

YUDO®

Integrated Engineering Solution



SINGLE VALVE Technical Data

SINGLE VALVE III application note

Size of nozzles

Unit : mm

Type	Size	Channel dia.	Gate dia.
SAS	22	8	1.0/1.2/1.5 / 2.0 / 2.5
	32	12	2.0/2.5/3.0/3.5/4.0/4.5/5.0
	42	18	4.0/5.0/6.0/7.0/8.0

Injection volume by nozzle size

- Injection volume varies to the resin used, thickness of the product, injection speed and gate diameter.
- The following figures are the reference for helping to understand the various type of gate system.
- Please contact YUDO representative or agency for an actual application.

Unit : gram

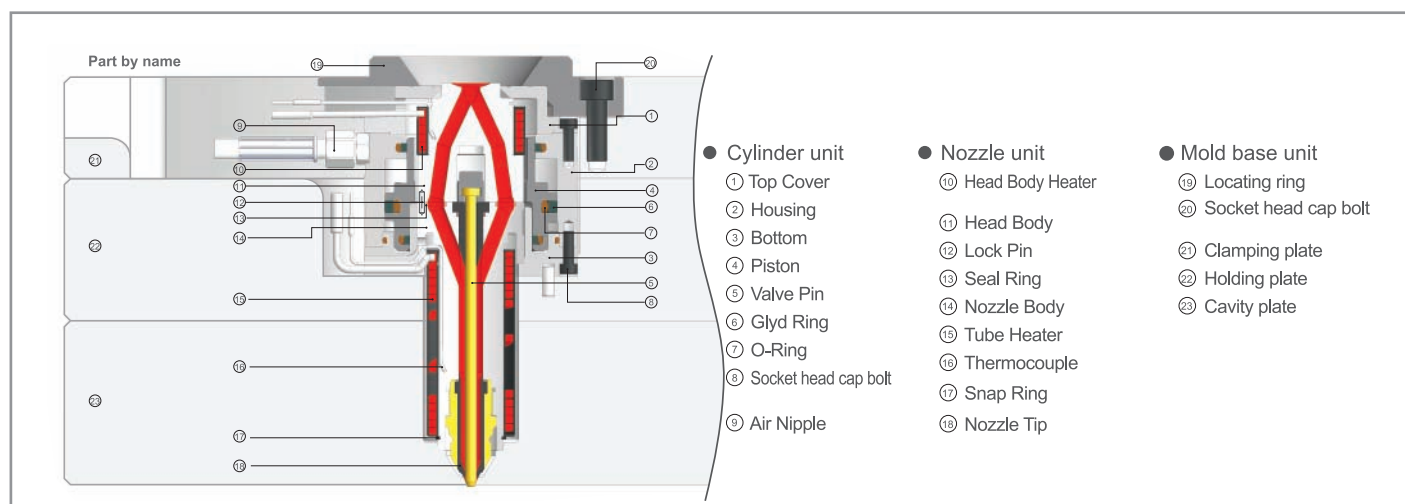
Size	Viscosity			Product thickness		Materials	
	High (Low ml)	Medium	Low (High ml)	Thin (2mm)	Thick (2mm)	Engineering	General
22	~70	~120	~240	~120	~240	~70	~120
32	~350	~600	~1000	~600	~1000	~350	~600
42	350~	600~	1000~	600~	1000~	350~	600~

Material compatibility

☆ : Good ○ : Possible △ : Contact YUDO × : Not recommended

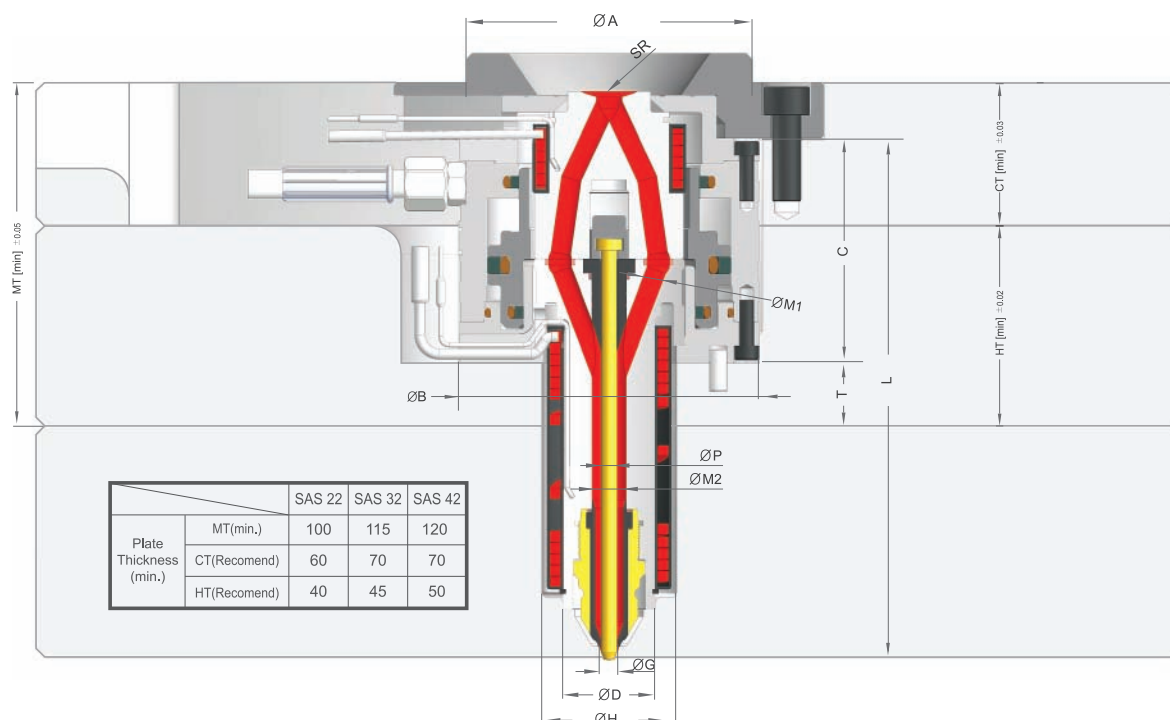
method Gate type	Amorphous materials							Crystalline materials								Additives				
	ABS	PC	PMMA (Acryl)	PPO	PS	PUR	SAN	PA	PBT	PE	PET	POM (Acetal)	PP	PPS	LCP	PEEK	Flame retardants	Glass fiber filled	Stabilizer filled	Color change
VV	☆	○	☆	☆	☆	○	☆	○	○	☆	△	○	☆	△	△	△	○	○	○	○
VC	☆	☆	☆	○	☆	○	☆	○	○	☆	△	○	☆	△	△	△	○	☆	○	☆

Terminology of SINGLE VALVE III system



Specification of SINGLE VALVE III system

Structure and specification



- SINGLE VALVE III has 3 standardized sizes and each size has various gate diameters.
- Nozzle size is labelled after the Type Name (ex. SAS 22 : SINGLE VALVE III 22) and determines the injection volume of the nozzle.

How to read nozzle model

SAS - 22 - VV - 175

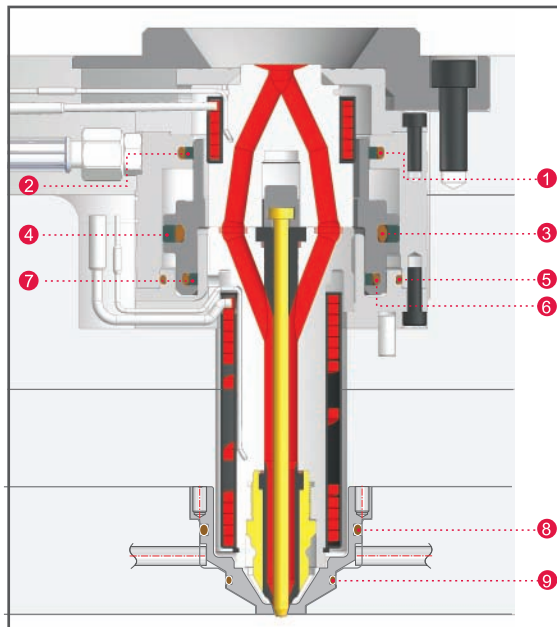
SAS : SINGLE VALVE III
 22 : Nozzle size [ØD]
 VV : Gate bush type - VV: 2 digits in VV, VC
 175 : Nozzle length [L]
 LVA: 3 digits in LVA, LVF

Unit : mm

Division	SINGLE VALVE III 22	SINGLE VALVE III 32	SINGLE VALVE III 42
Model number	SAS-22-□□□-□□□	SAS-32-□□□-□□□	SAS-42-□□□-□□□
System	Valve	Valve	Valve
Ø A	65	75	85
SR	21(STD) / Customer Spec.		
M	80 ~ 90	93 ~ 103	98 ~ 108
C	73.5	78.5	80.5
T(min.)	10	12	12
L	Refer to page 4		
Ø B	90	105	120
Ø P	4	6	10
Ø M1	5.5	7	10
Ø M2	8	12	18
Ø D	22	32	42
Ø H	37	47	58
Ø G	1.5 / 1.8 / 2.0 / 2.5	2.5/3.0/3.5/4.0	5.0 / 6.0 / 7.0 / 8.0

Cylinder & Gate bush specification of SINGLE VALVE III

Cylinder & Gate bush O-ring code name



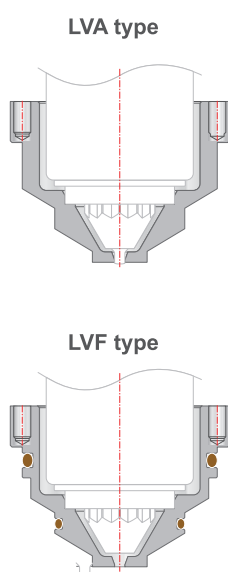
Cylinder

NO.	SAS 22 code	SAS 32 code	SAS 42 code
1	ACRRAV170360	ACRRAV352310	ACRRAV261510
2	ACRGH0450550	ACRGH0450630	ACRGH0450750
3	ACRRAV352300	ACRRAV533350	ACRRAV533380
4	ACRGS0440750	ACRGS0440850	ACRGS0440950
5	ACRRAV261490	ACRRAV261520	ACRRAV261530
6	ACRRAV352270	ACRRAV352300	ACRRAV352340
7	ACRGH0450550	ACRGH0450600	ACRGH0450700

Gate bush

NO.	SAS 22 code	SAS 32 code	SAS 42 code
8	ACRRAV261310	ACRRAV352260	ACRRAV352290
9	ACRRAV170230	ACRRAV261250	ACRRAV261310

Gate bush code name

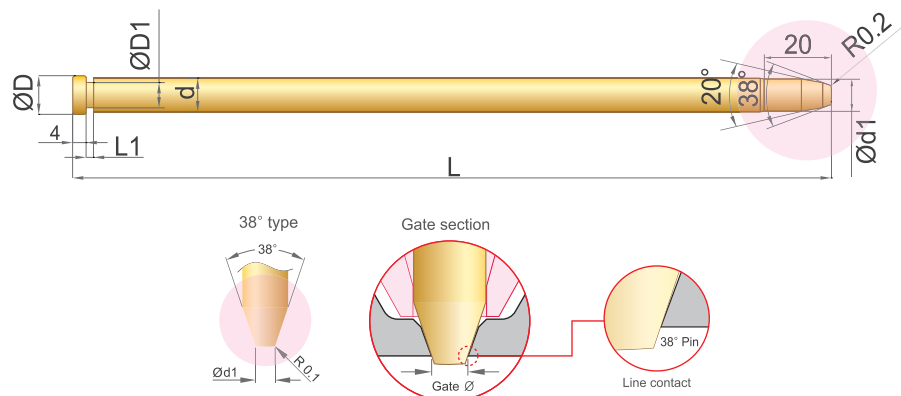


Gate bush

Nozzle Model	Gate	LVA type code	LVF type code
SAS 22	1.5	MABLVA220150	MABLVF220151
	1.8	MABLVA220180	MABLVF220180
	2	MABLVA220200	MABLVF220201
	2.5	MABLVA220250	MABLVF220250
SAS 32	2.5	MABLVA320250	MABLVF320250
	3	MABLVA320300	MABLVF320301
	3.5	MABLVA320350	MABLVF320350
	4	MABLVA320400	MABLVF320401
SAS 42	5	MABLVA420500	MABLVF420501
	6	MABLVA420600	MABLVF420601
	7	MABLVA420700	MABLVF420701
	8	MABLVA420800	MABLVF420800

Pin specification of SINGLE VALVE III

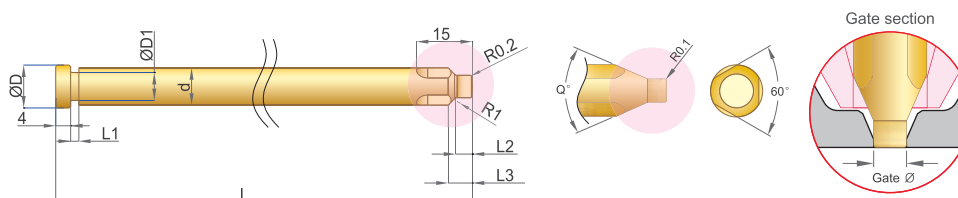
Tapper type valve pin



Unit : mm

Nozzle model	Gate Ø	Ø D	Ø D1	Ø d	Ø d1	L1
SAS 22	1.2/1.5 / 2.0 / 2.5	7	3.6	4	3.4	2
SAS 32	2.0 / 2.5 / 3.0 / 3.5 / 4.0 / 4.5	9	5.6	6	5.4	2
SAS 42	4.0/5.0 / 6.0 / 7.0 / 8.0	11.5	7.5	10	9.6	2.2

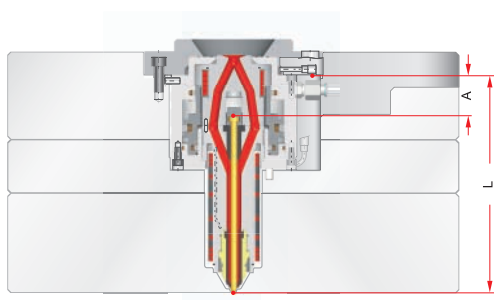
Straight type valve pin



Unit : mm

Nozzle model	Gate Ø	Q°	Ø D	Ø D1	Ø d	L1	L2	L3
SAS 22	1.2 / 1.5 / 2.0 / 2.5	61.93 / 58.5 / 43.6 / 33.4	7	3.6	4	2	2.3	4.8
SAS 32	2.0/2.5 / 3.0 / 3.5 / 4.0/4.5/5.0	98.8/98.8/90.07/87.75/67.45/53.13/36.91	9	5.6	6	2	3.5	5
SAS 42	4.0 / 5.0 / 6.0 / 7.0 / 8.0	112.52 / 102.22 / 89.9 / 73.64 / 53.05	11.5	7.6	10	2.2	4.5	6.5

How to calculate the length of valve pin



● How to calculate the length of valve pin

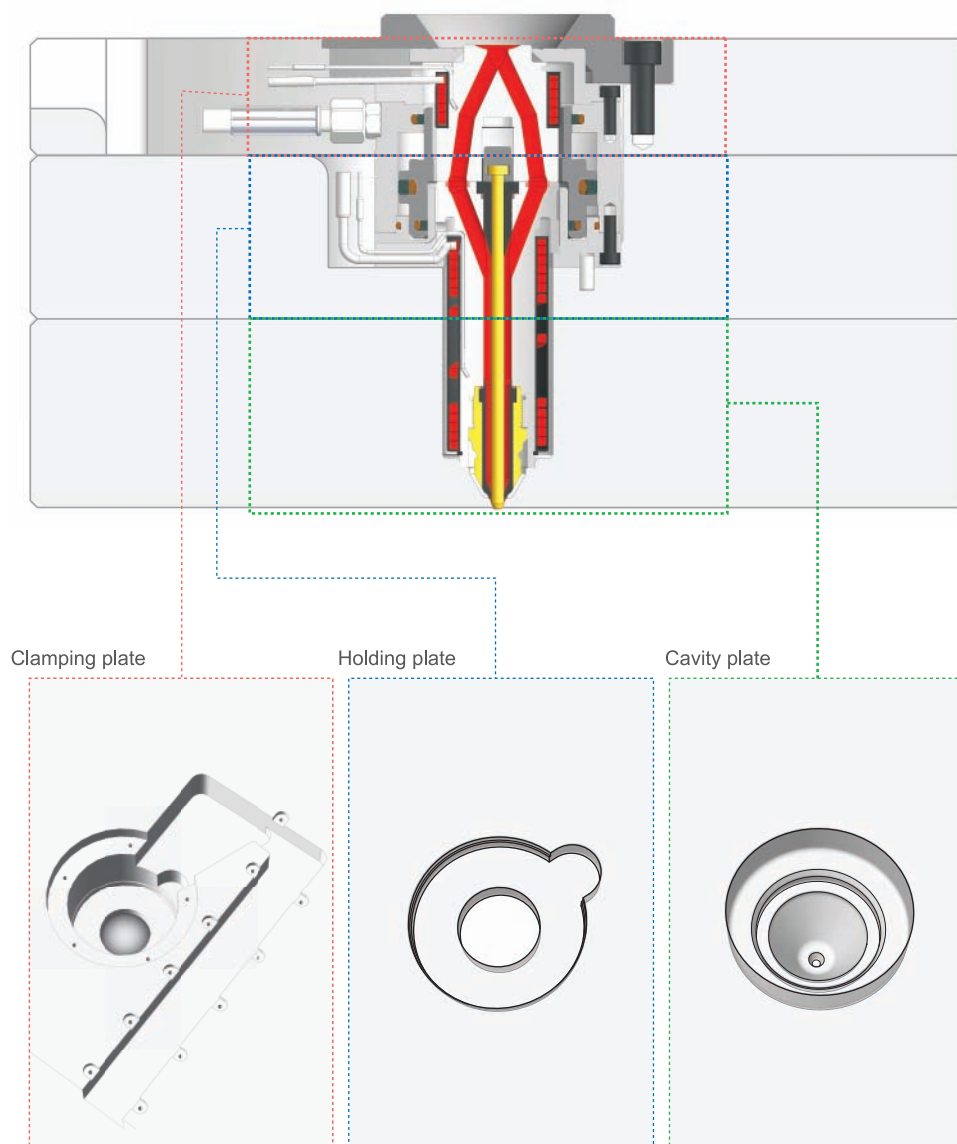
- Nozzle length - A

Unit : mm

Cylinder standard	A
SAS 22	33.4
SAS 32	35.4
SAS 42	38.4

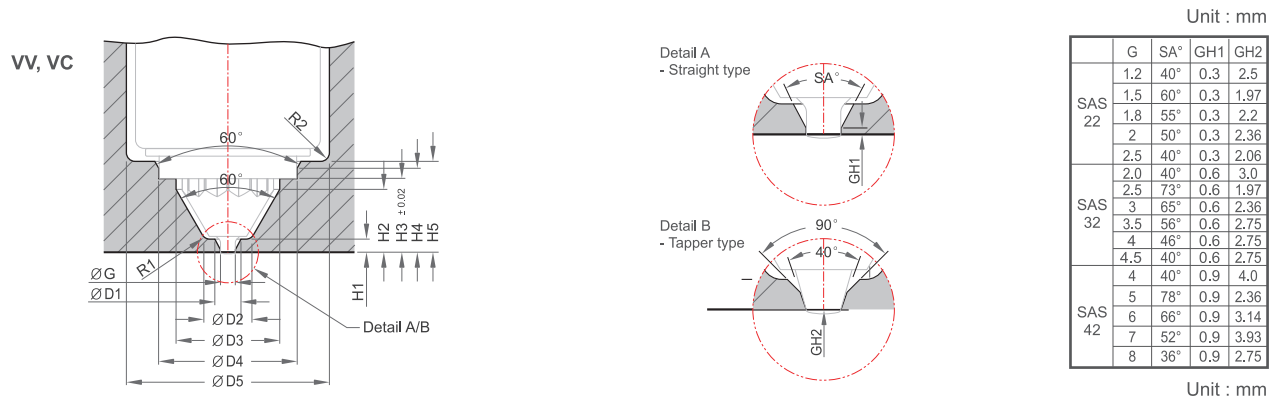
Section of mold machining in SINGLE VALVE III

Section area

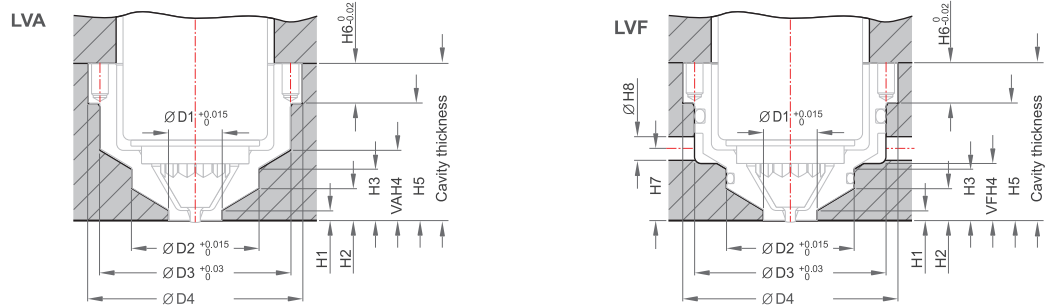


Type	Mold area	Clamping plate	Holding plate	Cavity plate
MODU (Hot half)		YUDO	YUDO	Customer
HRS (M/F + Nozzle)		Customer	Customer	Customer

Gate area machining of SINGLE VALVE III

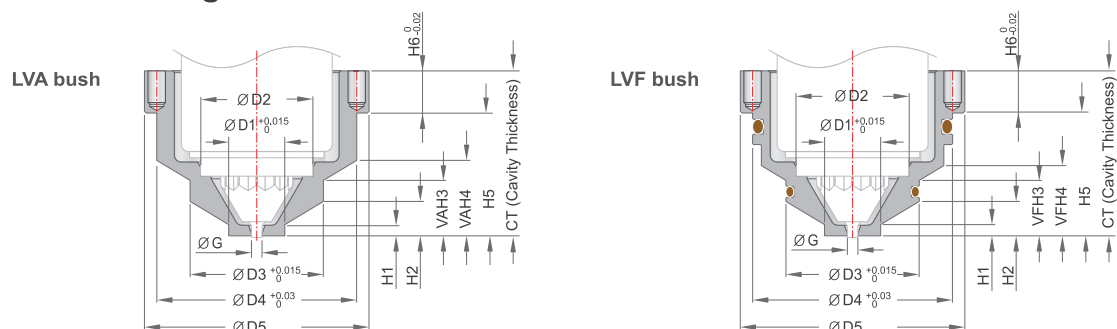


	D1	D2	D3	D4	D5	H1	H2	H3	H4	H5	R1	R2
SAS 22	4	8.5	17	22	37	2.5	9.86	10	12	14	1.5	1.5
SAS 32	6	10.7	24	32	47	3	14.52	17	19.4	21	2	2
SAS 42	10	14.8	36	42	58	4	19.14	20	22.5	24	2.5	2.5



	D1	D2	D3	D4	H1	H2	H3	VAH4	VFH4	H5	H6	H7	H8	CT
SAS 22	14	30	48	54	2	6.81	10	15.41	11	22	10	13.5	5	32
SAS 32	16	38	57	64	3	9.61	15.3	21.01	17	35	12	21.5	7	47
SAS 42	25	48	67	74	3.5	10.41	15.5	21.21	16.5	45	15	20.5	8	60

Gate bush machining



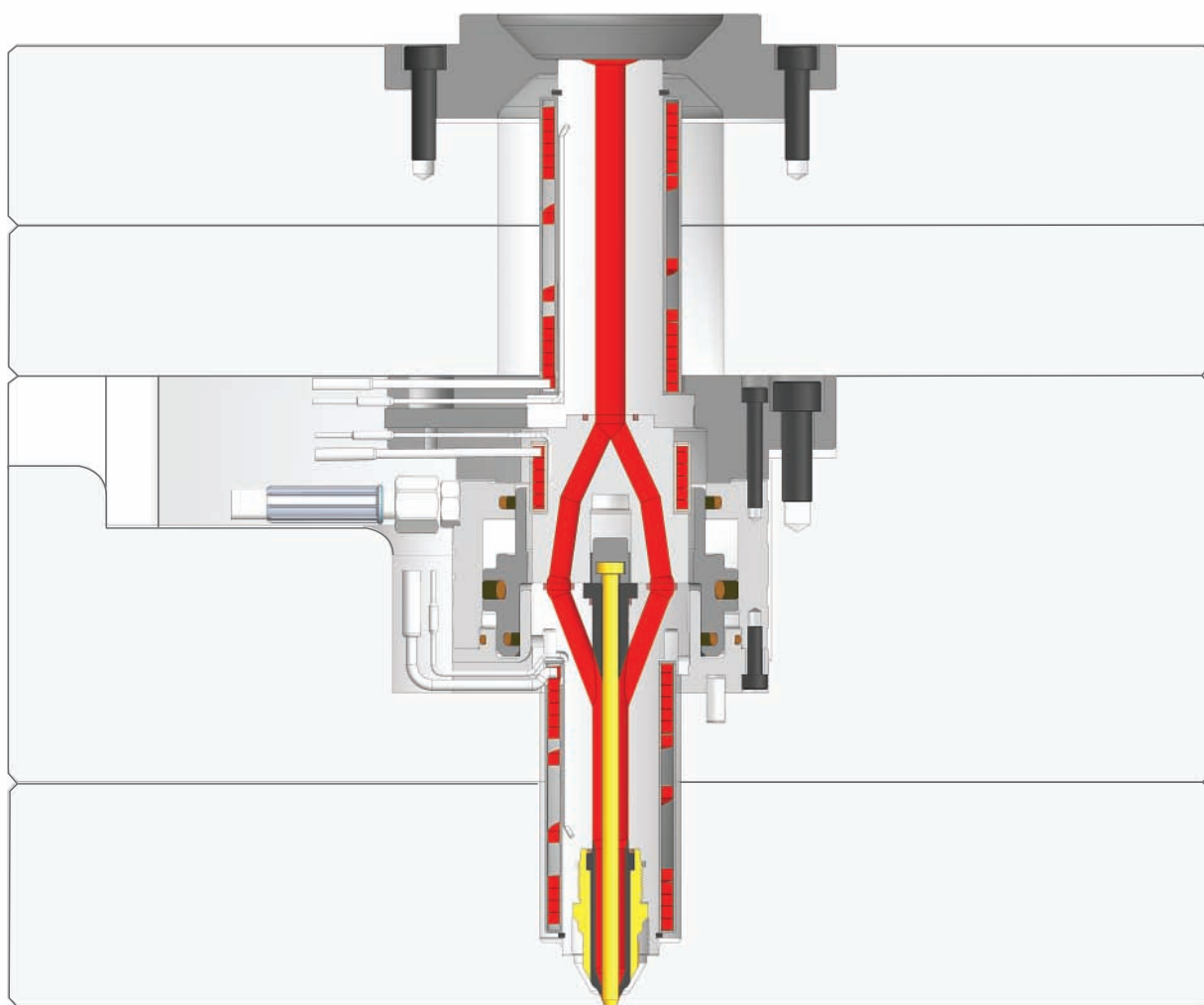
* CT is the standard length of LVA, LVF gate bush, It will be able to be extended according to customer's need.

Unit : mm

	D1	D2	D3	D4	D5	H1	H2	VAH3	VFH3	VAH4	VFH4	H5	H6	CT	G
SAS 22	14	22	30	48	54	2.2	7.01	10.3	10.3	15.91	15.71	22	10	32	1.0/1.2/1.5/2.0/2.5
SAS 32	16	32	38	57	64	3.2	9.81	15.8	15.8	21.51	20.01	35	12	47	2.0/2.5/3.0/3.5/4.0/4.5/5.0
SAS 42	25	42	48	67	74	3.7	10.61	16	17.09	21.71	21	45	15	60	4.0/5.0/6.0/7.0/8.0

Long type of SINGLE VALVE III (SLS III)

Long type (Order made)



If you need the longer nozzle than standard size of SINGLE VALVE III (SLS III), You can apply to Long type SLS III.

※ SINGLE VALVE III (SLS III)