)
	60	A2BD206007	CS14150510300	TC00140210	GRFT224200-060			
	80	A2BD208007	CS14150710350	TC00140220	GRFT224200-080			
	100	A2BD210007	CS14150910450	TC00140220	GRFT224200-100			
	120	A2BD212007	CS14151110450	TC00140250	GRFT224200-120			
	140	A2BD214007	CS14151310500	TC00140250	GRFT224200-140			
10	60	A2BD306010	CS14210490400	TC00140210	GRFT334200-060	F-S-SPRINGCLIP-1912	A3VGFC101348 (optional)	TIM05003908 (optional)
	80	A2BD308010	CS14210690450	TC00140220	GRFT334200-080			
	100	A2BD310010	CS14210890500	TC00140220	GRFT334200-100			
	120	A2BD312010	CS14211090600	TC00140230	GRFT334200-120			
	140	A2BD314010	CS14211290650	TC00140250	GRFT334200-140			
	160	A2BD316010	CS14211490700	TC00140250	GRFT334200-160			
	180	A2BD318010	CS14211690750	TC00140270	GRFT334200-180			

Front Assembly Spare Parts

Item code	Size 05		Item code	Size 07		Item code	Size 10	
	Nut/Front	Tip		Nut/Front	Tip		Nut/Front	Tip
A3VOS110101	A3OS11010	A3TV109261	A3VOS212121	A3OS21212	A3TV211331	A3VOS316181	A3OS31618	A3TV314381
A3VGS108101	A3GS10810		A3VGS210121	A3GS21012		A3VGS314161	A3GS31416	
A3VGX108101	A3GX10810		A3VGX210121	A3GX21012		A3VGX314161	A3GX31416	
A3VSX105101	A3VX10510		A3VSX207121	A3VX20712		A3VSX310161	A3VX31016	
A3VOS110103	A3OS11010	A3TV109263	A3VOS212123	A3OS21212	A3TV211333			
A3VGS108103	A3GS10810		A3VGS210123	A3GS21012				
A3VGX108103	A3GX10810		A3VGX210123	A3GX21012				
A3VSX105103	A3VX10510		A3VSX207123	A3VX20712				

→ A2 Cylinder Spart Part



A2VG Cylinder spare parts

Size	Valve seal	Cylinder housing	Piston	Cylinder top	Valve pins	Screw	Sealing screw	Cylinder screw
A2VG05 A2VG07	CPVS063124	CPCY063835	CPPT063136	CPCT064010	PN0415230 PN0415230-G2 PN0620260 PN0620260-G2 PN0625260 PN0625260-G2 PN0625350 PN0625350-G2	M4X8	GS1215-10	M5X12X10
A2VG10	CPVS093424	CPCY095235	CPPT094536	CPCT095410	PN0935280 PN0935280-G2 PN0935400 PN0935400-G2 PN0935620-M	M4X8	GS1215-10	M5X12X10

Size	O-Ring 1	O-Ring 2	O-Ring 3	O-Ring 4	O-Ring 5
A2VG05 A2VG07	ORIN-00228	ORIN-00234	ORIN-00227	ORIN-00233	ORIN-00235
A2VG10	ORIN-00228	ORIN-00226	ORIN-00227	ORIN-00225	ORIN-00224

A2VG Cylinder bore dimension

(mm)

Size	D0	D4	D5	D9	D10	D11	E1	E2	E3	E4
ACCP15230 ACCP20260 ACCP25260	42	6	12	40	38	18	24	23	15	18
ACCP35280 ACCP35400	56	7	12	54	52	18	31	29	19	19

→ A2 NOX Series



NOX

- Topless direct gate small residue on the part
- One exit options for shear sensitive materials



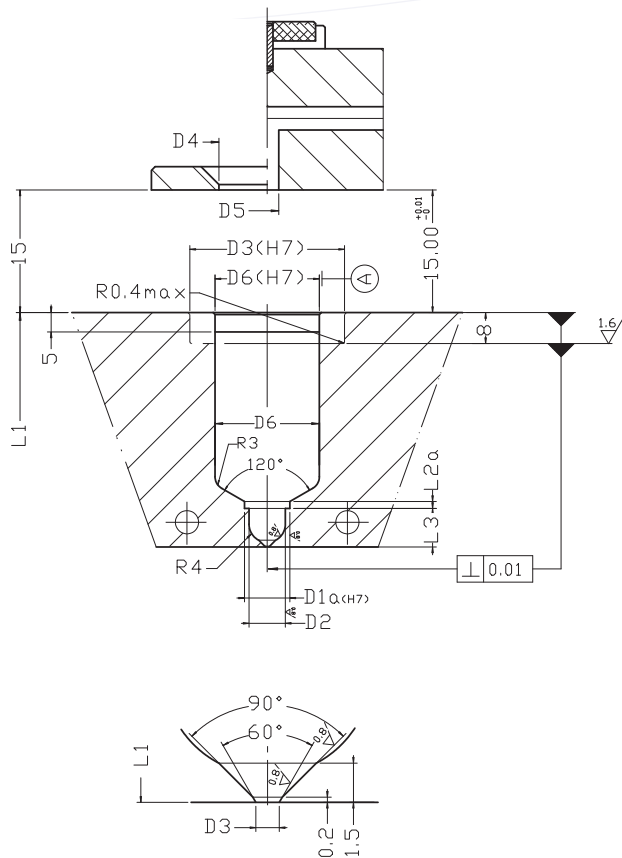
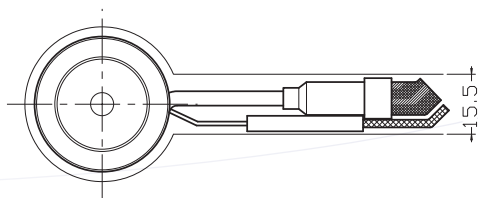
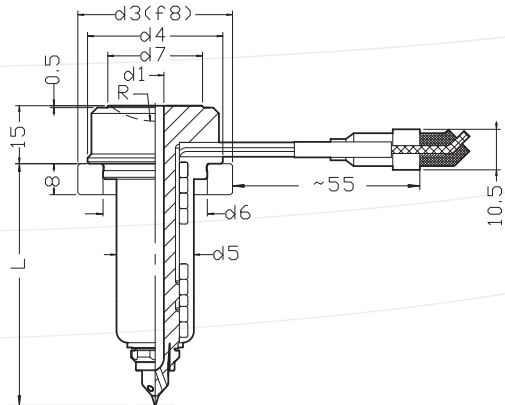
NOX

(mm)

Size	Size 05	Size 07
L	45~125	45~165
Feed ϕ	5	7
Gate ϕ	0.6~2	0.8~3

Shot Weight(g)		
Low-viscosity	200	400
Medium-viscosity	100	260
High-viscosity	20	50

→ A2 NOX Guide



Order example:



A2 - NOX - 085 - 05 - 1 - 3

Nozzle series	Nut type	L	Feed dia	Tip mat.	Exits in tip
---------------	----------	---	----------	----------	--------------

Tip codes:

material: 1=copper alloy

Exits: 1=one exit,3=three exit

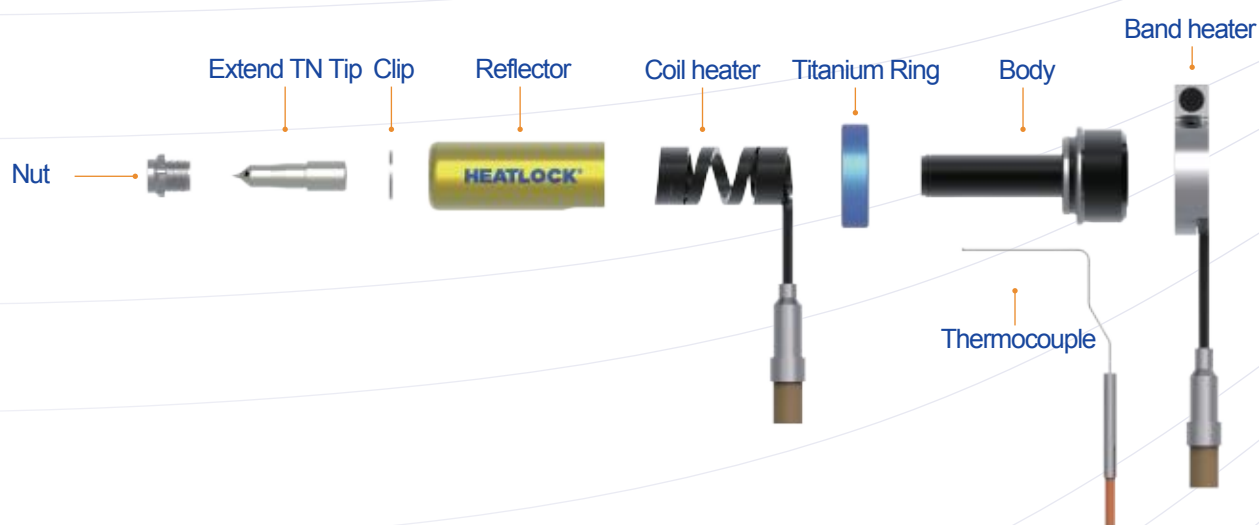
→ A2 NOX Dimension

(mm)

	A2 NOX													
	Size	05						07						
Nozzle	L	45	55	65	85	105	125	45	65	85	105	125	145	165
	d1	5						7						
	d3	C30,T30						T36,T40,T50						
	d4	29						35						
	d5	20						24						
	d6	23						27						
	d7	18						24.5						
Mould	L1	45.11	55.13	65.15	85.18	105.22	125.26	45.12	65.15	85.19	105.23	125.27	145.31	165.34
	L2a	2						2.5						
	L3	8.5						8.5						
	D1a	10						12						
	D2	8						9						
	D3	2≥0.6						3≥0.8						
	D4	20						26.5						
	D5	5						7						
	D6	23						27						
	D7	C30,T30						T36,T40,T50						
	D8	23						27						

d3:C=Ceramic T=Titanium

→ A2 NOX Spare Parts



Nozzle body spare parts list

Size	Nozzle L	Body	Coilheater	Thermocouple	Reflector	Spring Clip	Titanium Ring	Band heater
05	45	A2BD104005	CS14120330200	TC00140195	GRFT120120-040	F-S-SPRINGCLIP-1210	TIM03002308 (optional)	BH127150 (optional)
	55	A2BD105005	CS14120430200	TC00140200	GRFT120120-050			
	65	A2BD106005	CS14120530225	TC00140210	GRFT120120-060			
	85	A2BD118005	CS14120730250	TC00140220	GRFT120120-080			
	105	A2BD110005	CS14120930350	TC00140220	GRFT120120-100			
	125	A2BD112005	CS14121130350	TC00140250	GRFT120120-120			
07	45	A2BD204007	CS14150310260	TC00140195	GRFT224200-040	F-S-SPRINGCLIP-1410	TIM03602708 TIM04002708 TIM05002708 (optional)	BH233200 (optional)
	65	A2BD206007	CS14150510300	TC00140210	GRFT224200-060			
	85	A2BD208007	CS14150710350	TC00140220	GRFT224200-080			
	105	A2BD210007	CS14150910450	TC00140220	GRFT224200-100			
	125	A2BD212007	CS14151110450	TC00140250	GRFT224200-120			
	145	A2BD214007	CS14151310500	TC00140250	GRFT224200-140			
	165	A2BD216007	CS14151510550	TC00140250	GRFT224200-160			



Front Assembly Spare Parts

Item code	Size 05		Item code	Size 07	
	Nut	Tip		Nut	Tip
A3NOX110101-1	A3OS11010	A3TN109331-1	A3NOX212121-1	A3OS21212	A3TN211401-1
A3NOX110101-3		A3TN109331-3	A3NOX212121-3		A3TN211401-3

→ A2 MT Series

A2-MT series

- Easy to install, easy to use
- Fast gate cooling
- Suitable for direct gate on small parts
- For shot weights up to 140 gram
- Titanium insulation optional



Size	A2MT04	A2MT05
Tip pitch	10/16	24/32
L	40~80	80
Gate ϕ	0.6~1.5	0.6~2
Feed ϕ	4	5

Shot Weight(g)		
Low-viscosity	< 80	< 200
Medium-viscosity	< 60	< 100
High-viscosity	*	*

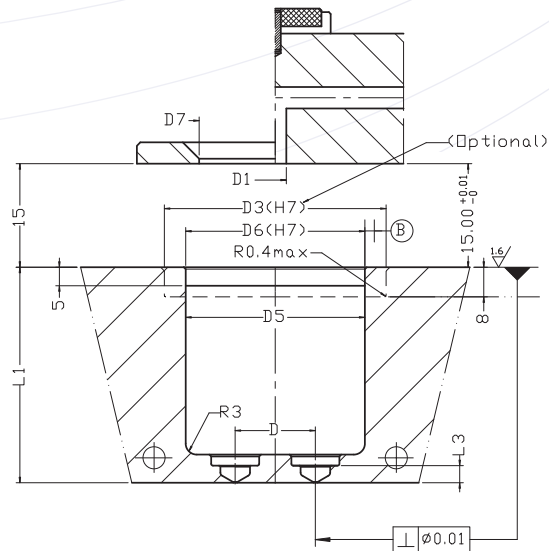
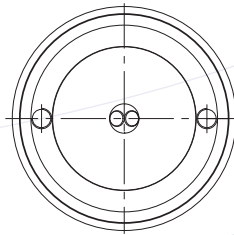
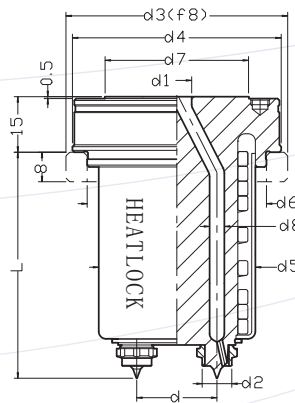
Order example :

A2---MT---XX---XXX---XX---X

(Series) (Size) (L) (D) (Tip Qty)

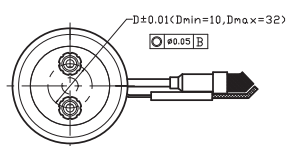
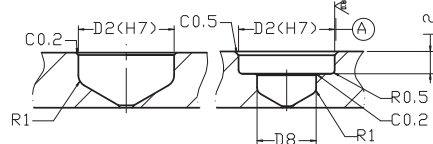
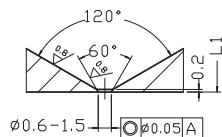
A2 MT 04 040 10 2

→ A2 MT Guide

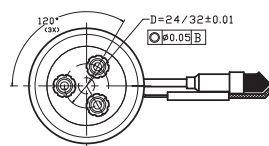


MT04

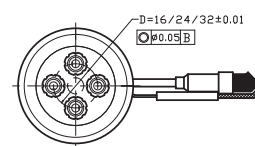
MT05



2 Gates



3 Gates



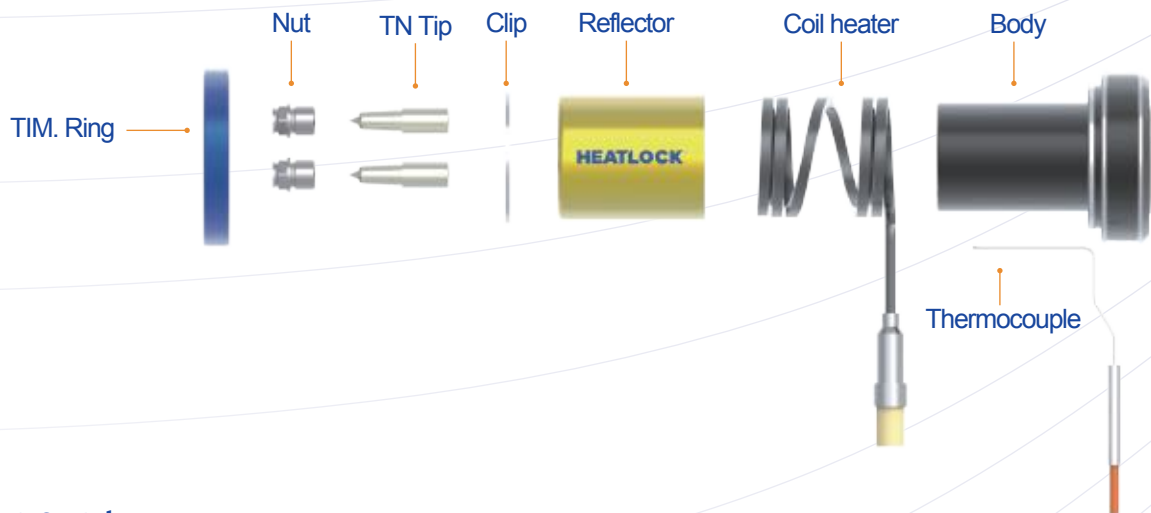
4 Gates

* CC distance (D) or non-standard nozzle length can be made according to customers requirement.

→ A2 MT Dimension

	Nozzle										Mould											
Series	L	d	d1	d2	d3	d4	d5	d6	d7	d8	L1	L2	L3	D	D1	D2	D3	D5	D6	D7	D8	
A2MT04040102	40	10	8	8	T50	48	34	39	32	4	40.13	—	4.5	10	8	8	T50	39	39	34	—	
A2MT04080102	80										80.23											
A2MT04060162	60	16	8	8	T54	52	38	44	35	4	60.18	—	4.5	16	8	8	T54	44	44	37	—	
A2MT04080162	80										80.23											
A2MT04060164	60										60.18											
A2MT04080164	80										80.23											
A2MT05080242	80	24	8	10	T65	61	48	53	44	5	80.23	2	3.5	24	8	10	T65	53	53	46	7.5	
A2MT05080243	80																					
A2MT05080244	80																					
A2MT05080322	80	32	8	10	T73	69	56	61	52	5	80.23	2	5.5	32	8	10	T73	61	61	54	7.5	
A2MT05080323	80																					
A2MT05080324	80																					

→ A2 MT Spare Parts



A2MT Spare parts

Nozzle Type	Body	Tip	Nut	Coilheater	Thermocouple	Reflector	Titanium	Spring Clip
A2MT 04	A2MBD04040102	A3TN0465251	A3SL650908	CS14210330300	TC00140210	RFT334200-040	TIM05003908 (optional)	F-S-SPRINGCLIP-1912
	A2MBD04080102			CS14210690450	TC00140230	RFT334200-080		
	A2MBD04060162		A3SL6509086	CS01280520500	TC00140220	RFT438200-060	TIM05404408 (optional)	F-S-SPRINGCLIP-2412
	A2MBD04080162			CS01280680600	TC00140230	RFT438200-080		
	A2MBD04060164			CS01280520500	TC00140220	RFT438200-060		
	A2MBD04080164			CS01280680600	TC00140230	RFT438200-080		
A2MT 05	A2MBD05080242	A3TN109281-1	A3OS11010	CS01370720700	TC00140220	MTRFT548073	TIM06505308 (optional)	F-S-SPRINGCLIP-3517
	A2MBD05080243							
	A2MBD05080244							
	A2MBD05080322			CS01430720900		MTRFT556073	TIM07306108 (optional)	F-S-SPRINGCLIP-4117
	A2MBD05080323							
	A2MBD05080324							

→ Multi Compact



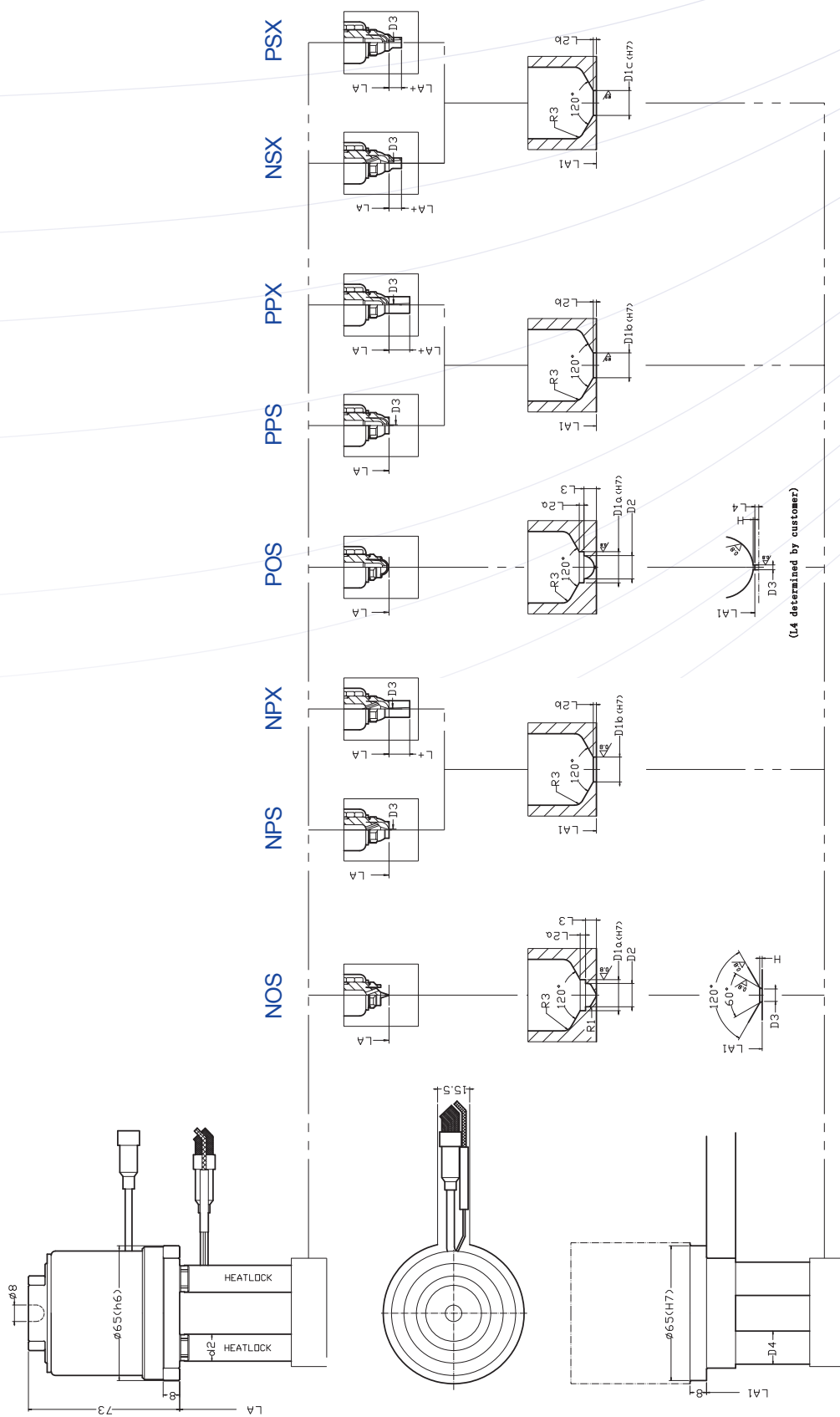
Size	Size 05
Tip pitch	
L	64~114
Feed	4
Gate	0.6-1.5
Shot Weight(g)	
Low-viscosity	140
Medium-viscosity	80
High-viscosity	15

(mm)

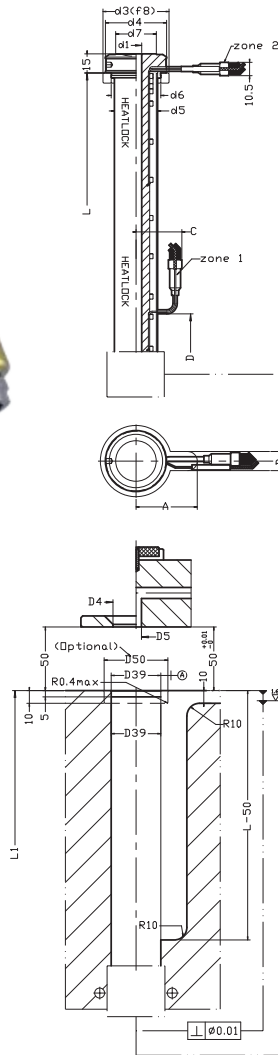
Nozzle	LA	64	74	94	114
	LA+	6			
	d1	4			
	d2	13			
Mould	LA1	64.15	74.17	94.21	114.25
	L2a	1.1			
	L2b	1			
	L3	1.7			
	D1a	6			
	D1c	5			
	D1b	3			
	D2	4.5			
	D3	1.5≥0.6			
	D4	15			
	H	0.2			

(mm)

→ Multi Compact Guide



→ A2-XL Nozzle Guide



Order example:

→ **A2 - NOS - 300 - 10 - 1 - 1**

Nozzle series Nut/Front type L Feed dia Tip mat. Exits in tip

Tip codes:

Material: 1=copper alloy, 2=hard metal
Exits: 1=one exit, 3=three exits

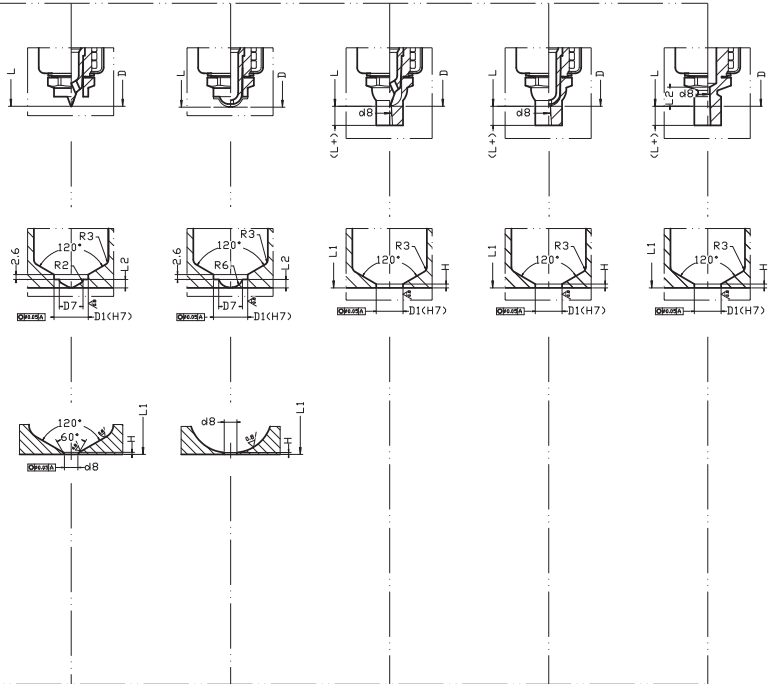
NOS

POS

NPX

PPX

ENX



A2-XL Series

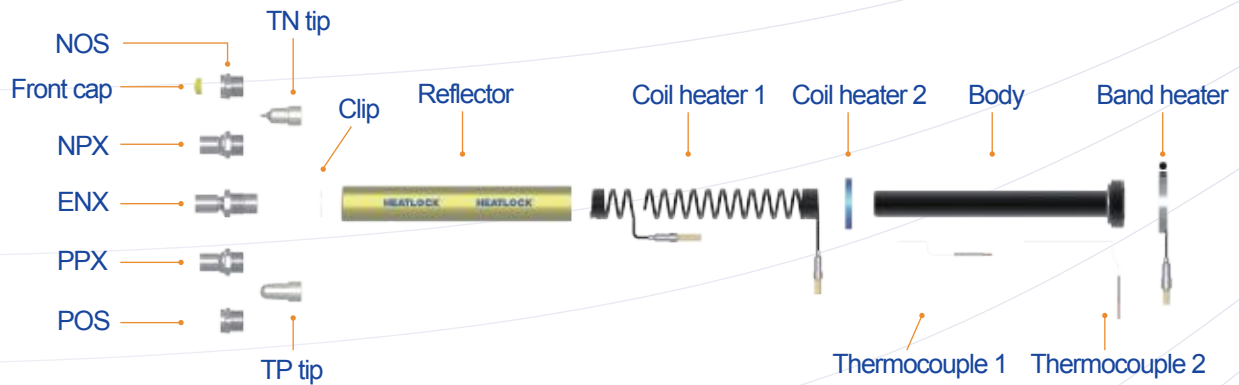
Series	L	L(+)			d1	d4	d7	d8			L2			H					D1					D2	D3	D4	D5	D6	D7	A	A	A	A	
	All	ENX	NPX	PPX	All	All	All	ENX	NPX	PPX	ENX	NOS	POS	ENX	NOS	POS	NPX	PPX	ENX	NOS	POS	NPX	PPX	ENX	All	All	All	All	All	All	All	All	All	All
Size 10	200<L<500	10	10		10	48	32	2	≥2		10	4.4	2	0.3			2		18	14	39	T50	34	9	39	12.5	40	15	35	65				
Size 17	250<L<500	20	15		17	52	34.5	3	≥2		10	5.4	2	0.4			2		26	20	44	T54	37	14	44	18	45	15	40	65				

*D3 Dimension: T is Titanium ring

Length Expansion(L1=L+X.XX)

If order our long nozzle, we will give a drawing which tell you how to machining the nozzle bore.

→ A2-XL Nozzle Spare Part Guide



Nozzle body spare parts list

Nozzle L	Body	Coilheater		Thermocouple		Reflector	Spring Clip	Front cap	Titanium Ring	Band heater
		Coilheater1	Coilheater2	Thermocouple1	Thermocouple2					
≤ 200	A2BD320010-M	CS14210500250-1	CS14211250500-2-M	TC00140210	TC00140220	RFT334200-M	F-S-SPRINGCLIP-1912	A3FC101372 (optional)	TIM05003908 (optional)	BH347250
≤ 250	A2BD325010-M		CS14211750650-2-M		TC00140230	RFT334250-M				
≤ 300	A2BD330010-M		CS14212250750-2-M		TC00140250	RFT334300-M				
≤ 350	A2BD335010-M		CS14212750900-2-M		TC00140250	RFT334350-M				
≤ 400	A2BD340010-M		CS14213251000-2-M		TC00140270	RFT334400-M				
≤ 450	A2BD345010-M		CS14213751400-2-M		TC00140270	RFT334450-M				
≤ 500	A2BD350010-M		CS14214251500-2-M		TC00140290	RFT334500-M				
≤ 250	A2BD425017-M	CS01280500350-1	CS01281750800-2-M	TC00140210	TC00140230	RFT438250-M	F-S-SPRINGCLIP-2515	A3FC171892 (optional)	TIM05404408 (optional)	BH451300
≤ 300	A2BD430017-M		CS01282250950-2-M		TC00140250	RFT438300-M				
≤ 350	A2BD435017-M		CS01282751200-2-M		TC00140250	RFT438350-M				
≤ 400	A2BD440017-M		CS01283251350-2-M		TC00140270	RFT438400-M				
≤ 450	A2BD445017-M		CS01283751550-2-M		TC00140270	RFT438450-M				
≤ 500	A2BD450017-M		CS01284251750-2-M		TC00140290	RFT438500-M				

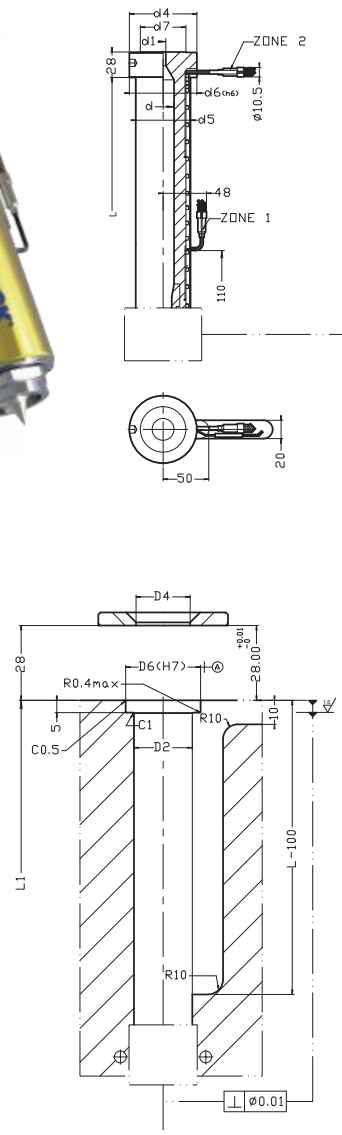
Front Assembly Spare Parts

Item code	Size 10		Item code	Size 17	
	Nut/Front	Tip		Nut/Front	Tip
A3NOS316181-1	A3OS31618	A3TN314401-1	A3NOS424261-1	A3OS42426	A3TN422451-1
A3NOS316181-3		A3TN314401-3	A3NOS424261-3		A3TN422451-3
A3NOS316183-1		A3TN314403-1	A3NOS424263-1		A3TN422453-1
A3NPX314161-1	A3PX31416	A3TN314401-1	A3NPX420241-1	A3PX42024	A3TN422451-1
A3NPX314161-3		A3TN314401-3	A3NPX420241-3		A3TN422451-3
A3NPX314163-1		A3TN314403-1	A3NPX420243-1		A3TN422453-1
A3ENX31416	A3ENX31416	A3ENX31416	A3ENX42024	A3ENX42024	A3ENX42024
A3POS31618	A3OS31618	A3TP31438	A3POS42426	A3OS42426	A3TP42243
A3PPX31416	A3PX31416		A3PPX42024	A3PX42024	

TN tip spare part list

1 exit		3 exits
copper	HBM-CDC	copper
A3TN314401-1	A3TN314403-1	A3TN314401-3
A3TN422451-1	A3TN422453-1	A3TN422451-3

→ A2 MEGA Nozzle



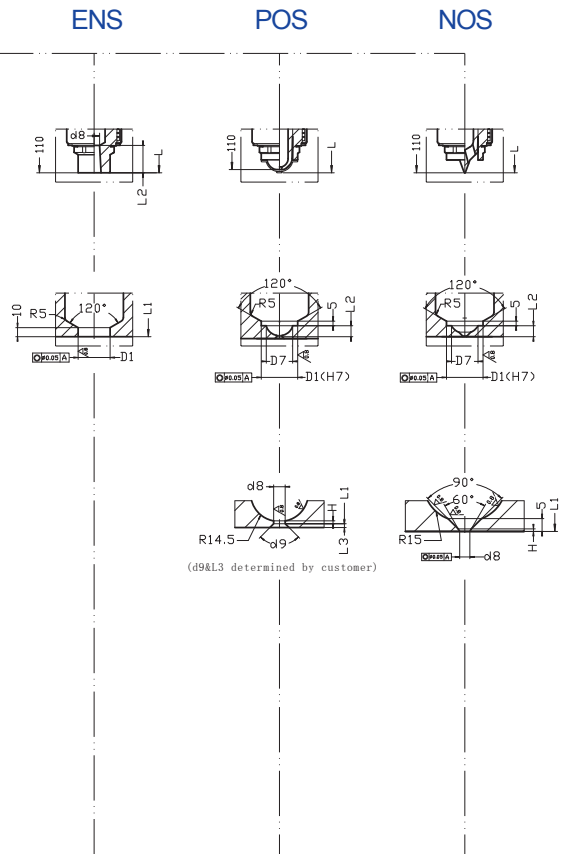
Order example:

➔ **A2 - NOS - 300 - 24 - 1 - 1**

Nozzle series	Nut/Front type	L	Feed dia	Tip mat.	Exits in tip
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Tip codes:

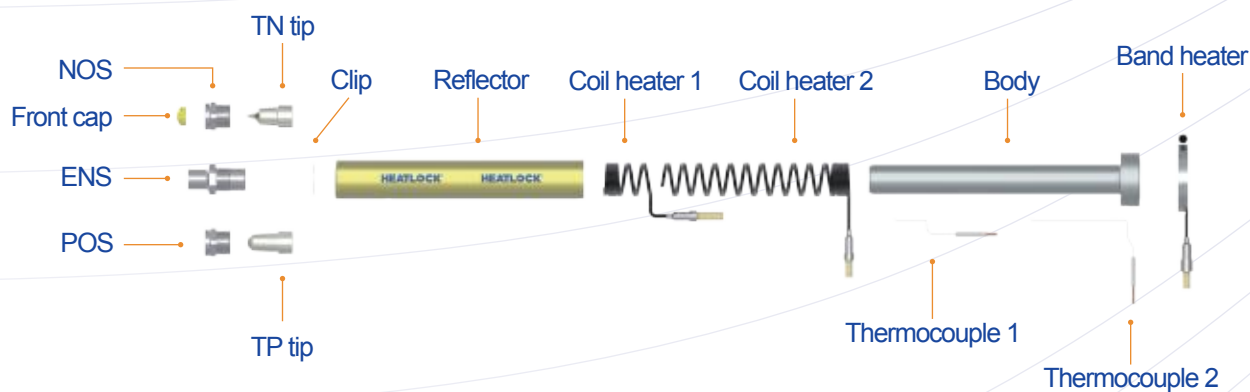
Material: 1=copper alloy,
Exits: 1=one exit, 3=three exits



Series	L	d	d1	d4	d5	d6	d7	d8			L2			H		D1			D2	D4	D6	D7	
	All	All	All	All	All	All	All	ENS	POS	NOS	ENS	POS	NOS	POS	NOS	ENS	POS	NOS	All	All	All	POS	NOS
Size 24	200<L<500	24	5~10	74	60	74	50	12	≥6	≥4	30	12		1.5	1	35	40	40	64	60	74	29	

Length Expansion(L1=L+X.XX)
If order our long nozzle,we will give a drawing which tell you how to machining the nozzle bore.

→ A2 MEGA Nozzle Spare Part



Nozzle body spare parts list

Nozzle Type	Body	Coil heater		Thermocouple		Reflector	Spring Clip	Front cap	Band heater
		Coil heater 1	Coil heater 2	Thermocouple 1	Thermocouple 2				
≤ 300	A2BD24300-M	CS01490800750-1	CS01491871800-2-M	TC00140220	TC00140250	RFT2460300-M	F-S-CUSH-00458	A3FC243015 (optional)	BO74015600
≤ 400	A2BD24400-M		CS01492871800-2-M		TC00140270	RFT2460400-M			
≤ 500	A2BD24500-M		CS01493871800-2-M		TC00140330	RFT2460500-M			

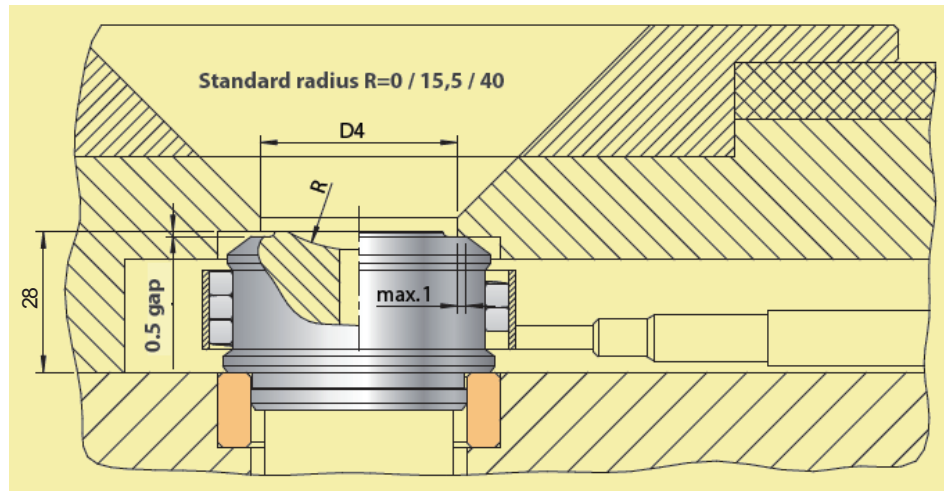
Front Assembly Spare Parts

Item code	Size 24	
	Nut/Front	Tip
A3NOS2440401-1	A3OS244040	A3TN2436741-1
A3NOS2440401-3		A3TN2436741-3
A3NOS2440402-1		A3TN2436742-1
A3ENS243540	A3ENS243540	A3ENS243540
A3POS244040	A3OS244040	A3TP31438

Tip spare parts list

1 exit		3 exits
copper	hard metal	copper
A3TN2436741-1	A3TN2436742-1	A3TN2436741-3

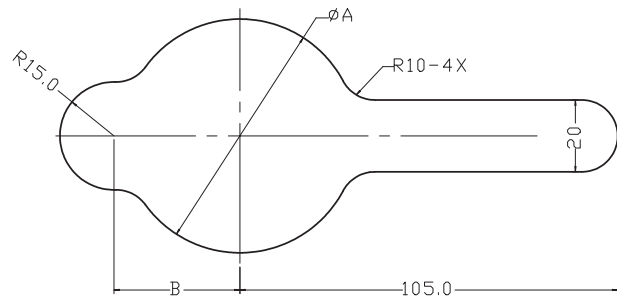
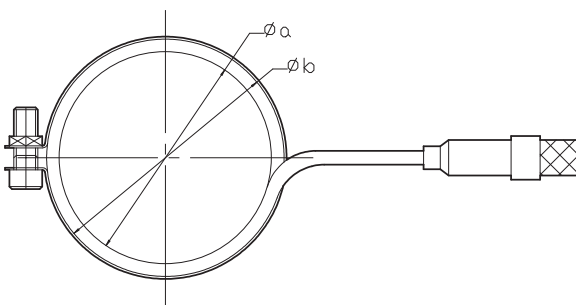
→ A2 Nozzle Bandheater



For resins with higher melt temperature than 250 °C
Use a rear band heater for maximum temperature for maximum temperature control

NOTE: control band heater with a separate temperature controller

Power	White(2X)	Power
	Yellow/Green	Earth
Thermocouple	Blue	Minus[-]
	Red	Positive[+]



Size	Part NO.	Dimension	a	b	Watts
A2-05	BH127150	33x10	27	33	150
A2-T-1	BH230200	36x10	30	36	200
A2-07	BH233200	39x10	33	39	200
A2-T-2	BH235250	41x10	35	41	250
A2-10/XL	BH347250	53x10	47	53	250
A2-17/XL	BH451300	57x10	51	57	300
MEGA	BO74015600	74x15	74	80	600

Size	Part NO.	A	B
A2-05	BH127150	40	30
A2-T-1	BH230200	43	32
A2-07	BH233200	45	32
A2-T-2	BH235250	48	34
A2-10/XL	BH347250	62	40
A2-17/XL	BH451300	65	40
MEGA	BO74015600	90	60



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