

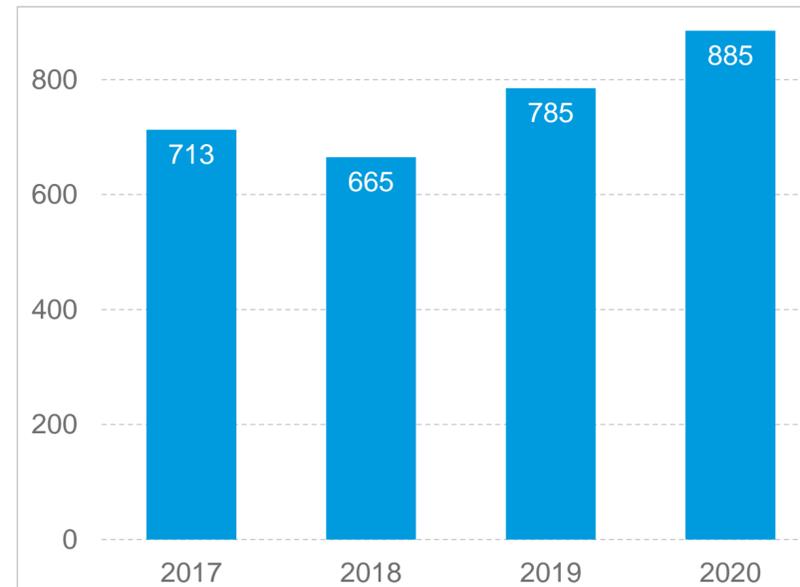


TECHNOLOGY TO THE POINT

Haitian Multi Color

Electrical and Hydraulical Multi Solutions

Multi-Components made by Haitian International



- Large quantity of Multi IMM each year
- Solutions range from 1.200 – 33.000 kN
- Great variety of 2K and 3K technologies*
- Electrical and hydraulic solutions



*4+ - K solutions upon request

Multi Solutions Overview

Electrical



L - Version
Right angle injection



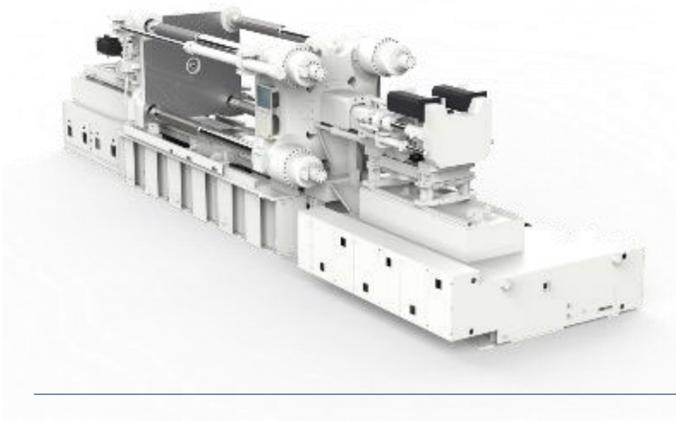
V - Version
Vertical injection



R - Version
Piggy-bag injection



P - Version
Parallel double injection



A - Version*
Counter-face injection

**A-Type is currently only available in China*

Multi Solutions Overview

Hydraulic Two-Platen Machine



L - Version
Right angle injection



V - Version
Vertical injection



R - Version
Piggy-bag injection



P - Version
Parallel double injection



A - Version*
Counter-face injection

**A-Type is currently only available in China*

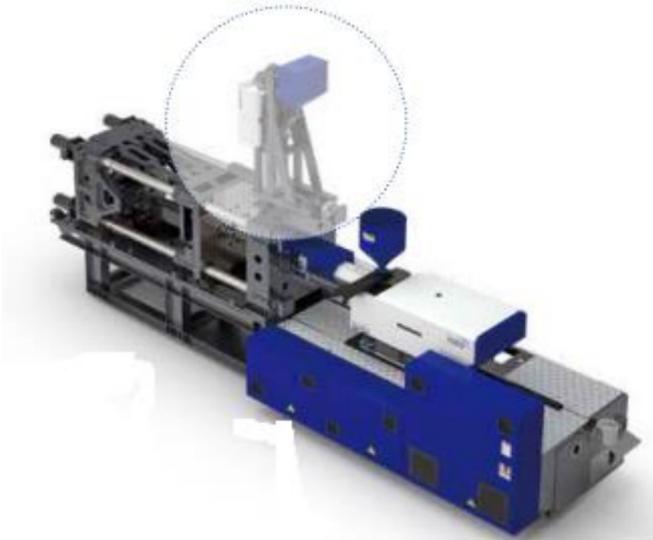
Multi solutions overview

Hydraulic Toggle Machines



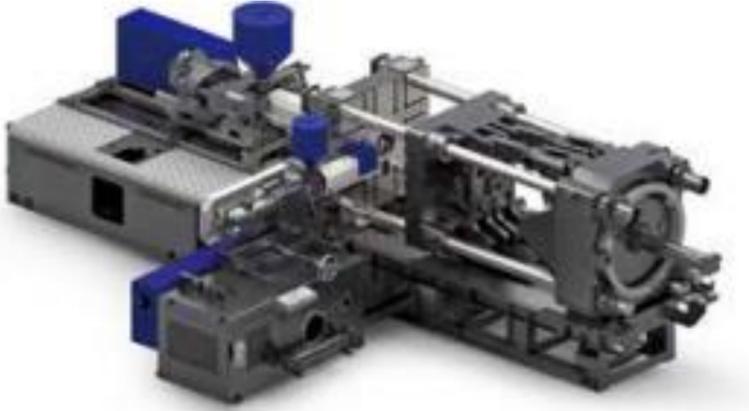
P - Version

Right angle injection



V - Version

Vertical injection

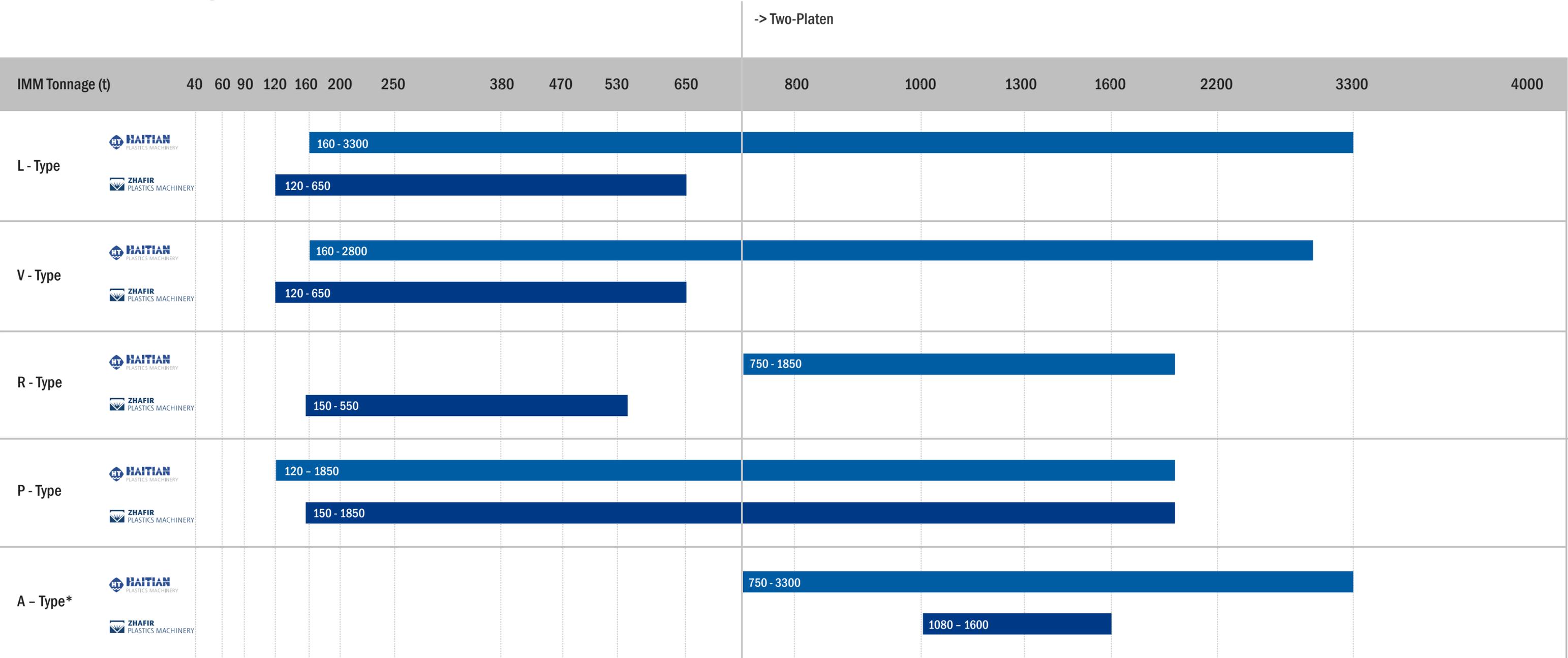


L - Version

Piggy-bag injection

Technology to the Point

Multi Solutions Range



*A-Type is currently only available in China

Multi-Component Core Structures

3K Combinations



V - Version
Vertical injection



L - Version
(no L + L Version)



R - Version

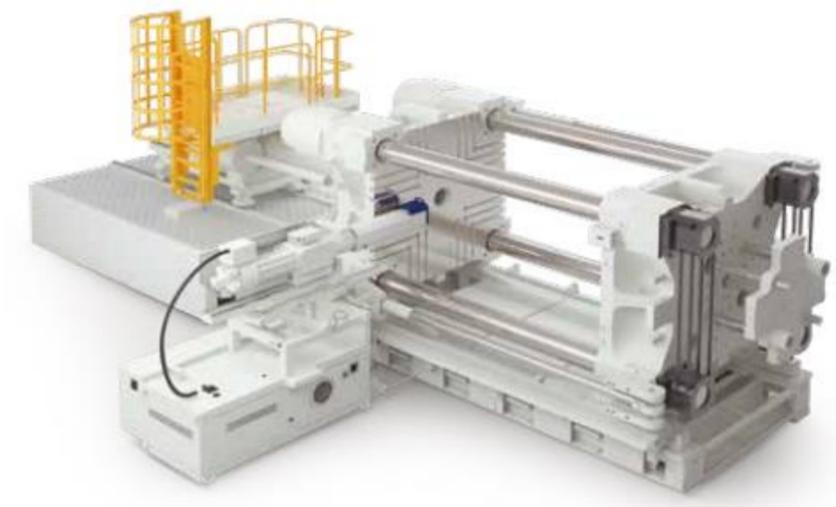


P - Version



L - Version
Right angle injection

L-Version (Lateral) Overview



Characteristics

- 2nd Injection Unit on non-operational side
- 2nd IU easy to operate and maintain
- 2nd IU adjustable nozzle position
- Wide range of injection applications -> large volume parts

Advantage

- 2nd IU can be same volume as 1st IU
- 2nd IU can inject in moving side of mold
- Standard robot usage

Disadvantage

- Larger footprint required

L-Version by Zhafir Overview



- Identical parameters of 1st and 2nd injection unit
- Charge, injection and carriage electrical driven
- Protective doors for horizontal IU adopt Gen. III structure
- Peripheral guardrail is added for some combinations
- The main part of right angle horizontal injection unit is general purpose, by changing carriage connecting block and cushion block to realize the combination with the main engine of different tonnage
- LUBE automatic lubrication system for whole machine
- Controller for 2nd IU integrated into the main engine

Machine Models: Zeres & Venus
Machine Range: 1200 – 6500 kN
2nd IU Range: 80(h) – 1400 (h)

L-Version Overview

According to the combination of injection unit and clamping unit tonnage, the protective device is divided into two structures



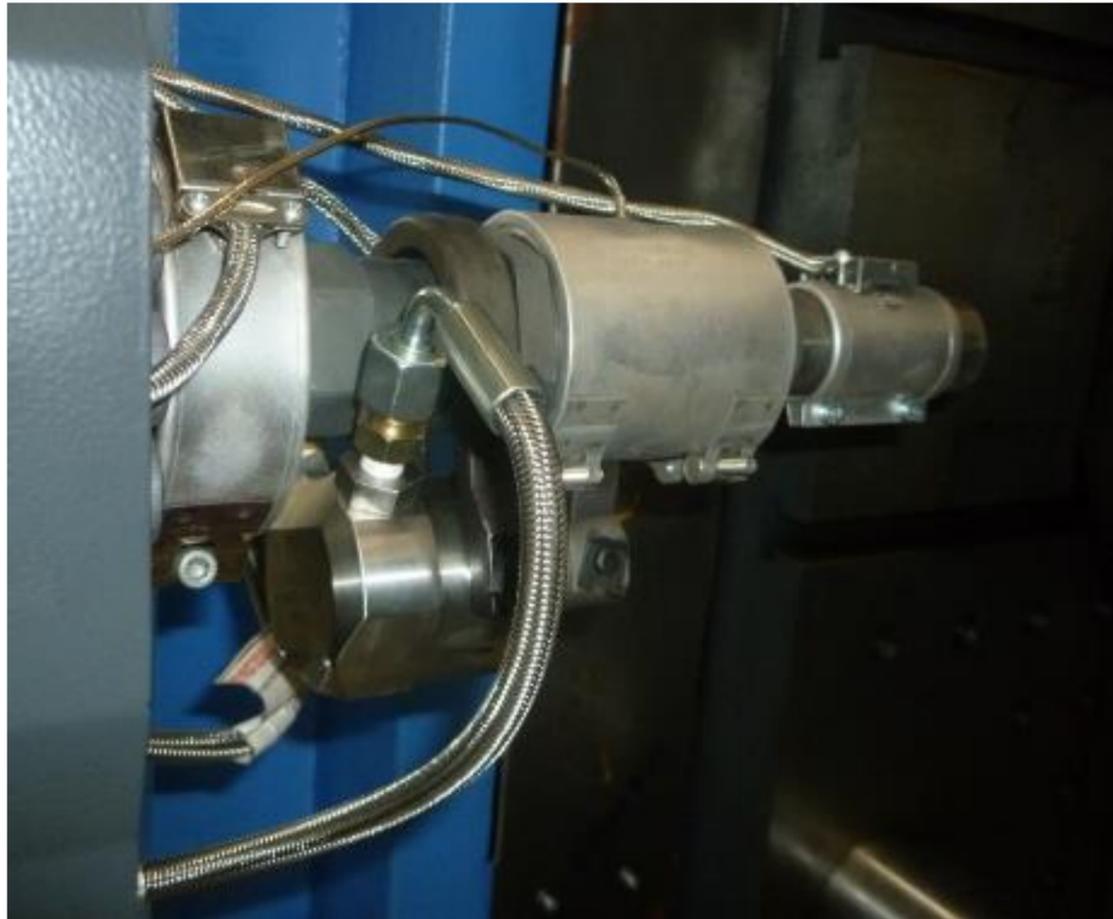
The first structure (**standard**)
No change of protection structure of main machine



The second structure (**optional**)
Change the clamping protection gate of main machine,
add peripheral protection device

L – Version

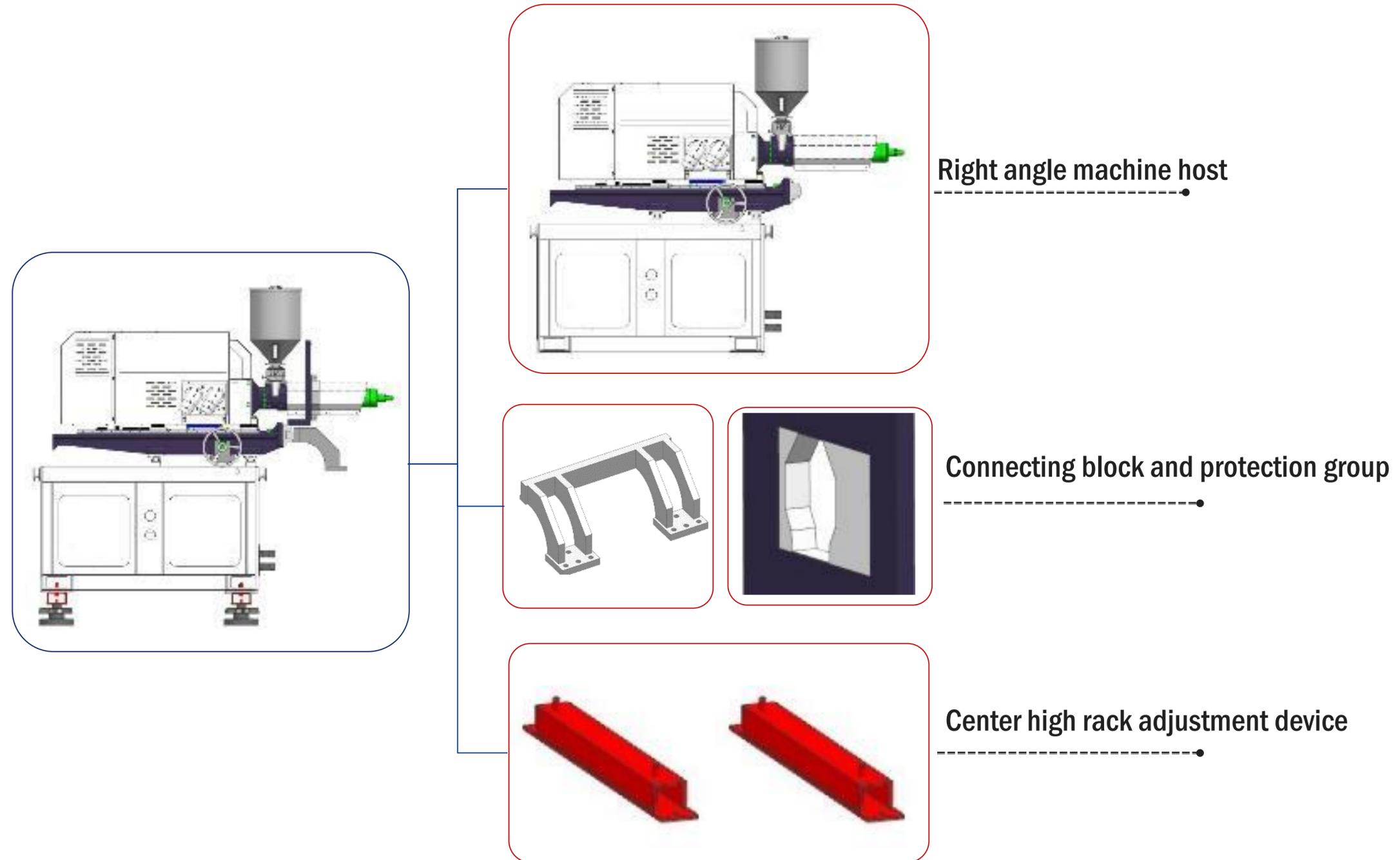
L-type Injection Unit



L-type injection unit for CE machines, standard: Pneumatic nozzle with detection

Shut-off Nozzle (Standard)

L-Version Modularity



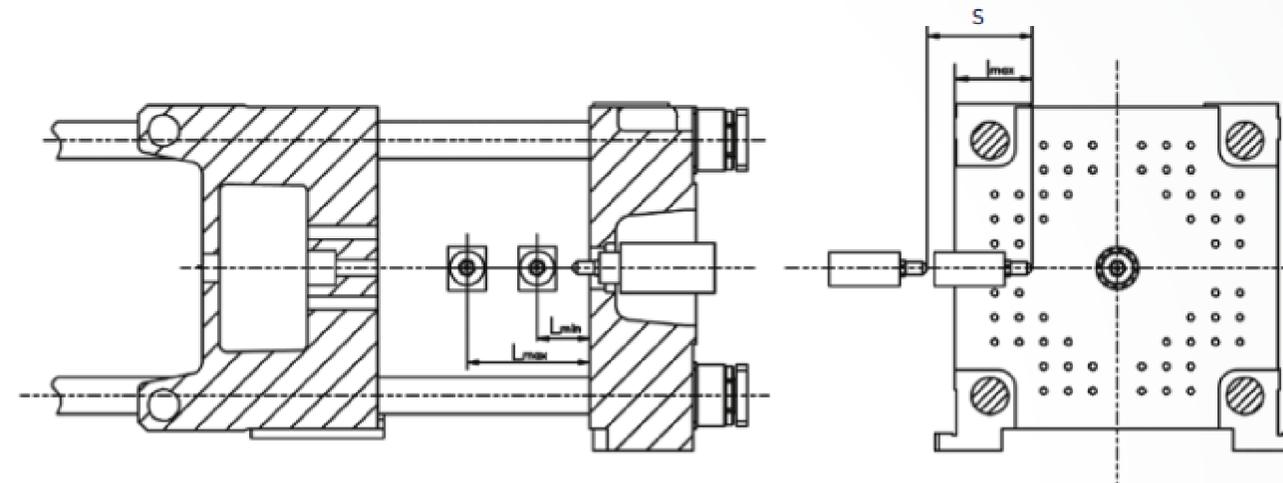
L-Version Combinations



L-COMBINATIONS											
Clamping Force (kN)	2nd IU	L80(h)	L120(h)	L160(h)	L210(h)	L300(h)	L430(h)	L640(h)	L830(h)	L1100(h)	L1400(h)
1200		●	●	●	●						
1500		●	●	●	●	●					
1900		●	●	●	●	●	●				
2300		●	●	●	●	●	●	●			
3000		●	●	●	●	●	●	●	●		
3600		●	●	●	●	●	●	●	●	●	●
4500		●	●	●	●	●	●	●	●	●	●
5500		●	●	●	●	●	●	●	●	●	●
6500		●	●	●	●	●	●	●	●	●	●

L-Version

2nd IU Dimensions and Parameters



I_{max} : Max. nozzle dipping depth of auxiliary IU
 S : Nozzle stroke of auxiliary IU
 L_{min} : Min. distance to fix platen
 L_{max} : Max. distance to fix platen

INJECTION MOVEMENT PARAMETERS

Unit: mm

2nd IU	$I_{max} A^1$	$I_{max} B^1$	$I_{max} C^1$	S	L_{min}	L_{max}
L80(h)	150	240	240	540	90	240
L120(h)	230	330	330	540	95	245
L160(h)	330	330	330	540	95	245
L210(h)	250	330	330	540	95	245
L300(h)	330	330	330	590	110	260
L430(h)	330	330	330	590	120	270
L640(h)	380	380	380	590	120	270
L830(h)	380	380	380	650	140	290
L1100(h)	430	430	430	650	150	300
L1400(h)	430	430	430	650	160	310

Note: The combinations are only available for VE and ZE Series.

¹⁾ different screw sizes

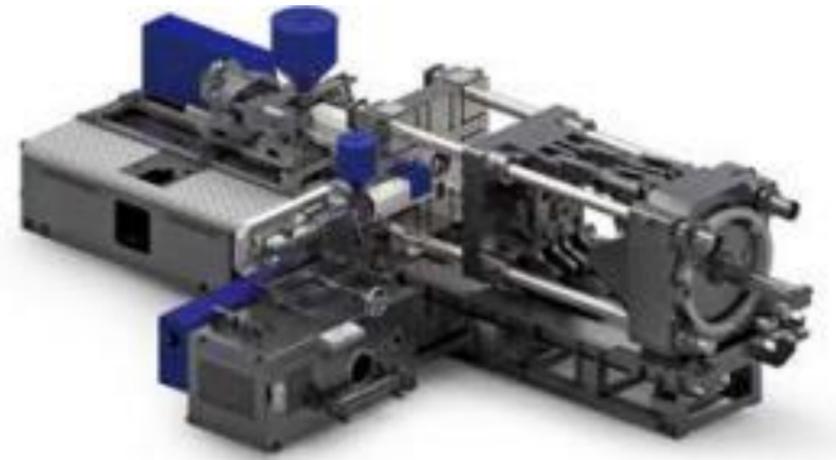
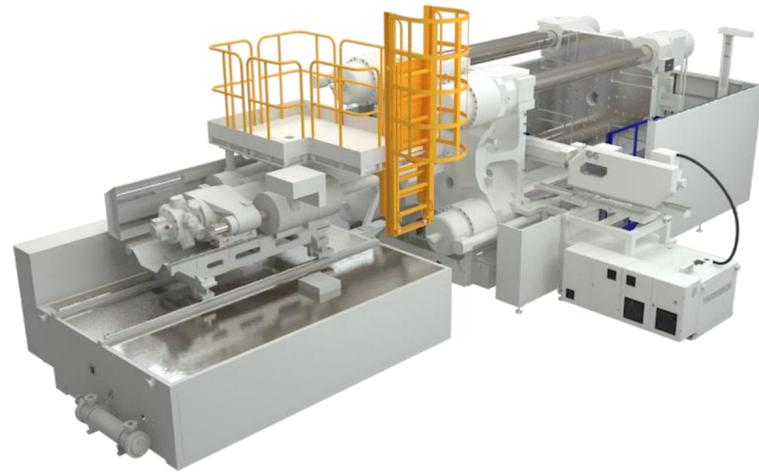
L-Version

Injection Unit Parameters

Injection unit		L80-multi			L120-multi			L160-multi			L210-multi			L300-multi			L430-multi			L640-multi			L830-multi			L1100-multi			L1400-multi		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Screw diameter	mm	19	22	26	22	26	30	26	28	30	28	32	36	32	36	40	36	40	45	40	45	50	45	50	55	50	55	60	55	60	65
Screw L/D ratio	L/D	21	22	18	22	22	19	21	21	19	21	21	18.6	22.5	20	18	23.3	21	18.7	22.5	20	18	22.2	20	18	22	20	18.3	21.8	20	18.5
Injection volume(ps)	cm ³	21	36	50	36	58	77	58	67	77	70	100	127	116	147	182	173	213	270	252	319	394	333	412	498	471	570	678	617	735	862
Injection weight(ps)	g	19.1	32.8	45.5	32.8	52	70	52	61	70	64	91	115	106	134	165	157	194	246	229	290	358	304	375	454	428	518	617	562	668	785
Screw speed	Rpm	400			400			400			400			400			400			350			320			320			300		
Plasticizing	g/s	3.8	6	8	6	8.8	13	8.8	11	13	11	16	19.4	16.6	20.1	27.7	22	30	42	27	39	50	35	46	60	52	64	75	56	64	71
Heating power	KW	4.4	5.6	5.6	6	7.8	7.8	7.4	7.4	7.4	7.8	9.2	9.2	11.8	11.8	11.8	13.4	13.4	13.4	14.8	14.8	14.8	20.2	20.2	20.2	25	25	25	29.7	29.7	29.7
Injection unit		80			120			160			210			300			430			640			830			1100			1400		
Injection speed	mm/	200			200			200			200			200			200			160			160			160			160		
Injection rate(PS)	g/s	49	66	92	66	92	123	92	107	123	107	140	177	140	177	219	177	219	277	175	222	274	222	274	332	274	332	395	332	395	463
Injection pressure	Mpa	260	220	157	280	220	165	260	220	192	260	200	160	253	200	162	247	200	158	253	200	162	247	200	165	218	180	151	214	180	153
	Kgf/c	2650	2240	1600	2850	2240	1680	2650	2240	1950	2650	2040	1630	2580	2040	1650	2520	2040	1610	2580	2040	1650	2520	2040	1680	2220	1830	1540	2180	1830	1560
Holding pressure	Mpa	208	175	125	220	160	120	160	138	120	206	160	126	202	160	130	197	160	126	202	160	130	197	160	132	194	160	134	190	160	136
	Kgf/c	2120	1780	1270	2240	1630	1220	1630	1400	1220	2100	1630	1280	2060	1630	1320	2010	1630	1280	2060	1630	1320	2010	1630	1340	1980	1630	1360	1940	1630	1390
Injection unit		80h			120h			160h			210h			300h			430h			640h			830h			1100h			1400h		
Injection speed	mm/	350			350			350			350			300			300			250			250			250			250		
Injection rate(PS)	g/s	86	116	162	116	162	216	162	188	216	188	245	311	210	266	329	266	329	416	274	347	428	347	428	518	428	518	617	518	617	724
Injection pressure	Mpa	260	220	157	280	220	165	260	220	192	260	200	160	253	200	162	247	200	158	253	200	162	247	200	165	218	180	151	214	180	153
	Kgf/c	2650	2240	1600	2850	2240	1680	2650	2240	1950	2650	2040	1630	2580	2040	1650	2520	2040	1610	2580	2040	1650	2520	2040	1680	2220	1830	1540	2180	1830	1560
Holding pressure	Mpa	208	175	125	220	160	120	160	138	120	206	160	126	202	160	130	197	160	126	202	160	130	197	160	132	194	160	134	190	160	136
	Kgf/c	2120	1780	1270	2240	1630	1220	1630	1400	1220	2100	1630	1280	2060	1630	1320	2010	1630	1280	2060	1630	1320	2010	1630	1340	1980	1630	1360	1940	1630	1390
Others																															
Connection power	KW/	80:10/17			120:14/23			160:13/22			210:14/24			300:18/30			430:27/46			640:28/47			830:36/60			1100:44/73			1400:46/78		
	A	80h:12/21			120h:16/27			160h:16/27			210h:19/32			300h:23/38			430h:27/46			640h:28/47			830h:36/60			1100h:44/73			1400h:58/98		
Hopper capacity	L	15			15			15			25			25			25			25			50			50			50		

L-Version by Haitian

Overview

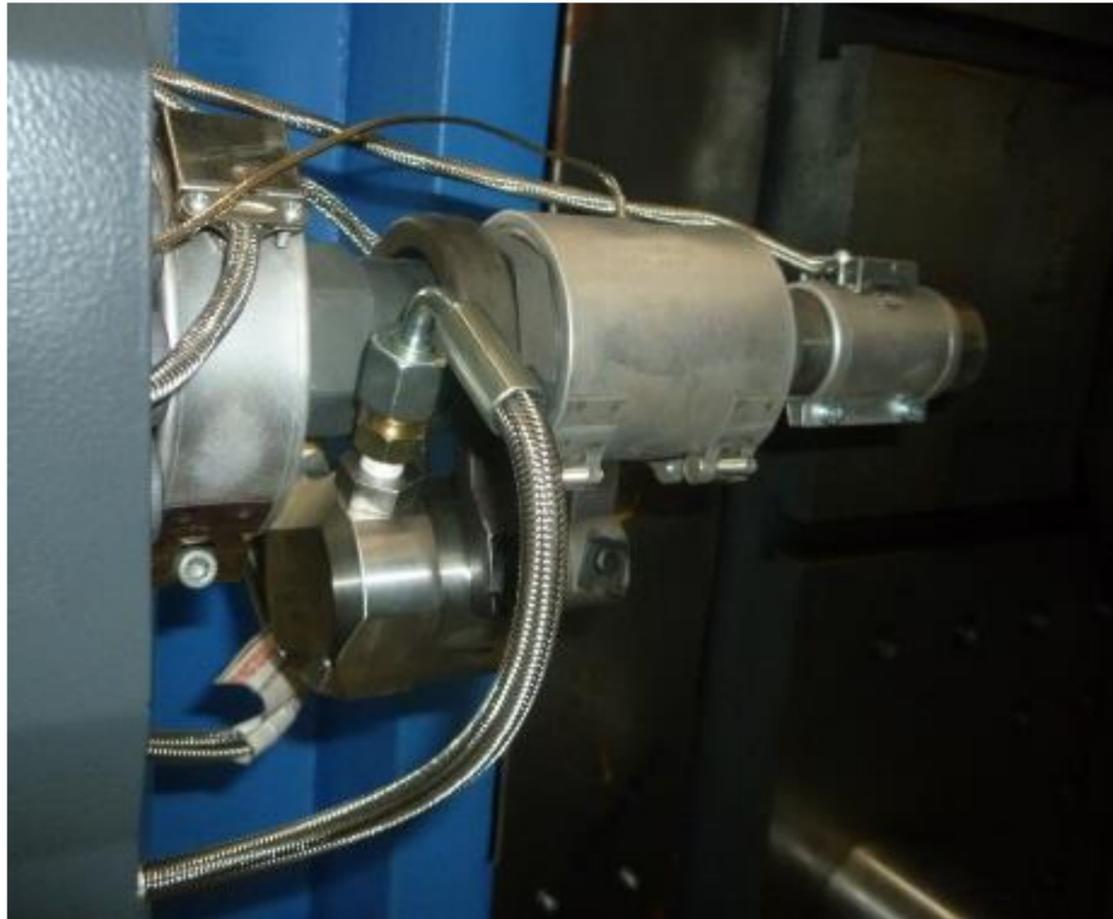


Machine Models: Mars & Jupiter
Machine Range: 1600 – 33.000 kN
2nd IU Range: L 50 – L 3050

- **Single cylinder structure*** for 2nd IU
- Special Injection parameters
- Fully enclosed protective door for 2nd IU (CE)
- Universal Design of 2nd IU enables combination possibilities with machines of different tonnage
- Controller for 2nd IU integrated into the main engine
- Lubrication same as MAIII / JU III
- Customized, spare parts...

* Special Injection Unit, no Spare Parts on Stock in Europe

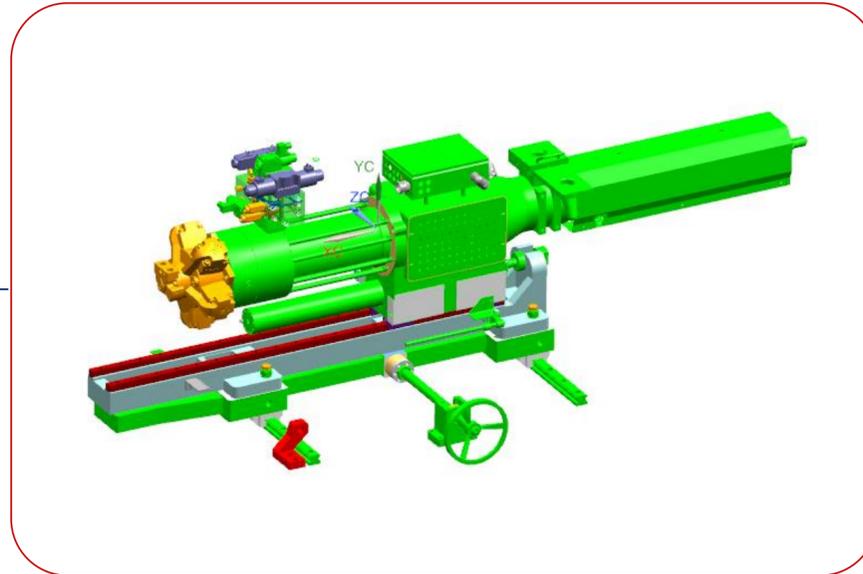
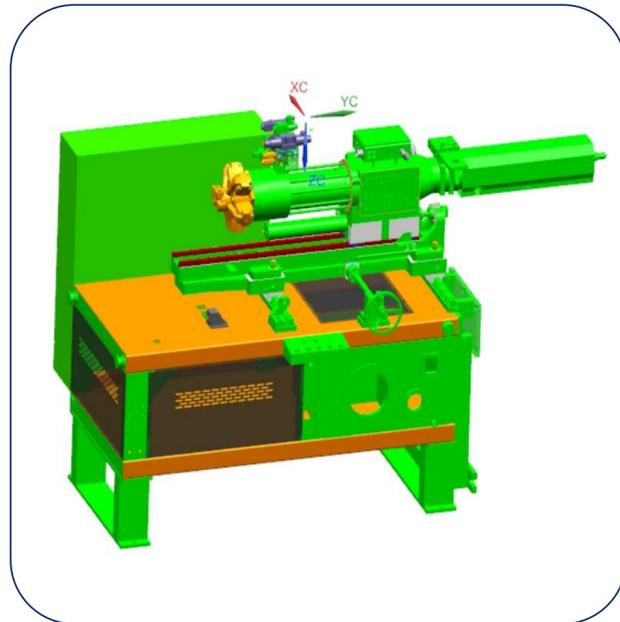
L – Version L-type Injection Unit



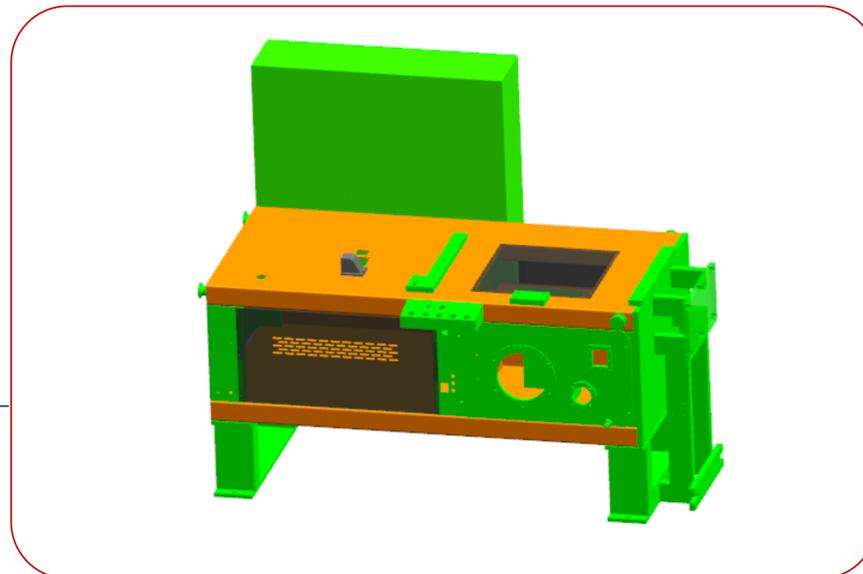
L-type injection unit for CE machines, standard: Pneumatic nozzle with detection

Shut-off Nozzle (Standard)

L-Version Modularity



Right angle machine host



Adjust the center height by
changing the base

L-Version

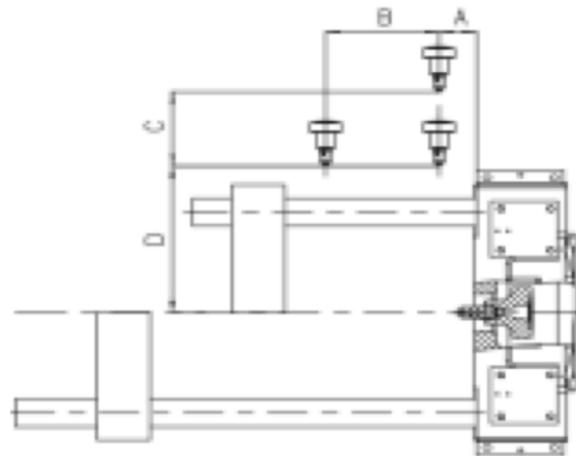
2nd IU Dimensions and Combination Possibilities

A: Minimum distance from the nozzle center to the fixed platen

B: Movable stroke of the injection unit can be adjusted

C: Nozzle stroke

D: The minimum distance from the tip of the nozzle to the center of the platen



2nd IU	A	B	C
50	90	230	610
80	100	230	610
160	100	230	710
280	110	230	710
380	110	300	870
570	115	300	870
720	130	300	870
1050	145	300	870
1300	150	380	870
1750	150	380	870
2400	150	380	870
3050	160	380	870

Clamping Unit \ 2nd IU	50	80	160	280	380	570	720	1050	1300	1750	2400	3050
	D											
MA1600 III		165										
MA2000 III		185	185									
MA2500 III			200	200								
MA2800 III			220	220								
MA3200 III			240	240	240							
MA3800 III				255	255							
MA4700 III				290	290	290						
MA5300 III				295	295	295	295					
JU6500 III					365	365	365	365				
JU7500 III						390	390	390				
JU9000 III						415	415	415				
JU10800 III						445	445	445	445			
JU12000 III						455	455	455	455	455		
JU13000 III						485	485	485	485	485	485	
JU14000 III						510	510	510	510	510	510	
JU16000 III							545	545	545	545	545	
JU18500 III								580	580	580	580	
JU21000 III											630	630
JU24000 III											665	665
JU28000 III												700
JU33000 III												

Note: Green color as preferred combination

L-Version

Injection Unit Parameters

Injection unit		1		2		3			4			5			6			7			8			9			10			11			12		
		L50		L80		L160			L280			L380			L570			L720			L1050			L1300			L1750			L2400			L3050		
		A	B	A	B	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Screw diameter	mm	19	22	22	26	26	30	34	32	36	40	36	40	45	40	45	50	45	50	55	50	55	60	55	60	65	60	65	70	65	70	75	70	80	85
Calculated injection volume	cm ³	21	36	38	53	66	88	113	122	155	191	173	214	270	251	318	393	334	412	499	471	570	679	618	735	863	792	929	1078	1068	1239	1423	1424	1860	2100
Injection capacity(ps)	g	19	33	35	48	60	80	103	111	141	174	157	195	246	228	289	358	304	375	454	429	519	618	562	669	785	721	845	981	972	1127	1295	1296	1693	1911
Injection speed rate(ps)	g/s	48	65	49	68	47	63	81	76	97	119	94	116	147	114	144	178	143	176	213	163	197	234	232	276	324	267	313	363	259	300	344	339	442	500
Plasticization capacity(ps)	g/s	2,5	3,6	3,6	6,4	6,1	8,3	11,2	10,1	13,3	16,1	14,9	18,2	24,1	17,8	23,7	29,7	21,4	27	33,1	29	35,6	42,1	38,7	45,8	51	51,1	56,7	64,4	46,7	53,6	60,8	56,8	74,8	82,3
Injecton pressure	MPa	234	175	232	166	240	180	140	236	187	151	222	180	142	228	180	146	222	180	149	231	191	161	214	180	153	222	189	163	229	198	172	216	165	146
Screw diameter	rpm	300		300		240			240			240			220			180			185			215			225			180			175		
Motor power	kW	11		11		11			13			15			18,5			22			30			37			45			45			55		
Heater power	kW	4,3	4,2	4,9	6,8	6,9			10,5			12,4			12,4			16,3			22			25,5			33			32			37		

V-Version (VERTICAL) Overview



Characteristics

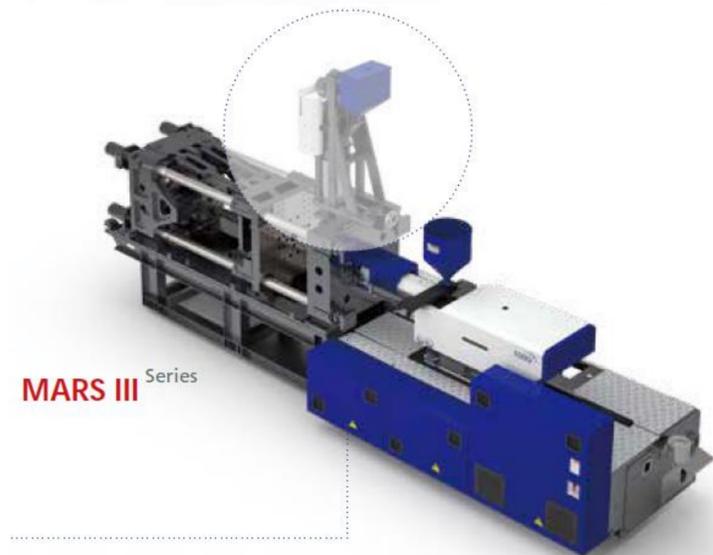
- The second injection unit is installed at the top of the fixed platen
- Adjustable nozzle position on add-on injection unit
- Easy plug & play
- Flexible for 1K applications

Advantage

- 2nd IU can be small volume
- Easy to upgrade existing IMM
- Small footprint

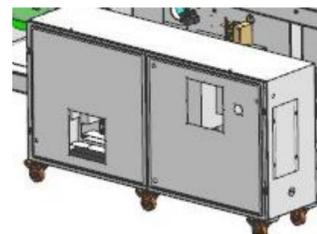
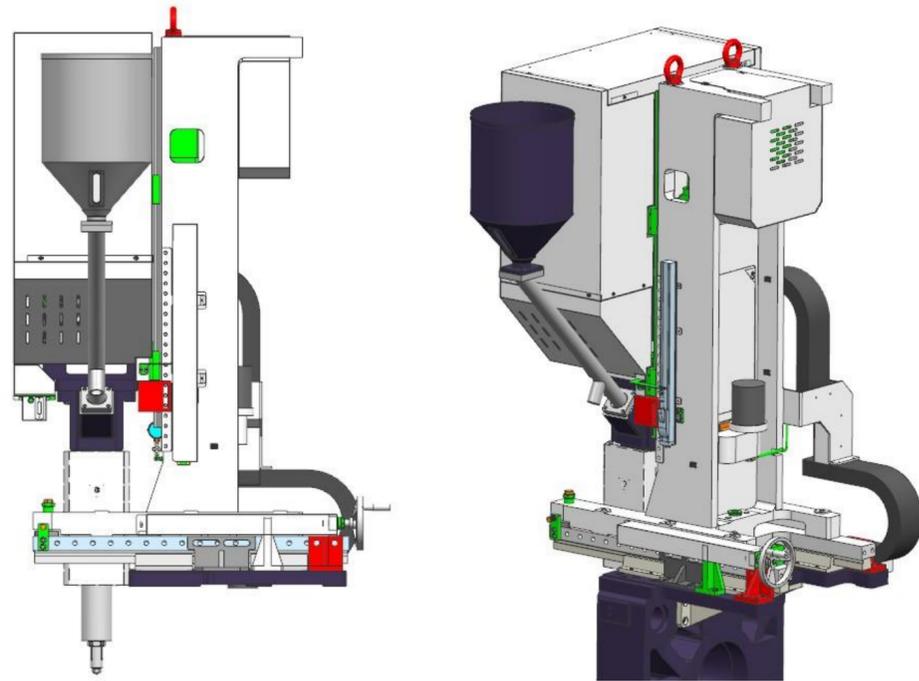
Disadvantage

- No standard robot usage
- For small shot weights only
- Height requirement



V-Version by Zhafir

Overview

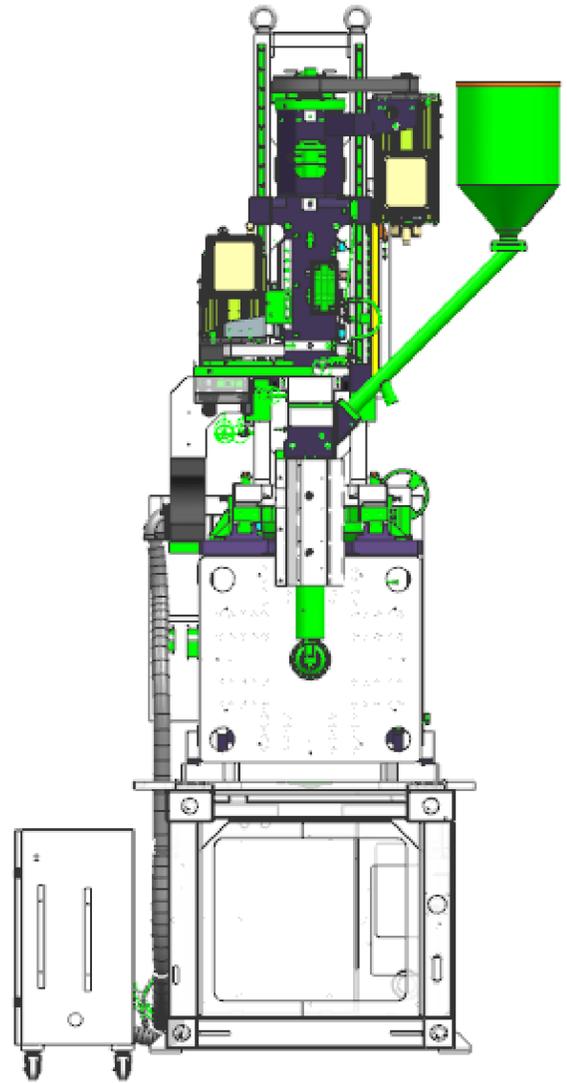
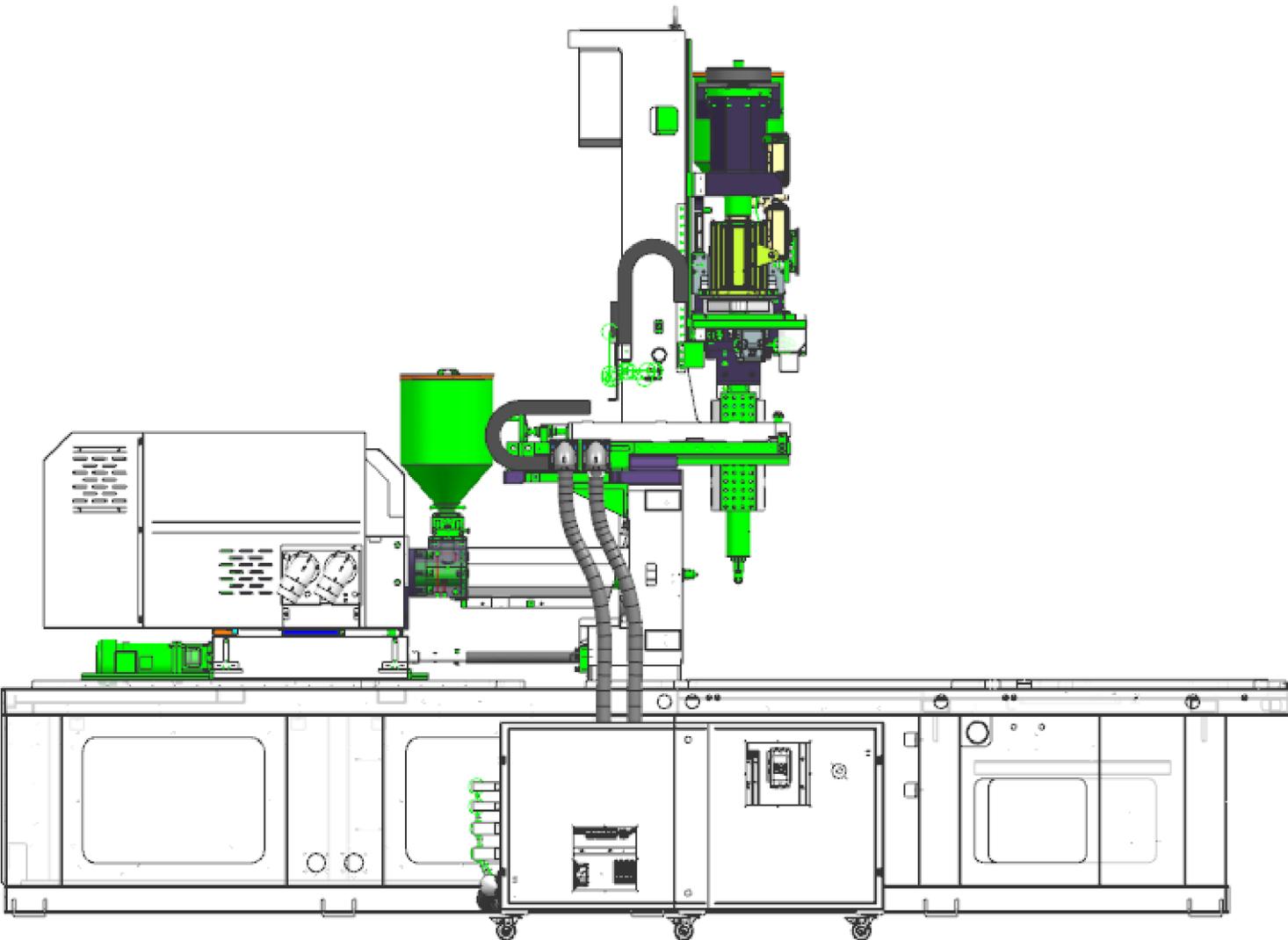


Machine Models: Zeres & Venus
Machine Range: 1200 – 6500 kN
2nd IU Range: 80(h) – 300 (h)
Screw diameter: A19 – A32

1. **Injection Unit:** The parameter is same as VEIII
2. **Clamping Unit:** The vertical type injection unit is fixed in the top of the fixed platen;
3. **Injection Safety Cover:** The vertical type injection unit is surrounded with injection safety cover;
4. **Lubrication:** Japanese LUBE automatic lubrication
5. **Electrical Appliances:** The vertical type injection unit has own distribution.
6. The V injection seat may interfere with the moving template when the die thickness is too small, and the minimum die thickness should be $\geq V \min + L v$ (see P25 for A and F dimensions).

V - Version

Electric Control Layout



Reference Standards

V - Version Combinations

V-COMBINATIONS

Clamping Force (kN)	2nd IU	V80(h)	V120(h)	V160(h)	V210(h)	V300 (h)
1200		●	●	●	●	
1500		●	●	●	●	
1900		●	●	●	●	●
2300		●	●	●	●	●
3000		●	●	●	●	●
3600		●	●	●	●	●
4500		●	●	●	●	●
5500		●	●	●	●	●
6500		●	●	●	●	●

Note: The machine that's injection unit less than 300/h needs a special instruction design

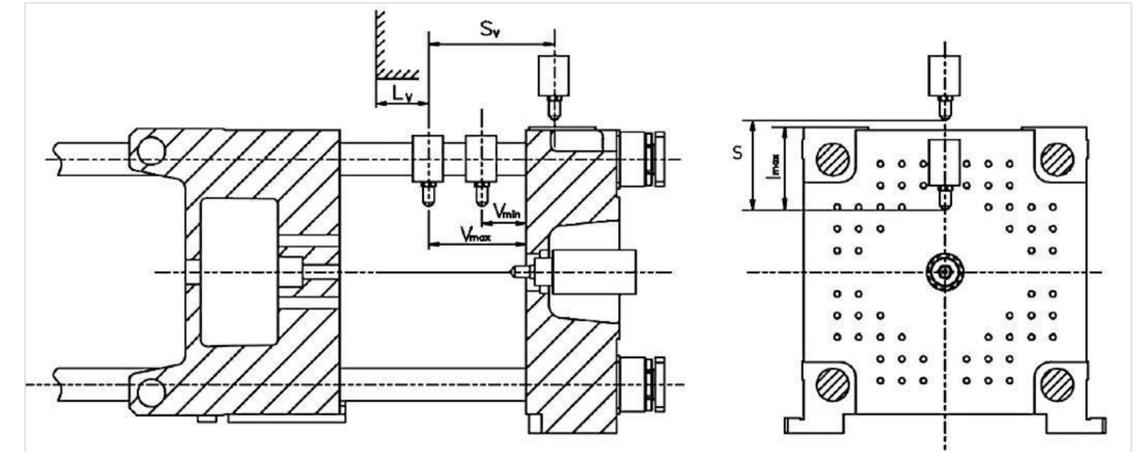
V - Version

2nd IU Dimensions and Parameters

INJECTION MOVEMENT PARAMETERS

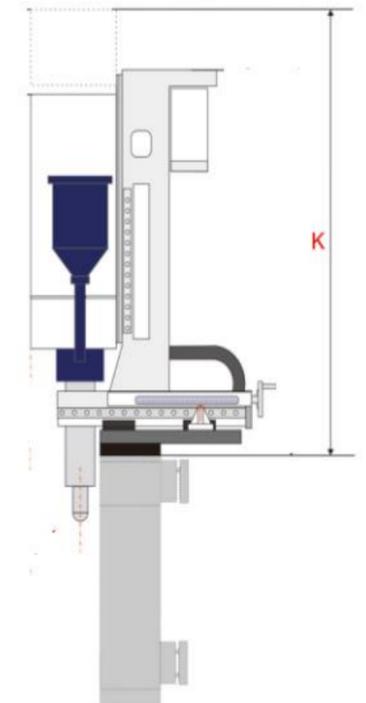
Unit: mm

2nd IU	Screw	l_{max}	S	V_{min}	V_{max}	S_v	L_v	K
V80(h)	A	140	350	90	200	380	225	1840
	B	230	350	90	200	380	225	
	C	230	350	90	200	380	225	
V120(h)	A	200	420	95	200	380	245	2020
	B	300	420	95	200	380	245	
	C	300	420	95	200	380	245	
V160(h)	A	300	420	95	200	380	255	2150
	B	300	420	95	200	380	255	
	C	300	420	95	200	380	255	
V210(h)	A	220	420	95	200	380	255	2250
	B	300	420	95	200	380	255	
	C	300	420	95	200	380	255	
V300(h)	A	430	500	110	200	500	290	2370
	B	430	500	110	200	500	290	
	C	430	500	110	200	500	290	



- l_{max} : Max. nozzle dipping depth of auxiliary IU
- S: Nozzle stroke of auxiliary IU
- V_{min} : Min. distance to fix platen
- V_{max} : Max. distance to fix platen
- S_v : Total adjustable range
- L_v : Edge distance of auxiliary IU

K: Maximum height of IU



V – Version

Detailed Parameters

Injection unit		V 80 (h)			V 120 (h)			V 160 (h)			V 210 (h)			V 300 (h)		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Screw diameter	mm	19	22	26	22	26	30	26	28	30	28	32	36	32	36	40
Screw L/D ratio	L/D	21	22	18	22	22	19	21	21	19	21	21	18.6	22.5	20	18
Injection volume(ps)	cm ³	21	36	50	36	58	77	58	67	77	70	100	127	116	147	182
Injection weight(ps)	g	19.1	32.8	45.5	32.8	52	70	52	61	70	64	91	115	106	134	165
Screw speed	Rpm	400			400			400			400			400		
Plasticizing rate(GPPS)	g/s	3.8	6	8	6	8.8	13	8.8	11	13	11	16	19.4	16.6	20.1	27.7
Heating power	KW	4.4	5.6	5.6	6	7.8	7.8	7.4	7.4	7.4	7.8	9.2	9.2	11.8	11.8	11.8
Injection Unit		80			120			160			210			300		
Injection speed	mm/s	200			200			200			200			200		
Injection rate(PS)	g/s	49	66	92	66	92	123	92	107	123	107	140	177	140	177	219
Injection pressure	Mpa	260	220	157	280	220	165	260	220	192	260	200	160	253	200	162
	Kgf/cm ²	2650	2240	1600	2850	2240	1680	2650	2240	1950	2650	2040	1630	2580	2040	1650
Holding pressure	Mpa	208	175	125	220	160	120	160	138	120	206	160	126	202	160	130
	Kgf/cm ²	2120	1780	1270	2240	1630	1220	1630	1400	1220	2100	1630	1280	2060	1630	1320
Injection Unit		80h			120h			160h			210h			300h		
Injection speed	mm/s	350			350			350			350			350		
Injection rate(PS)	g/s	86	116	162	116	162	216	162	188	216	188	245	311	210	266	329
Injection pressure	Mpa	260	220	157	280	220	165	260	220	192	260	200	160	253	200	162
	Kgf/cm ²	2650	2240	1600	2850	2240	1680	2650	2240	1950	2650	2040	1630	2580	2040	1650
Holding pressure	Mpa	208	175	125	220	160	120	160	138	120	206	160	126	202	160	130
	Kgf/cm ²	2120	1780	1270	2240	1630	1220	1630	1400	1220	2100	1630	1280	2060	1630	1320
Others																
Connection power	KW/A	80:10/17 80h:12/21			120:14/23 120h:16/27			160:13/22 160h:16/27			210:14/24 210h:19/32			300:18/30 300h:23/38		
Hopper capacity	L	15			15			15			25			25		

V-Version by Haitian Overview



1. Injection Unit: **Special double-cylinder structure*** and special injection parameters.
2. Clamping Unit: The vertical type injection unit is fixed in the top of the fixed platen
3. Lubrication: same as MAIII
4. Hydraulic Appliances: The vertical type injection unit has own distribution.
5. The V injection seat control system is integrated into the main unit
6. The V injection seat may interfere with the moving template when the die thickness is too small, and the minimum die thickness should be $\geq A+F$ (see P28 for A and F dimensions).
7. V-shaped injection seat color following platform

Machine Models: Mars & Jupiter
Machine Range: 1600 – 28.000 kN
2nd IU Range: 50 – 390
Screw diameter: A19 – A36

* Special Injection Unit, no Spare Parts on Stock in Europe

V - Version Combinations

Mars Series

Clamping Unit	2nd IU(V -Version)		
	V50	V150	V390
MA1600M	OK	OK	
MA2000M	OK	OK	OK
MA2500M	OK	OK	OK
MA2800M	OK	OK	OK
MA3200M	OK	OK	OK
MA3800M	OK	OK	OK
MA4700M	OK	OK	OK
MA5300M	OK	OK	OK

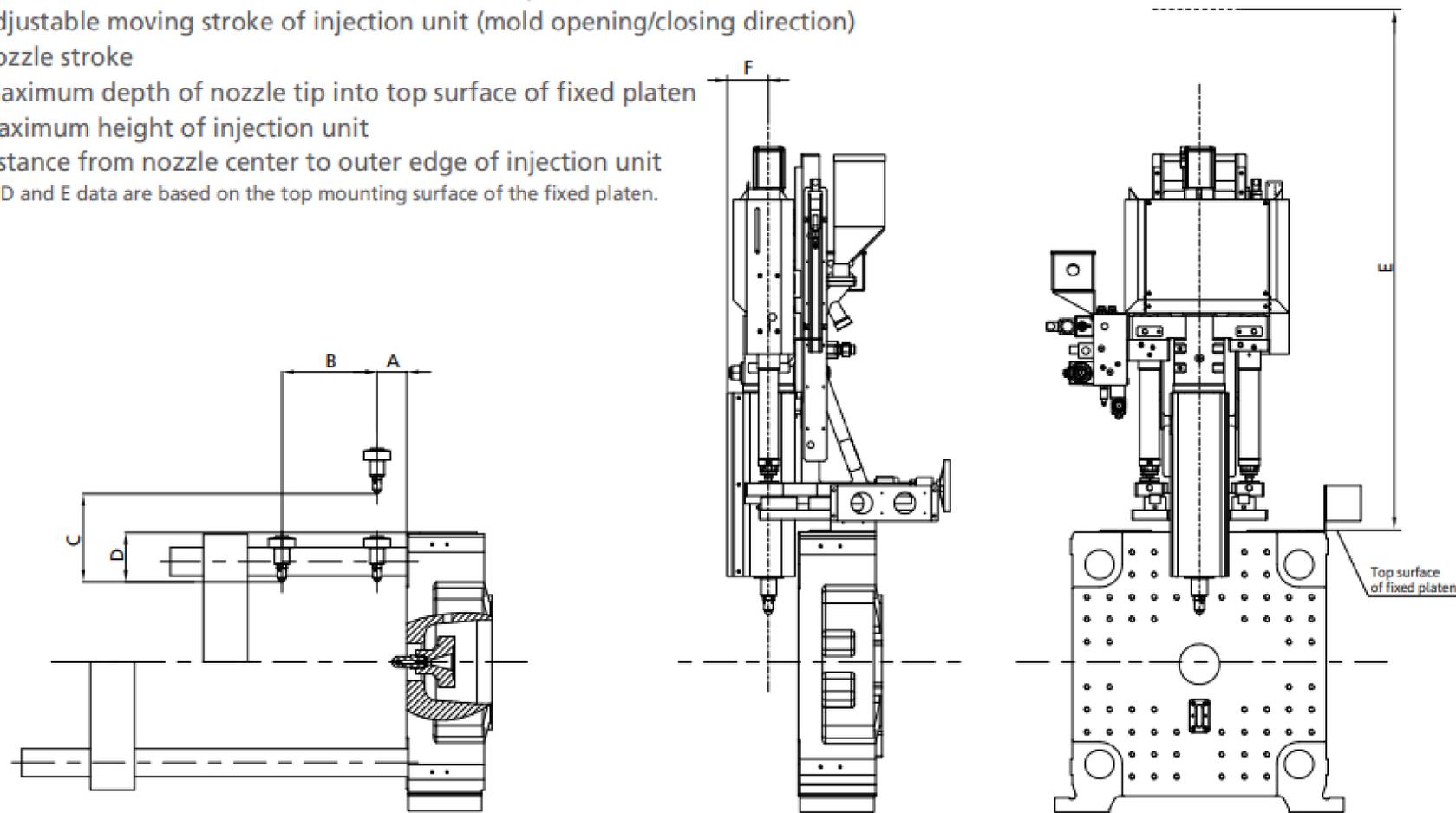
Jupiter Series

Clamping Unit	2nd IU(V -Version)		
	V50	V150	V390
JU6500M		OK	OK
JU7500M		OK	OK
JU9000M		OK	OK
JU10800M			OK
JU12000M			OK
JU13000M			OK
JU14000M			OK
JU16000M			OK
JU18500M			OK
JU21000M			OK
JU24000M			OK
JU28000M			OK

V - Version

2nd IU Dimensions and Parameters

- A: Minimum distance from nozzle center to fixed platen
 - B: Adjustable moving stroke of injection unit (mold opening/closing direction)
 - C: Nozzle stroke
 - D: Maximum depth of nozzle tip into top surface of fixed platen
 - E: Maximum height of injection unit
 - F: Distance from nozzle center to outer edge of injection unit
- Note: D and E data are based on the top mounting surface of the fixed platen.



Injection unit moving position parameters

unit: mm

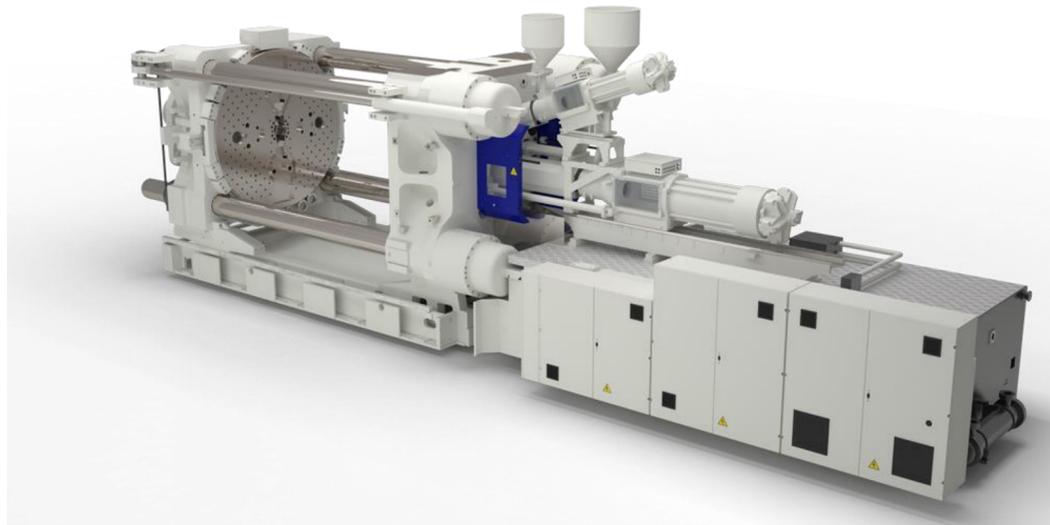
Injection unit	A	B	C	D	E	F
50	95	180	180	130	1320	120
150	95	180	300	260	1640	130
390	120	250	400	325	2065	165

V - Version

Injection Unit Parameters

V-injection unit		50			150			390	
Screw diameter	mm	19	22	26	30	34	36	40	45
Theoretical injection volume	cm ³	21	36	66	88	113	173	214	270
Injection weight (PS)	g	19	33	60	80	103	157	195	246
Injection rate (PS)	g/s	38	51	49	65	84	91	113	143
Plasticizing rate	g/s	2.5	3.6	6.1	8.3	11.2	14.9	18.2	24.1
Injection pressure	MPa	244	182	231	173	135	229	186	147
Screw speed	rpm	300			240			240	
Motor power	kW	11			11			15	
heater power	kW	4.3	4.2	6.9			12.4		

R-Version (Piggy-Bag) Overview



Characteristics

- The second injection unit is installed at the top of the 1st IU
- Different structure layouts

Advantage

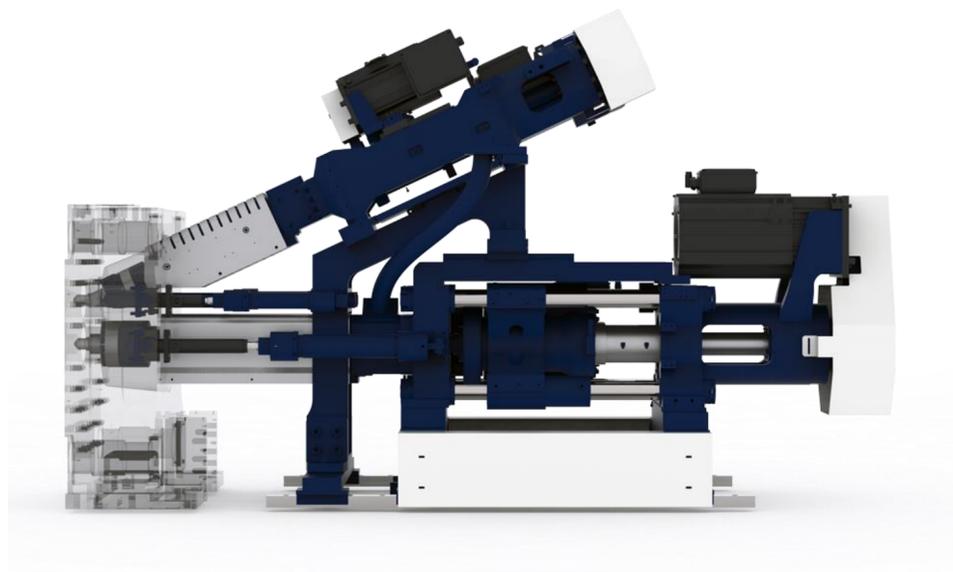
- Small footprint requirement
- Flexible for automation integration
- Easy access to the mold area
- Flexible for 1K applications
- Standard robot usage

Disadvantage

- Customized solutions
- Access & maintenance

R-Version by Zhafir

Overview



- Injection Unit: The parameter is same as VEIII
- Clamping Unit: The parameter is same as VEIII
- The R injection seat control system is integrated into the main unit
- Lubrication: Japanese LUBE automatic lubrication.
- Distance of IU: Changes with the combination
- Structure of IU: Changes with the combination

Machine Models: Zeres & Venus
Machine Range: 1500 – 5500 kN
2nd IU Range: 50 – 1700

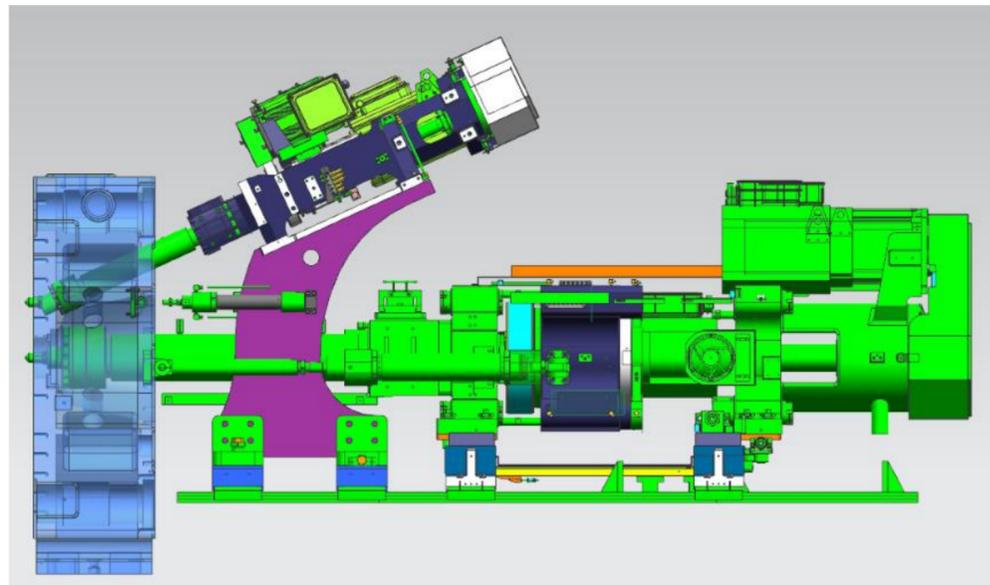
R – Version

Structure Planning

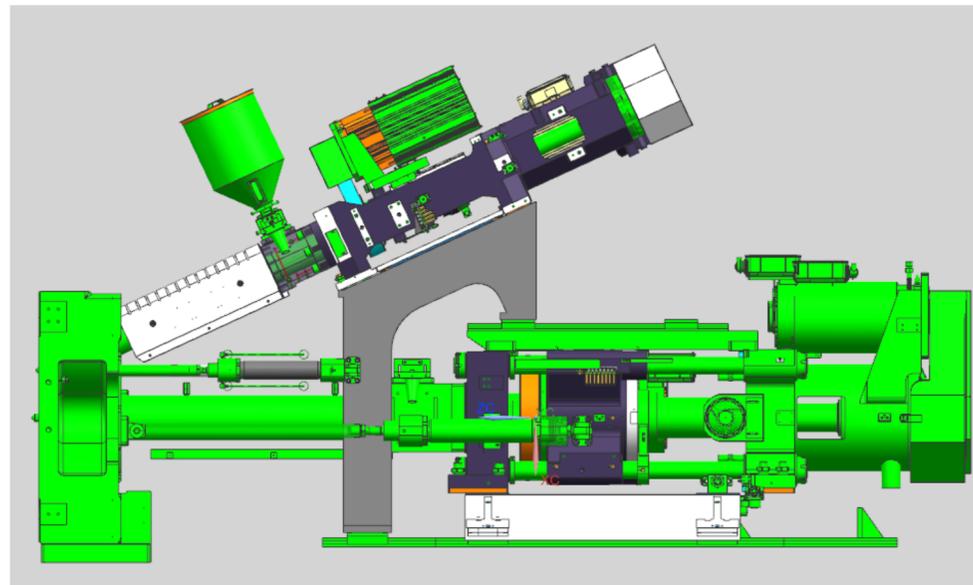
1. Independent Structure

2. Semi-support Structure

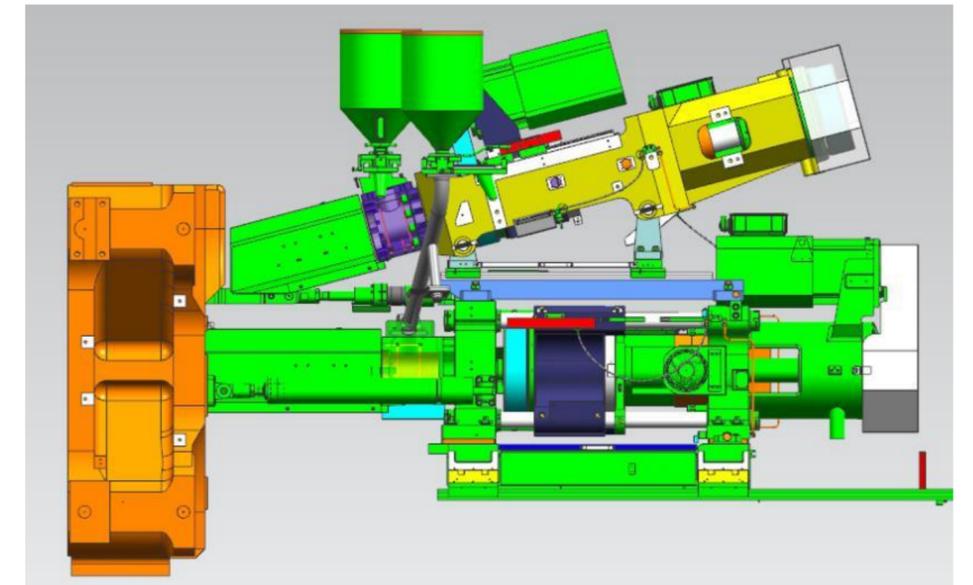
3. Fully integrated Structure



2nd Injection Unit with smaller size



2nd Injection Unit with medium size



2nd Injection Unit of same/similar size

R- Version

Structure Planning

Structure planning											
UI-H \ UI - R	50	80	120	160	210	300	430	640	830	1100	1400
210	■	■	■	■							
300	■	■	■	■	■						
430			■	■	■	■					
640			■	■	■	■	■				
830					■	■	■				
1100					■	■	■	■			
1400						■	■	■	■	■	
1700						■	■	■	■	■	■

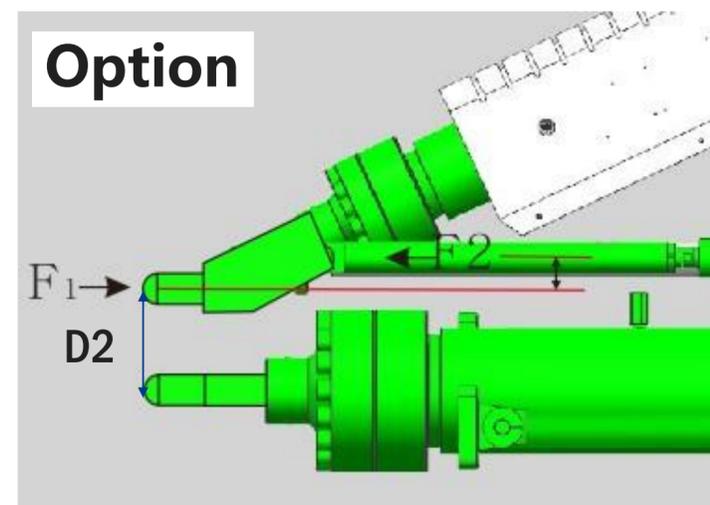
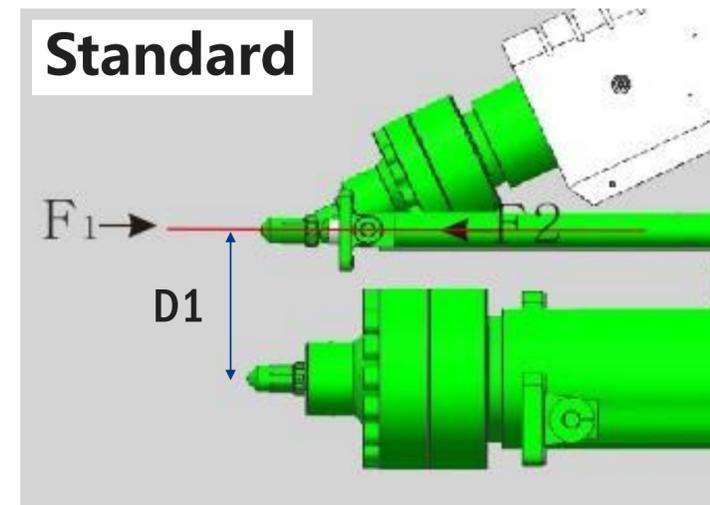
- Independent structure
- Semi-supporting structure
- Fully integrated structure

R - Version

2nd IU Dimensions and Parameters

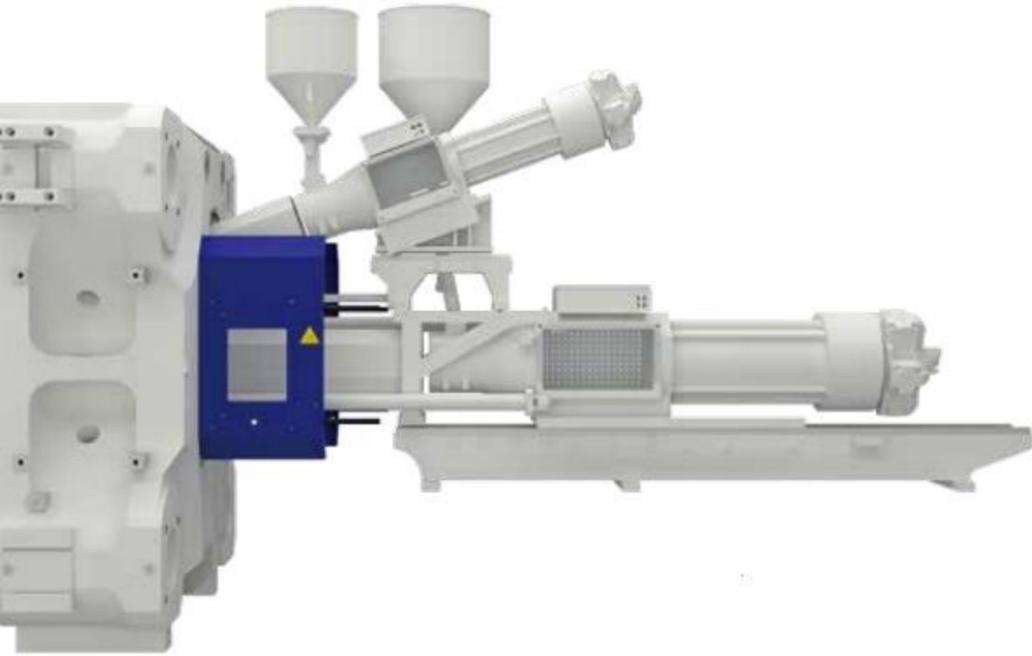
UI Combinations													
Clamping Unit	UI - H	50	80	120	160	210	300	430	640	830	1100	D1 (mm)	D2 (mm)
150	210	■	■	■	■							150	100
	300	■	■	■	■	■							
	430			■	■	■	■						
	640			■	■	■	■	■					
190	300	■	■	■	■	■						150	100
	430			■	■	■	■						
	640			■	■	■	■	■					
230	430			■	■	■	■					150	100
	640			■	■	■	■	■					
	830					■	■	■					
	1100					■	■	■	■				
300	830					■	■	■				200	150
	1100					■	■	■	■				
	1400						■	■	■				
	1700						■	■	■				
360	1100					■	■	■	■			200	150
	1400						■	■	■				
	1700						■	■	■				
450	1400						■	■	■	■		300	200
	1700						■	■	■	■	■		
550	1400						■	■	■	■		300	200
	1700						■	■	■	■	■		

Distance of IU



R-Version by Haitian

Overview



Machine Models: Jupiter
Machine Range: 7500 – 18.500 kN
2nd IU Range: 380 – 1750

- **Injection Unit:** Single cylinder structure , the parameter is special
- **Clamping Unit:** The parameter is special
- **The R injection seat control system** is integrated into the main unit
- **Lubrication:** same as JUIII
- **The center distance of nozzle:** 300mm

R – Version Combinations

Clamping Unit	1st IU	2nd IU (R - version)					D (mm)
		R380	R570	R720	R1050	R1750	
JU7500M	1050	Optional	Optional				300
	1300		Optional				
	1750		Optional				
	2400		Preferred	Optional			
JU10800M	1300		Optional				300
	1750		Optional				
	2400		Optional	Preferred			
JU14000M	1750		Optional				300
	2400		Optional	Optional			
	3050			Preferred		Optional	
JU18500M	2400		Optional	Optional			300
	3050			Optional		Optional	
	4650			Optional	Optional	Preferred	



Note:

The center distance of nozzle can be adjusted.

Note: the above injection combination, Preferred, Optional;

R - Version

Injection Unit Parameters

			JU7500M						JU10800M						JU14000M						JU18500M					
Injection unit			2400			R570			2400			R720			3050			R720			4650			R1750		
			Screw diameter	mm	65	70	75	40	45	50	65	70	75	45	50	55	70	80	85	45	50	55	80	85	90	60
Injection volume (theoretical)	cm ³	1068	1239	1423	251	318	393	1068	1239	1423	334	412	499	1424	1860	2100	334	412	499	2212	2497	2799	792	929	1078	
Injection weight (PS)	g	972	1127	1295	228	289	358	972	1127	1295	304	375	454	1296	1693	1911	304	375	454	2013	2272	2547	721	845	981	
Injection rate (PS)	g/s	334	388	445	161	204	252	334	388	445	165	204	247	355	464	523	278	343	415	537	606	679	345	405	469	
Plasticizing rate (GPPS) ④	g/s	52	59,7	67,6	16,2	21,5	27	52	59,7	67,6	21,5	27	33	59,8	78,8	86,6	21,5	27	33	73,1	80,7	92	45,4	50,4	57,2	
Injection pressure	MPa	229	198	172	228	180	146	229	198	172	222	180	149	216	165	146	222	180	149	211	187	167	222	189	163	
Screw speed	r/min	0~200			0~200			0~200			0~180			0~183			0~180			0~165						
Clamping unit	Clamping force	kN	7500						10800						14000						18500					
	Dist. between tie bars (H×V)	mm	1110X960						1260X1100						1460X1360						1650X1550					
	Mold height max.	mm	1120						1360						1500						1650					
	Mold height min.	mm	320						360						550						600					
	Mold opening stroke	mm	600/1400						900/1900						1400/2350						1550/2600					
	Diameter of rotary platen	mm	φ1362						φ1608						φ1966						φ2185					
	Max. mold install diameter	mm	φ1530						φ1750						φ2090						φ2365					
	Bearing Capacity of Rotary Platen	t	5						7						11						15					
	Ejector stroke	mm	300						350						400						450					
	Ejector force	kN	195						230						330						450					
Others	Motor power	kW	55+30						55+30						75+45						75+30+55					
	Heater power	kW	32			12,4			32			16,3			30			22			48			33		
	Oil tank	l	850						950						1200						1550					
	Machine dimension (L×W×H)	m	9.1×2.9×2.5						10.1×3.3×2.8						11.6×3.6×3.2						12.7×4.2×3.46					
	Machine weight	t	32						50						74						99					

The data in the above table is a standard combination

P-Version (Parallel) Overview



Advantage

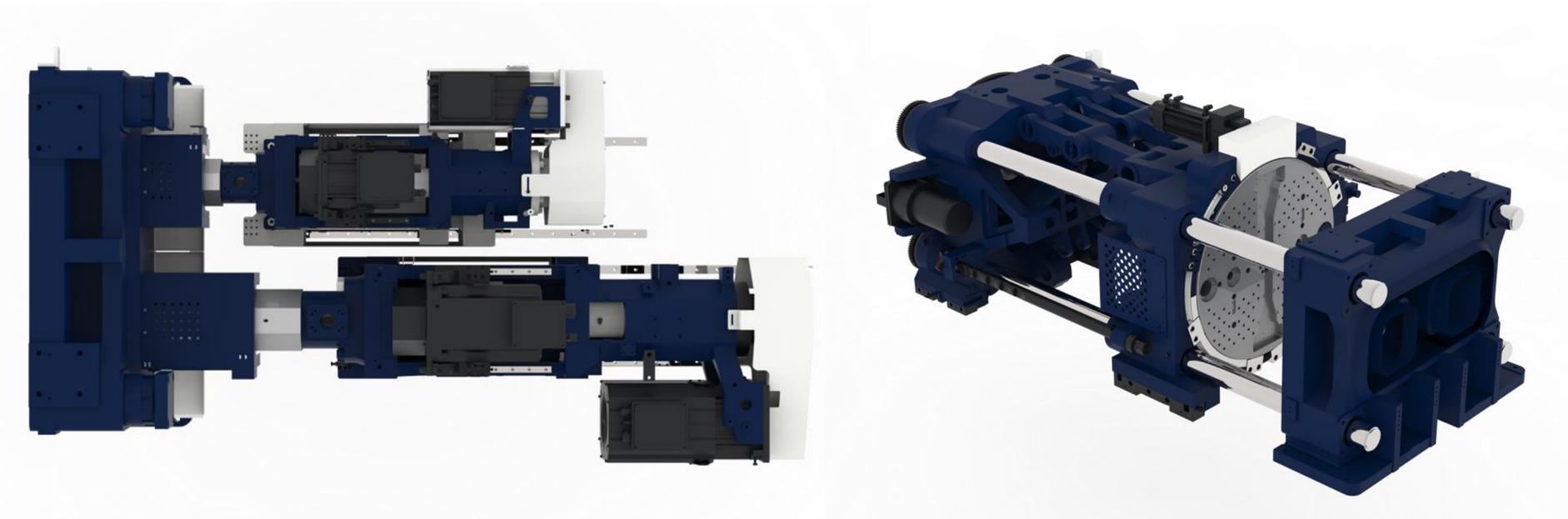
- Specialized for multi-component applications
- Small footprint requirement
- Easy to operate and maintain both injection units
- Flexible for automation integration
- Easy access to the mold area

Disadvantage

- No usage as 1k machine

P-Version by Zhafir

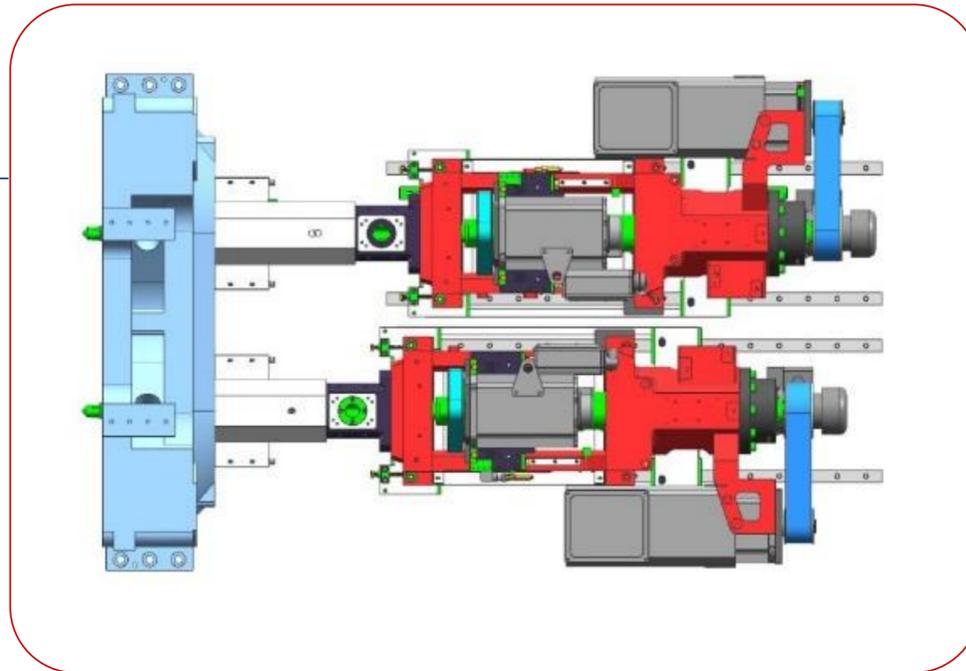
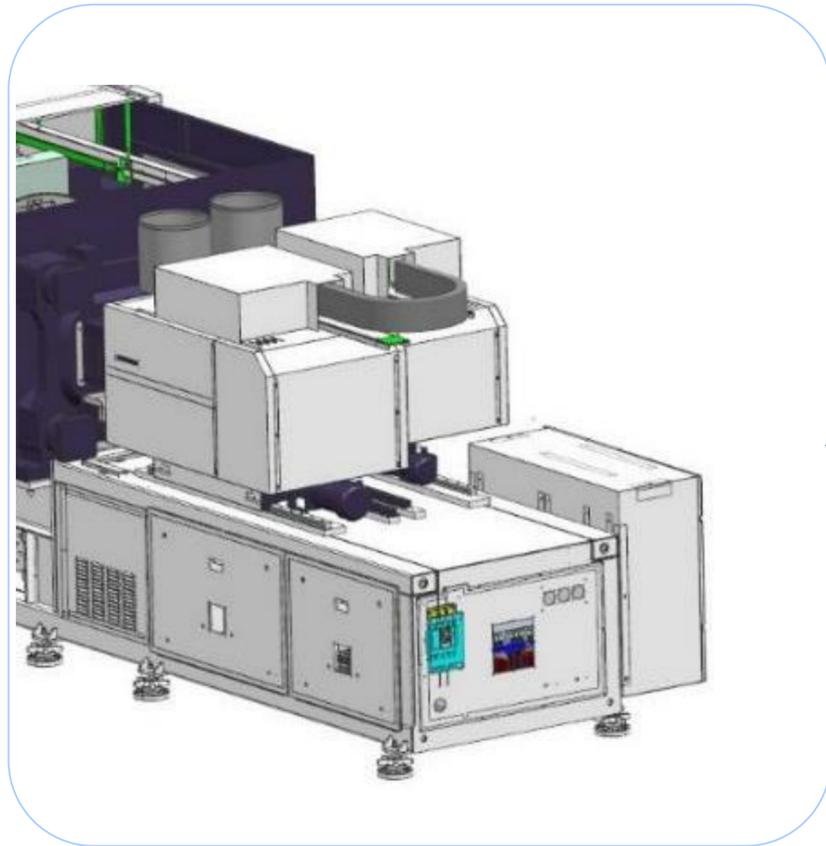
Overview



- Toggle machine and Two-platen machines
- Controller – SIGMATEK
- Turn Table driver motor Germany Lenze (or KEB) + KEB close loop controlled
- Nozzle/Turn-table layout of 150-550 Ton based on Japan SPI, 750T-1400T according to Haitian standard. Both are able to optimized by customer
- LUBE Auto-lubrication system (150-550 Ton) , 750T-1400T same as JEIII.

Machine Models: Zeres & Jenius
Machine Range: 1500 – 18.500 kN
2nd IU Range: 80(h) – 1700 (h)

P - Version



P- version

2 IU



Basement able to adjustment

P – Version

Toggle Machine Combinations

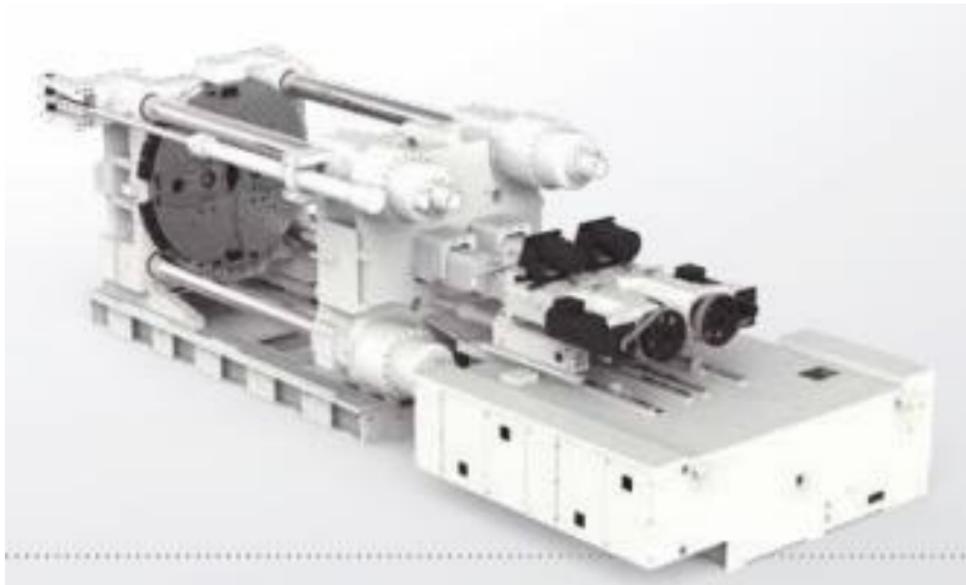


Clamping Unit	1st IU	2nd IU (P-version)									Nozzle center distance
		80(h)	120(h)	160(h)	210(h)	300(h)	430(h)	640(h)	830(h)	1100(h)	
ZE1500WM	120(h)	Preferred	Optional								400
	160(h)	Optional	Preferred	Optional							
	210(h)	Optional	Preferred	Optional	Optional						
ZE2300WM	210(h)		Preferred	Optional	Optional						500
	300(h)		Optional	Optional	Preferred	Optional					
	430(h)		Optional	Preferred	Optional	Optional	Optional				
ZE2800WM	300(h)			Optional	Preferred	Optional					500
	430(h)			Preferred	Optional	Optional	Optional				
	640(h)			Optional	Optional	Preferred	Optional	Optional			
ZE3600WM	300(h)				Preferred	Optional					550
	430(h)				Preferred	Optional	Optional				
	640(h)				Optional	Preferred	Optional	Optional			
	830(h)				Optional	Preferred					
ZE5500WM	830(h)					Preferred	Optional	Optional	Optional		650
	1100(h)					Preferred	Optional	Optional	Optional		
	1400(h)					Optional	Preferred	Optional			

Note: the above injection combination, Preferred, Optional;

P – Version

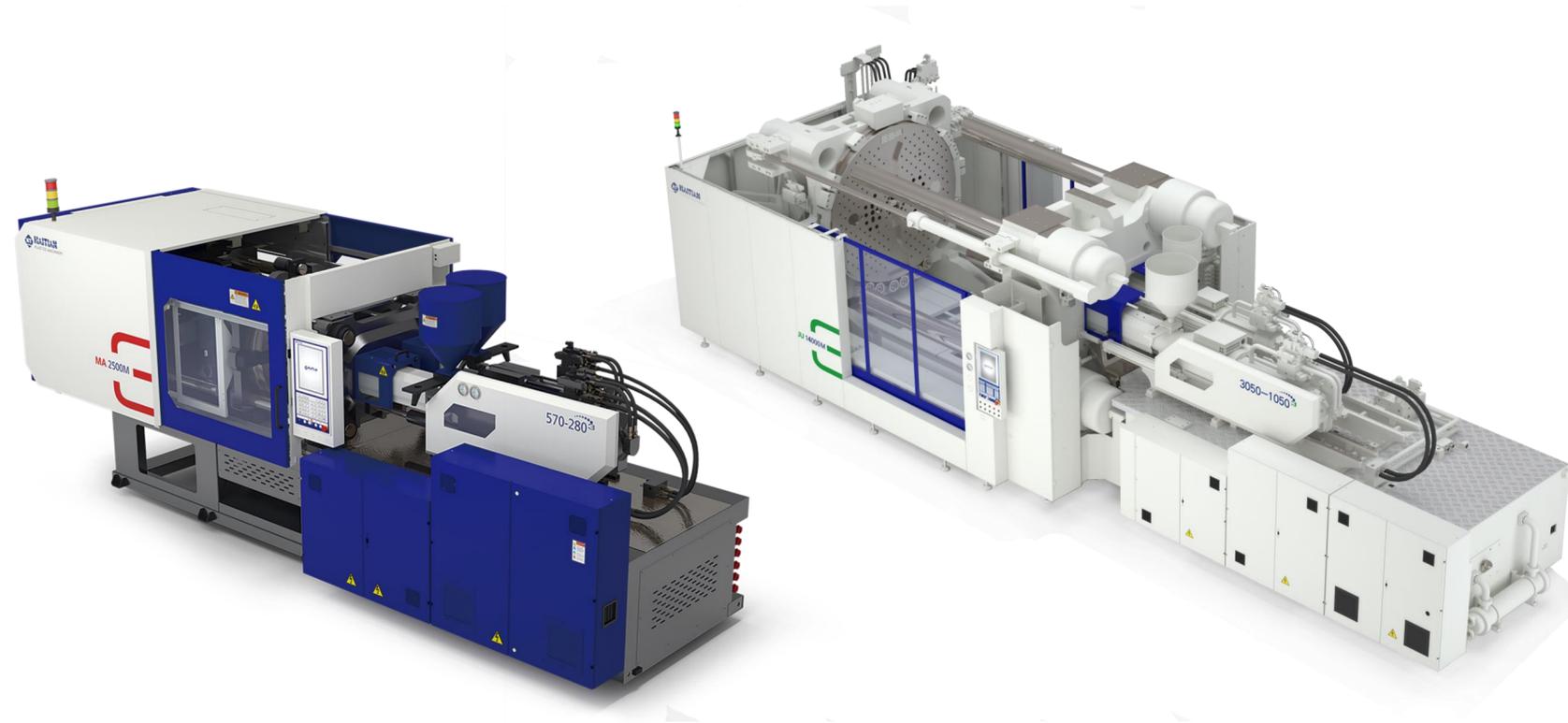
Two-platen Machine Combinations



Clamping Unit	1st IU	2nd IU (P-version)			Nozzle center distance
		830	1100	1700	
JE7500M	2250				630
JE10800M	2250				710
JE14000M	3350				710
JE18500M	3350				710

Note: the above injection combination, Preferred, Optional;

P-Version by Haitian Overview



Machine Models: Mars & Jupiter
Machine Range: 1200 – 18.500 kN
2nd IU Range: 50 – 4650

- Toggle machine and Two-platen machines
- Controller – KEBA
- Injection unit adopts **single cylinder structure** *
- IU safety door structure adopted from standard Series (MAIII & JUIII)
- Turntable motor:
 - Standard: Hydraulic motor
 - Optional: Servo motor

* Special Injection Unit, no Spare Parts on Stock in Europe

P – Version

Combinations Mars Series



Clamping Unit	1st IU	2nd IU (P-version)										Nozzle center distance	
		P50	P80	P160	P280	P380	P570	P720	P1050	P1300	P1750		P2400
MA1200WM	80	Preferred	Preferred										350
	160	Optional	Preferred	Optional									
	280	Optional	Optional	Optional	Optional								
MA1600WM	80	Preferred	Preferred										420
	160	Optional	Preferred	Optional									
	280	Optional	Optional	Optional	Optional								
	380	Optional	Optional	Optional	Optional	Optional							
MA2000WM	80	Optional	Preferred										450
	160	Optional	Preferred	Optional									
	280	Optional	Optional	Optional	Optional								
	380	Optional	Optional	Optional	Optional	Optional							
MA2500WM	160		Preferred	Optional									490
	280		Optional	Preferred	Optional								
	380		Optional	Preferred	Optional	Optional							
	570		Optional	Optional	Preferred	Optional	Optional						
	720		Optional	Optional	Optional	Optional	Optional	Optional					
MA3600WM	280			Preferred	Optional								560
	380			Optional	Optional	Optional							
	570			Optional	Preferred	Optional	Optional						
	720			Optional	Preferred	Optional	Optional	Optional					
	1050			Optional	Optional	Optional	Optional	Optional	Optional				
MA5300WM	720				Preferred	Optional	Optional	Optional					630
	1050				Optional	Optional	Optional	Optional	Optional				
	1300				Optional	Preferred	Optional	Optional	Optional	Optional			
	1750				Optional	Optional	Optional	Optional	Optional	Optional	Optional		
	2400				Optional	Preferred	Optional	Optional	Optional	Optional	Optional	Optional	

Note: the above injection combination, Preferred, Optional;

P – Version

Combinations Jupiter Series



Clamping Unit	1st IU	2nd IU (P-version)									Nozzle center distance
		P380	P570	P720	P1050	P1300	P1750	P2400	P3050	P4650	
JU7500M	1050	Optional	Optional	Optional	Optional						630
	1300	Optional	Optional	Optional	Optional	Optional					
	1750	Optional	Optional	Optional	Optional	Optional	Optional				
	2400	Optional	Preferred	Optional	Optional	Optional	Optional	Optional			
	3050	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional		
JU10800M	1300	Optional	Optional	Optional	Optional	Optional					710
	1750	Optional	Optional	Optional	Optional	Optional	Optional				
	2400	Optional	Optional	Preferred	Optional	Optional	Optional	Optional			
	3050	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional		
JU14000M	1750		Optional	Optional	Optional	Optional	Optional				710
	2400		Optional	Optional	Optional	Optional	Optional	Optional			
	3050		Optional	Optional	Preferred	Optional	Optional	Optional	Optional		
	4650		Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	
JU18500M	2400				Optional	Optional	Optional	Optional	Optional	Optional	710
	3050				Optional	Optional	Optional	Optional	Optional	Optional	
	4650				Optional	Optional	Preferred	Optional	Optional	Optional	

Note: the above injection combination, Preferred, Optional;

P-Version

Injection Parameters

1st and 2nd Injection Unit		50		80		160			280			380			570			720			1050			1300			1750			2400			3050			4650			6600		
		A	B	A	B	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C			
Screw diameter	mm	19	22	22	26	26	30	34	32	36	40	36	40	45	40	45	50	45	50	55	50	55	60	55	60	65	60	65	70	65	70	75	70	80	85	80	85	90	90	100	110
Calculated injection volume	cm ³	21	36	38	53	66	88	113	122	155	191	173	214	270	251	318	393	334	412	499	471	570	679	618	735	863	792	929	1078	1068	1239	1423	1424	1860	2100	2212	2497	2799	2990	3691	4467
Injection capacity (ps)	g	19	33	35	48	60	80	103	111	141	174	157	195	246	228	289	358	304	375	454	429	519	618	562	669	785	721	845	981	972	1127	1295	1296	1693	1911	2013	2272	2547	2721	3359	4065
Injection speed rate (ps)	g/s	48	65	49	68	47	63	81	76	97	119	94	116	147	114	144	178	143	176	213	163	197	234	232	276	324	267	313	363	259	300	344	339	442	500	438	494	554	553	683	826
Plasticization capacity (ps)	g/s	2,5	3,6	3,6	6,4	6,1	8,3	11,2	10,1	13,3	16,1	14,9	18,2	24,1	17,8	23,7	29,7	21,4	27	33,1	29	35,6	42,1	38,7	45,8	51	51,1	56,7	64,4	46,7	53,6	60,8	56,8	74,8	82,3	65,8	72,7	82,8	72,8	89,2	106
Injecton pressure	MPa	234	175	232	166	240	180	140	236	187	151	222	180	142	228	180	146	222	180	149	231	191	161	214	180	153	222	189	163	229	198	172	216	165	146	211	187	167	222	180	149
Screw speed	rpm	300		300		240			240			240			220			180			185			215			225			180			175			150			130		
Motor power	kW	11		11		11			13			15			18,5			22			30			37			45			45			55			45+22			55+37		
Heater power	kW	4,3	4,2	4,9	6,8	6,9			10,5			12,4			12,4			16,3			22			25,5			33			32			37			48			70,6		

NOTE:

1. The table is the parameters of standard power;
2. When combined with clamping unit, the power may increase, so the Injection speed rate、 the Plasticization capacity and the Screw speed will increase

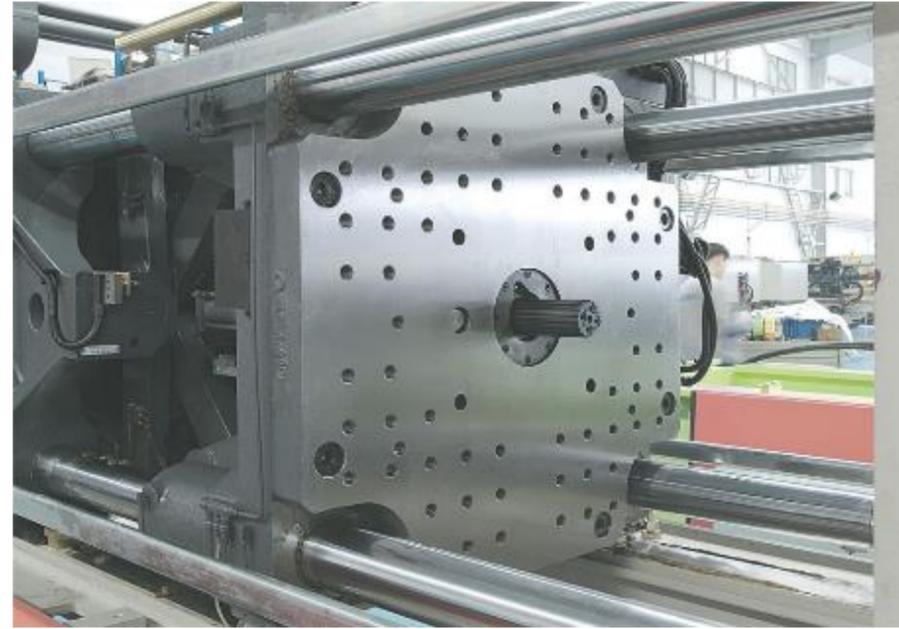
Turn Table Variations

Main Structures



Vertical Turntable

Hydraulic motor &
Servo motor



Rotating Shaft

Servo motor

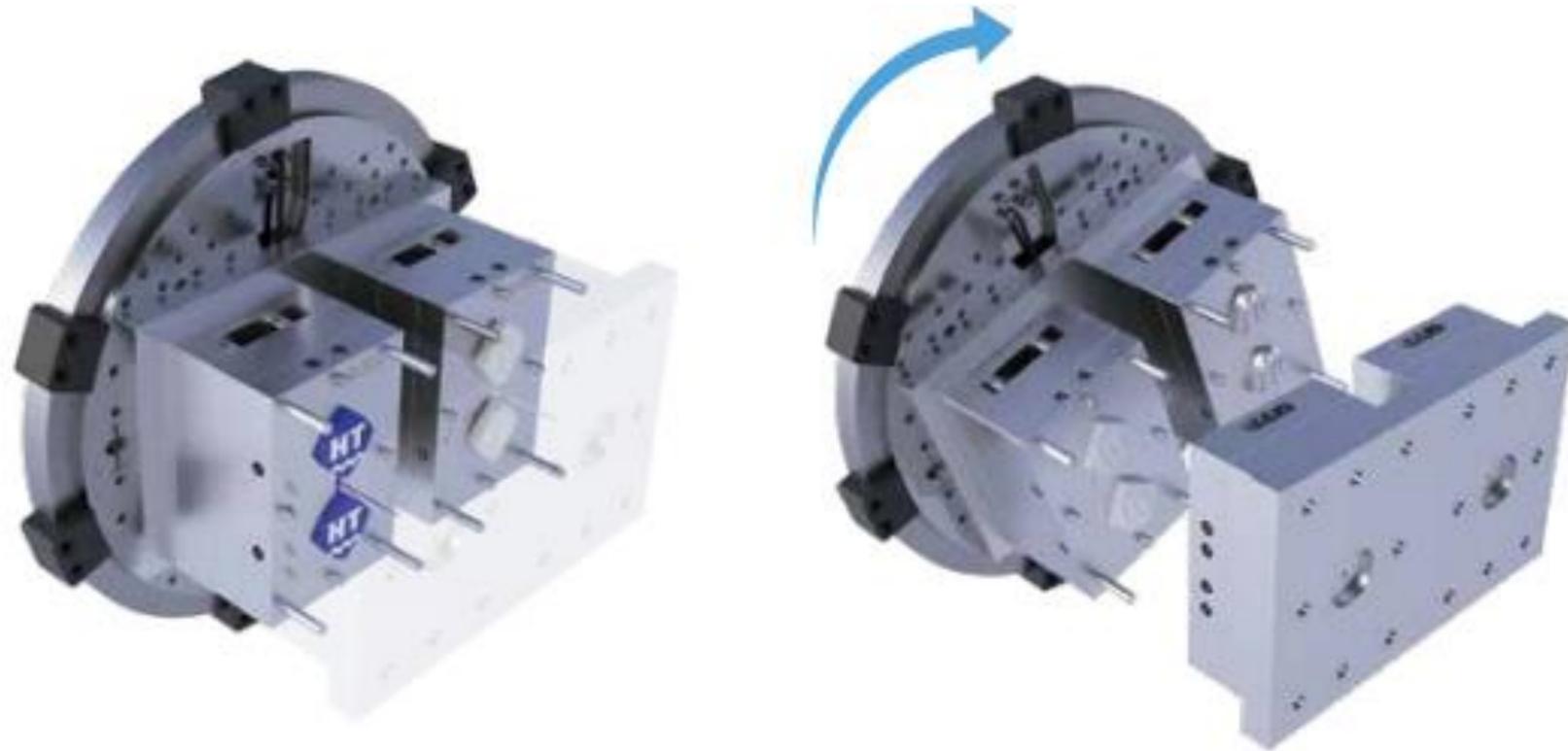


Horizontal Turntable

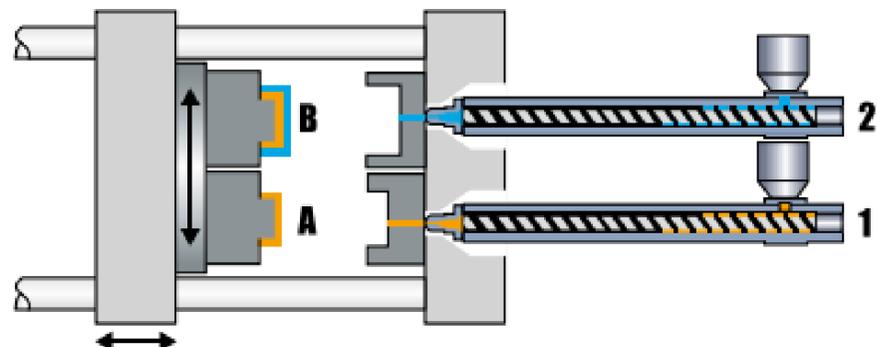
Hydraulic motor &
Servo motor

Vertical Turntable

Working Principle



- Injection unit 1 and 2 realize synchronous injection mode
- The product is ejected, the turntable rotates 180°, the mold is closed, and material A is finished
- At the same time, the injection of material B is also completed and the mold is opened.
- The turntable is always rotating 180° forward and reverse.



Vertical Turntable

Overview

Hydraulic



- Standard: Hydraulic Motor
- Optional: Servo Motor

Mars Series:

MA 1200WM - MA 5300WM

Injection Extensions:

- P -> P+L (3k)
- P -> P+V (3k)

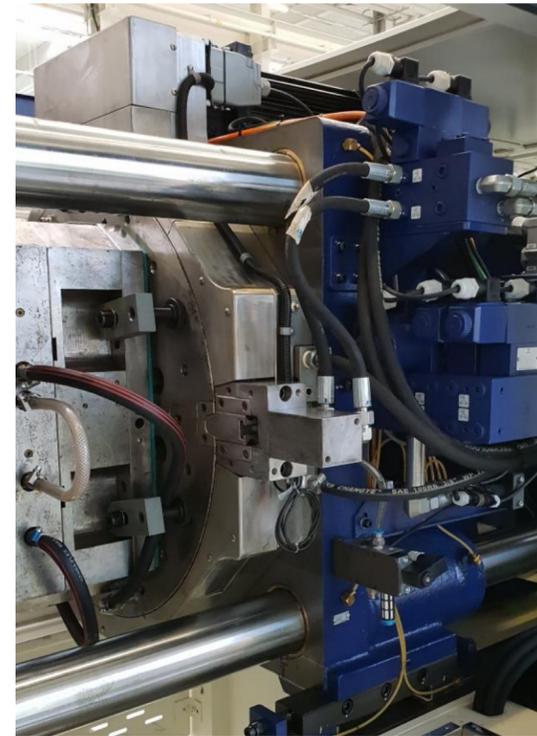
Jupiter Series:

JU 7500M - JU 18500M

Injection Extensions:

- P-> P+L (3k)
- P-> P+V (3k)
- P-> L (2k)
- P-> V (2k)
- P-> R (2k)

Electrical



- Standard: Servo Motor

Zeres Series:

ZE 1500WM - ZE 5500WM

Injection Extensions:

- P-> P+L (3k)
- P-> P+V (3k)

Jenius Series:

JE 7500M - JE 18500M

Injection Extensions:

- P-> P+L (3k)
- P-> P+V (3k)

Vertical Turntable

Customized Specification

Hydraulic



Mars Series:

MA 1600M - MA 5300M

Injection Extensions:

Single color -> L (bicolor)

Single color -> V (bicolor)

Single color -> V+L (tricolor)

Standard: Servo Motor



Customized servo motor

Electrical



Zeres Series

ZE 1500M - ZE 6500M

Injection Extensions:

Single color -> L (bicolor)

Single color -> V (bicolor)

Single color -> R (bicolor) 150-550T

Single color -> V+L (tricolor)

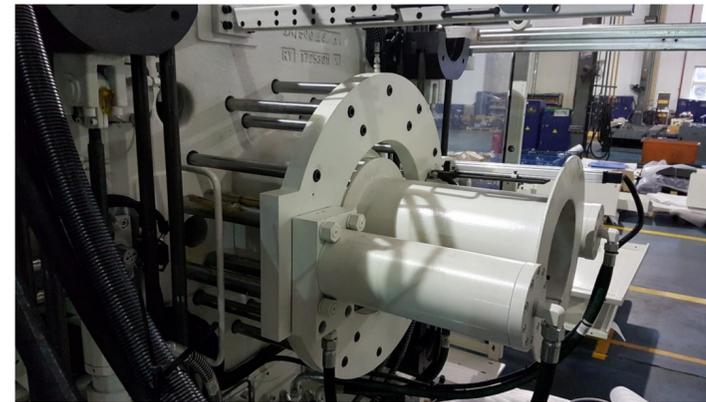
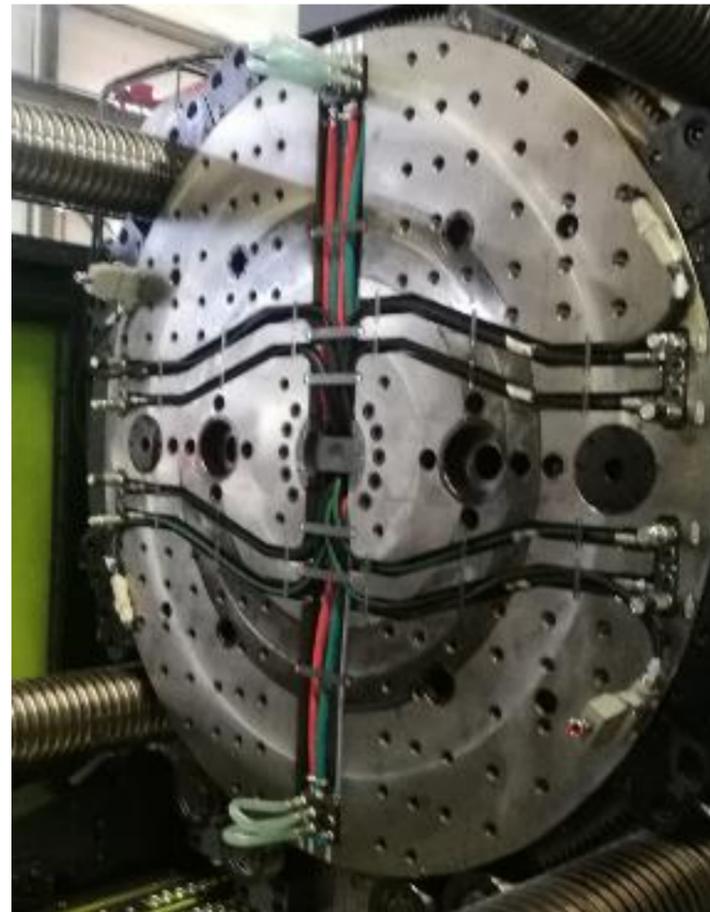
Single color -> V+R (tricolor) 150-550T

Single color -> L+R (tricolor) 150-550T

Standard: Servo Motor

Vertical Turntable

Hydraulic



Connection of water / oil

Standard:

- Top / Bottom

Customized:

- Left / Right
- Top / Bottom + Left / Right

Note:

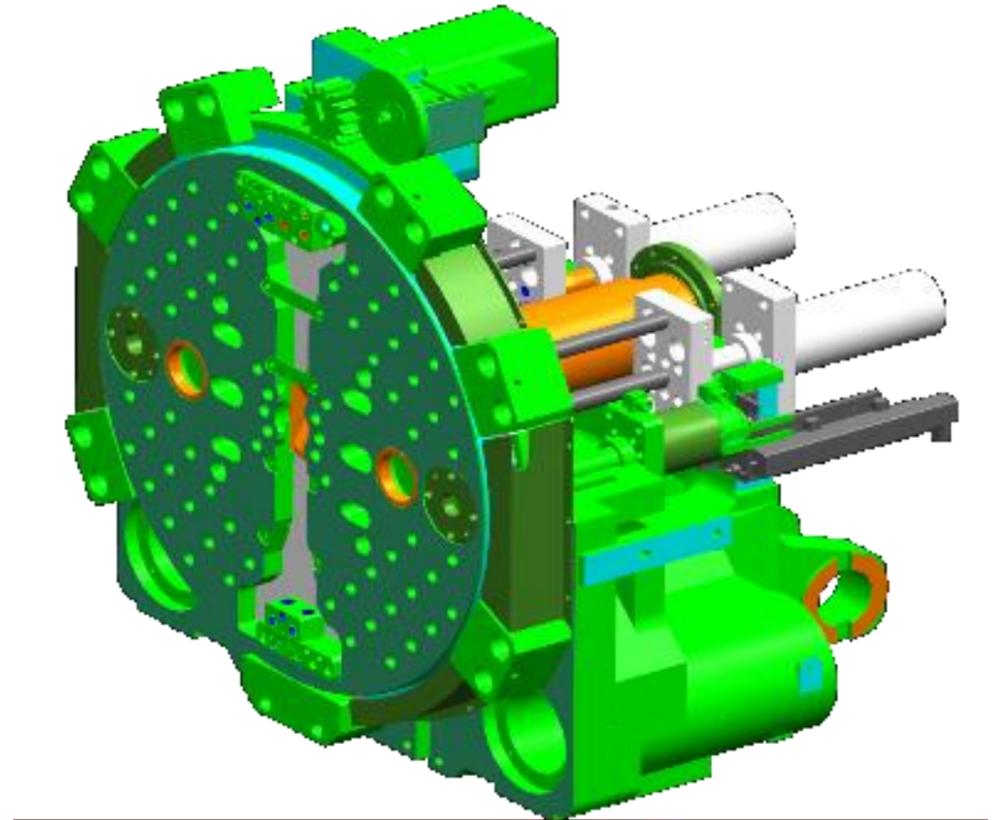
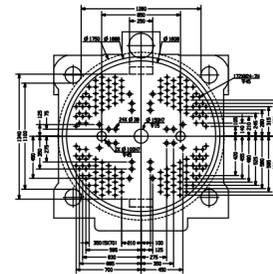
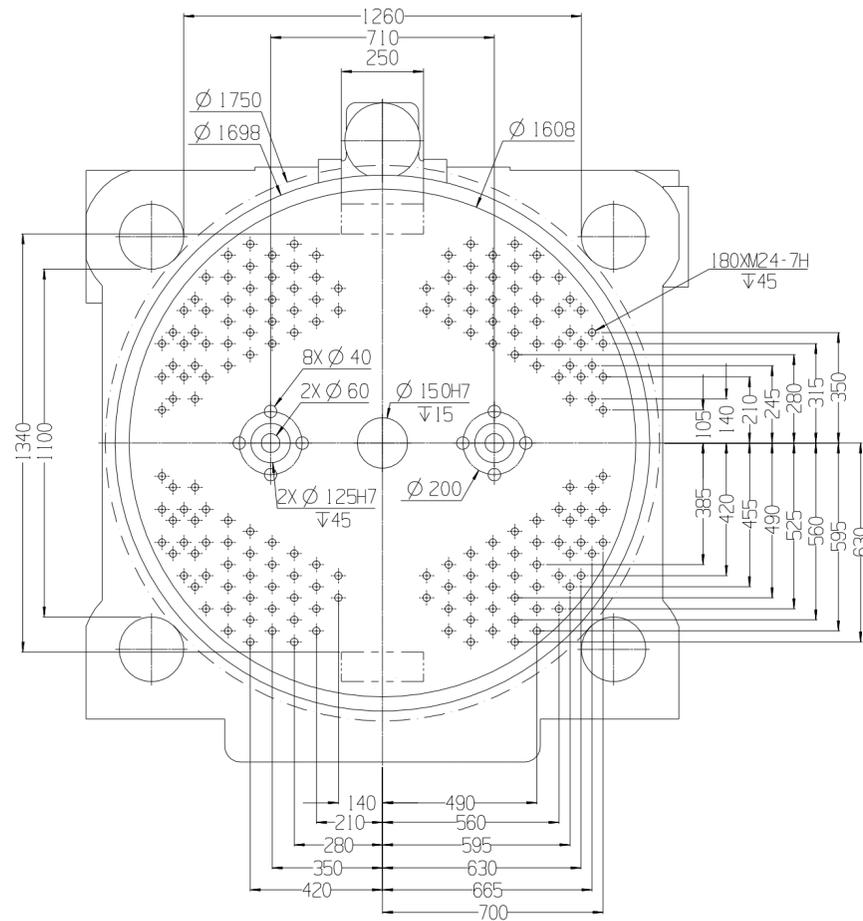
The special layout of water and hydraulic in turntable should be discuss in advance

Vertical Turntable Parameters - Hydraulical

Oil/Water for rotary table	Max. Channels in and out	Standard		Optional
MA1200WM	3	Water	1 set of 60°C resistant water pipe, inner diameter 13mm, turntable manifold block 1 out of 3, interface RC1/4, with 8-way diameter bamboo joint	10 diameter, 160°C resistant Teflon water pipe
		Core	N/A	6-pass high-pressure oil pipe, turntable manifold interface M14X1.5, with plug
MA1600WM	3	Water	Turntable manifold block 1 out of 4, (rest same as MA1200WM)	Same as MA1200WM
		Core	N/A	
MA2000WM	3	Water	Turntable manifold block 1 out of 4, (rest same as MA1200WM)	
		Core	N/A	
MA2500WM	3	Water	Turntable manifold block 1 out of 4, (rest same as MA1200WM)	
		Core	N/A	
MA3600WM	4	Water	Turntable manifold block 1 out of 4, (rest same as MA1200WM)	
		Core	N/A	
MA5300WM	5	Water	Standard with 2 groups, others with MA1200WM	
		Core	N/A	
JU7500M	6	Water	4 groups of 100°C resistant water pipes, inner diameter 13mm, turntable manifold block 1 out of 2, interface RC8/3, with 12-way diameter gas connector	10 diameter, 160°C resistant Teflon water pipe
		Core	2 sets of 10-way high-pressure tubing, manifold interface M14X1.5, with plug	/
JU10800M	7	Water	Same as JU7500M	
		Core		
JU14000M	8	Water		
		Core		
JU18500M	8	Water		
		Core		

Vertical Turntable Hydraulic

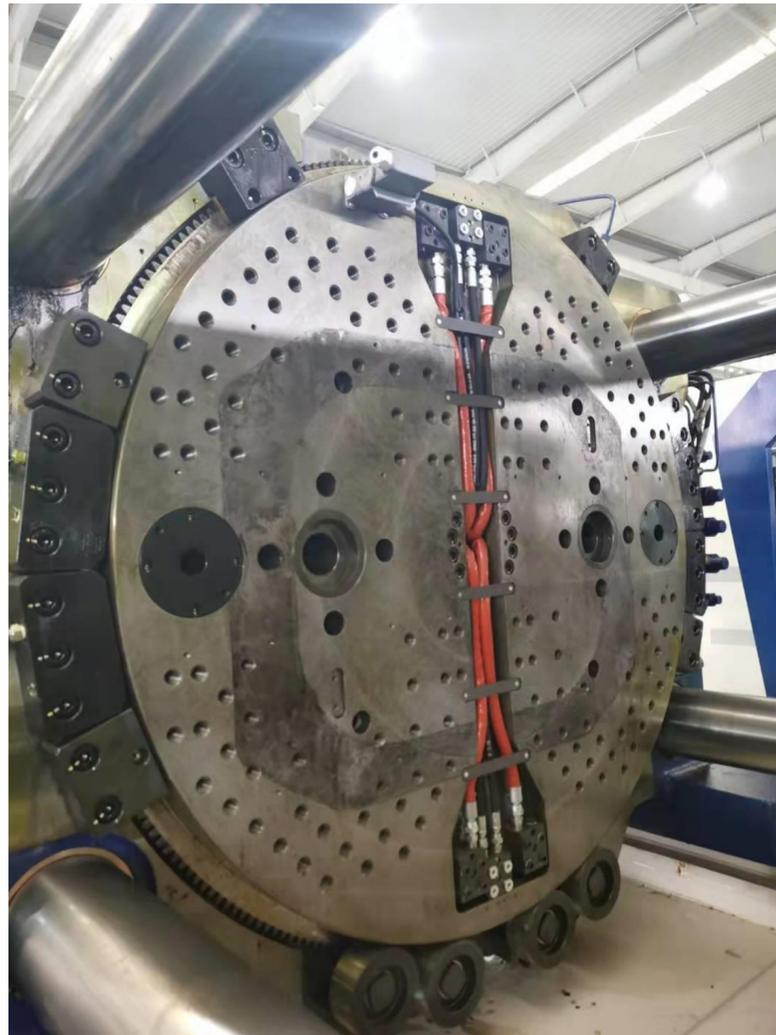
How we can have single ejector? Shouldn't all be double ejector only?



Special ejector hole arrangement, **single ejector** (optional) and **double ejector**, especially for Europe

Vertical Turntable

Electrical



Connection of water / oil

Standard:

- Top / Bottom

Customized:

- Left / Right
- Top / Bottom + Left / Right

Note:

The special layout of water and hydraulic in turntable should be discuss in advance

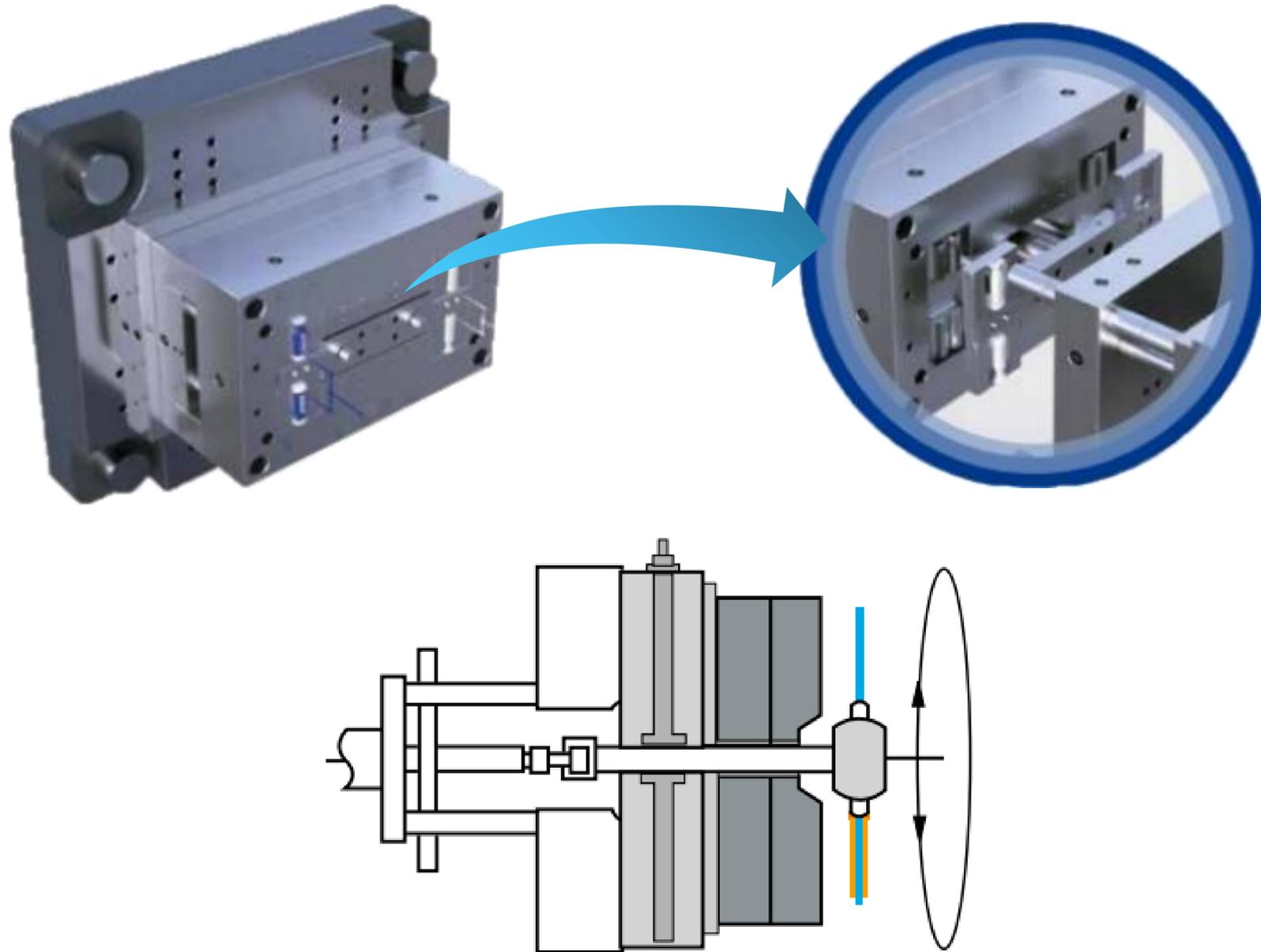
Vertical Turntable

Parameters - Electrical

Model	Max. Channels in / out	Version	Standard	Optional
ZE1500WM	2	Water	1 group of 60°C resistant water pipe, inner diameter 13mm, turntable manifold block 1 out of 4, interface RC1/4, with plug	3/8 diameter, 160°C Teflon water pipe
		Core	N/A	6-pass high-pressure oil pipe, turntable manifold interface M14X1.5, with plug
ZE2300WM	2	Water	same as ZE1500WM	same as ZE1500WM
		Core	N/A	
ZE2800WM	2	Water	same as ZE1500WM	
		Core	N/A	
ZE3600WM	3	Water	same as ZE1500WM	
		Core	N/A	
ZE5500WM	4	Water	same as ZE1500WM	
		Core	N/A	

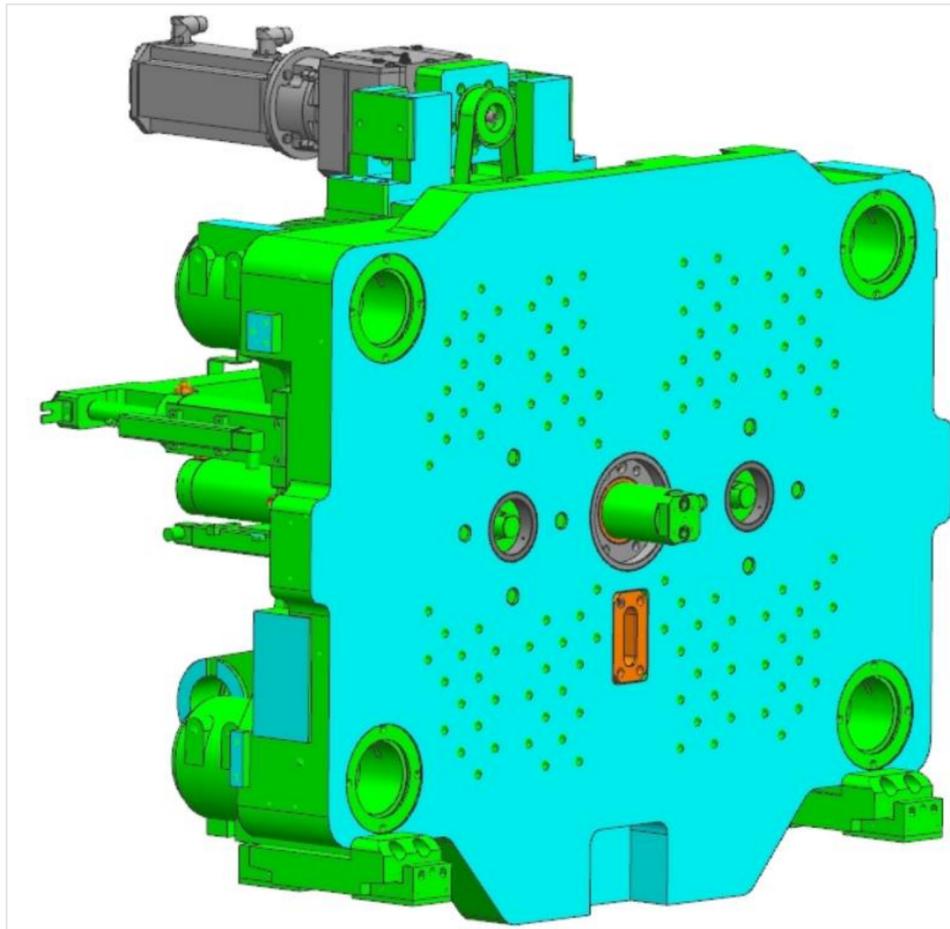
Rotating Shaft

Working Principle



- Injection unit 1 and 2 realize the synchronous injection method
- after finishing the injection and ejecting the the product, the rotating shaft rotates 180° , and the station is converted to the finished mold cavity after
- After the mold is closed, while material A finishes injection, material B also finishes injection, and the mold is opened.
- The mold is opened, and the rotating axis (core + workpiece) turns 180° forward and backward to complete the whole production process.

Rotating Shaft Hydraulic Standard



Standard: Servo Motor

Mars Series:
MA 1200WM - MA 5300WM*

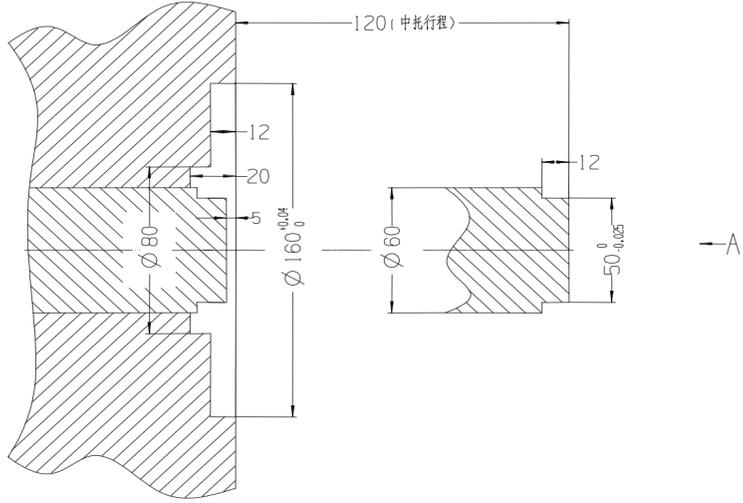
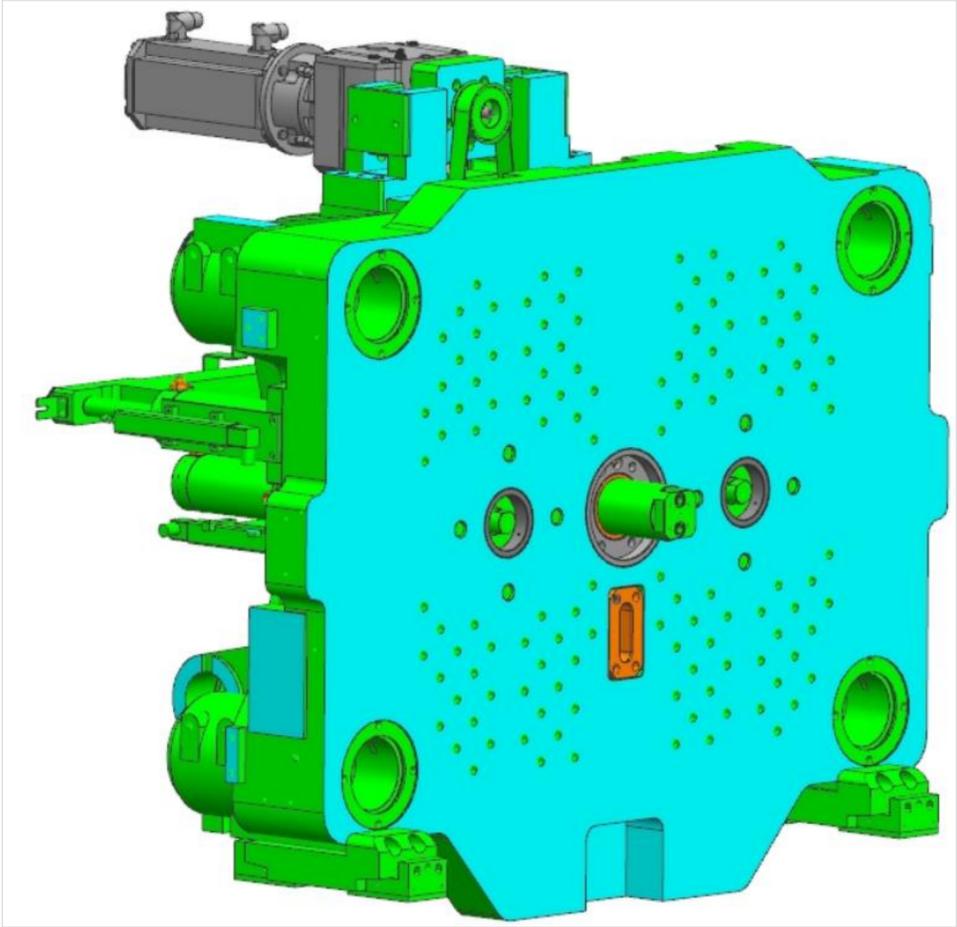
Injection Extensions:

P-> P+L (tricolor)

P-> P+V (tricolor)

*Range to be extended soon

Rotating Shaft Hydraulic



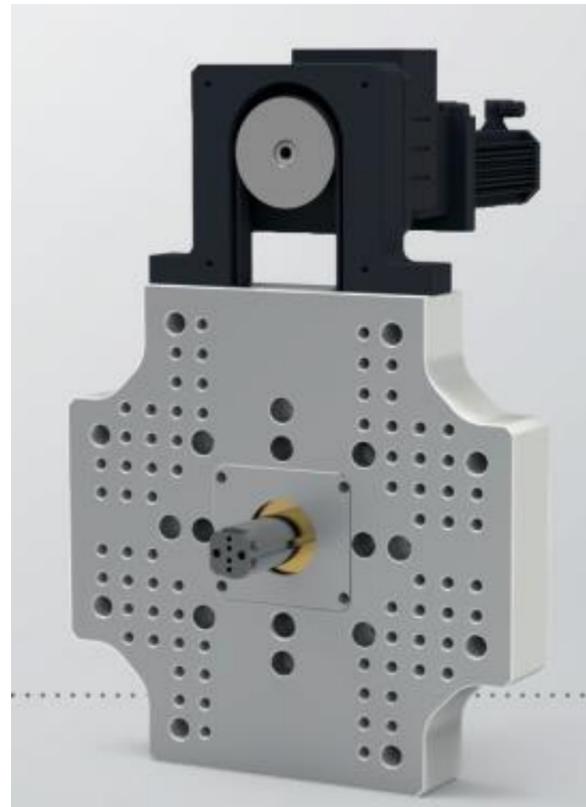
Rotating Shaft

Customized

Hydraulic 

Mars Series:
MA 1600M - MA 5300M
Injection Extensions:
Single color -> L (bicolor)
Single color -> V (bicolor)
Single color -> V+L (tricolor)

Standard: Servo Motor



Electrical 

Zeres Series
ZE 1500M - ZE 6500M
Injection Extensions:
Single color -> L (bicolor)
Single color -> V (bicolor)
Single color -> R (bicolor) 150-550T
Single color -> V+L (tricolor)
Single color -> V+R (tricolor) 150-550T
Single color -> L+R (tricolor) 150-550T

Standard: Servo Motor