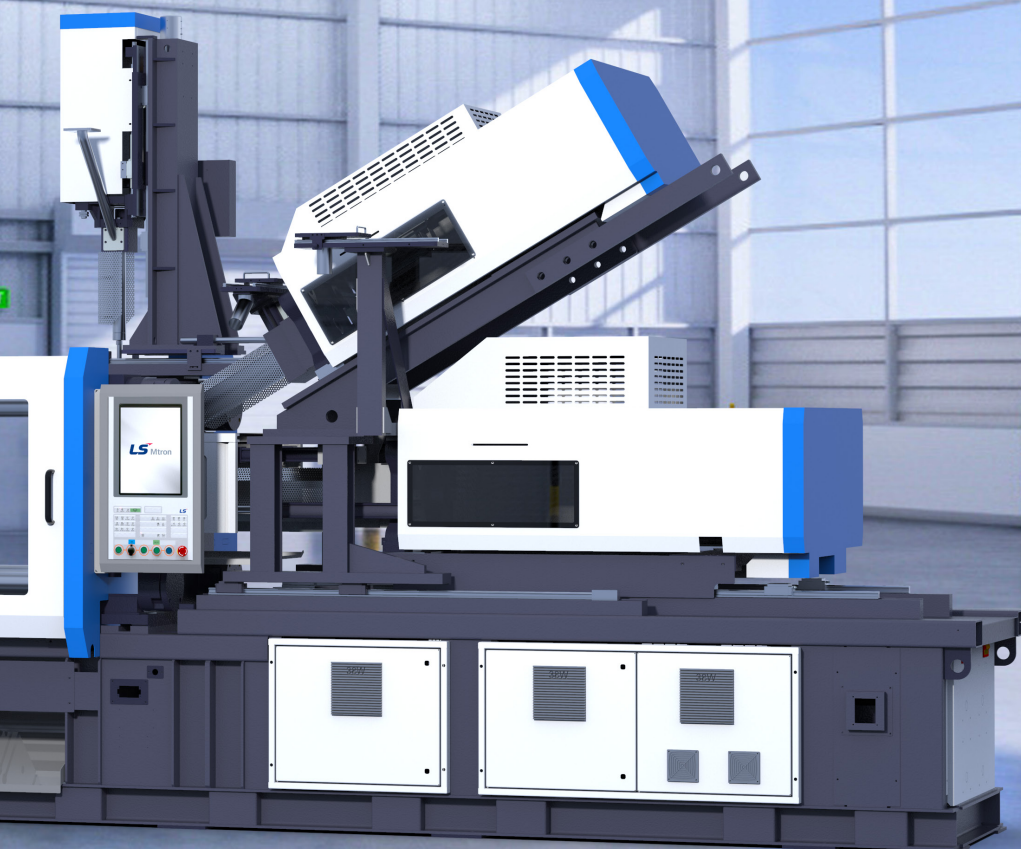




Mtron

Multi-component

- WIZ-EC
- WIZ-ED
- WIZ-EV
- WIZ-ERP
- WIZ-EL

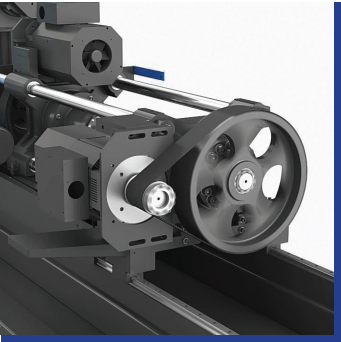


WIZ-EC1 Series



KEBA Controller

User Sequence changed: easy maintenance & flexible for user demand



Applying Servo motor

Realizing faster mold rotating time & more precise position control

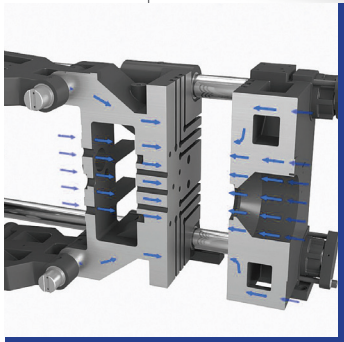
Simultaneous action by separate control of servo motor

- Reduced cycle time : Mold open during charging, mold rotation during mold open, injection during pressurization
- Injection speed 300mm/s: Strong & quick response
- Applying AC servo motor to realize high injection speed



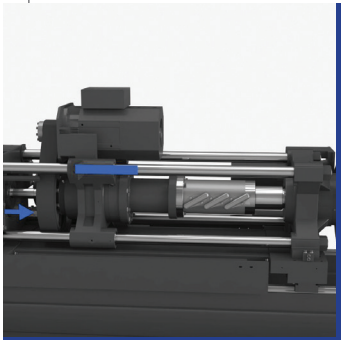
High stiffness center press type moving platen

Minimizing platen deflection



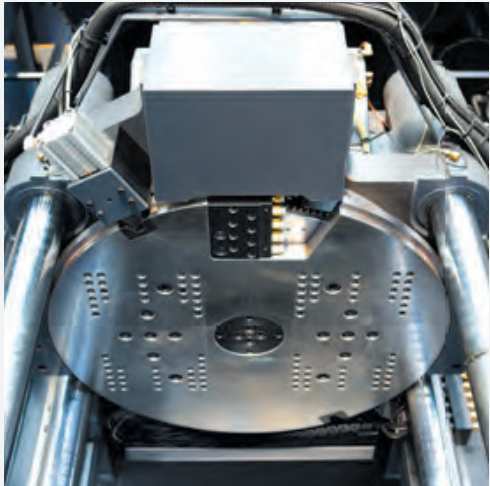
Increased injection volume

13~27% increase compared to previous model



Structure & Feature

- Developed first Two color/Dissimilar material electric machine in KOREA.
- Adopting AC Servo motor realizes faster mold rotating time & more precise position control
 - Improving high speed mold rotating time within 0.9sec in 150ton machine.
 - Improving high speed mold rotating time within 1.20sec in 250ton machine.
 - Improving high speed mold rotating time within 1.80sec in 400ton machine.
- Enable High speed injection(300mm/sec) compared to Hydraulic two color/dissimilar material machine.
- Applying high intensity clamping unit by optimized design through CAE analysis. Applying Center press type for precise molding.
- Enable using variable size mold by longest tie bar distance and longest adjusting distance of mold in Korea.
 - Index UNIT size ø805(150ton)
 - Index UNIT size ø1100(250ton)
 - Index UNIT size ø1320(400ton)



Pneumatic Stopper

- Easy replacement of stopper
- Tapper type(Easy to revise correct position)

External distributor

- Easy replacement of distributor and additional installation of cooling port
- Simple rotating plate(Removing internal cooling line in rotating plate)

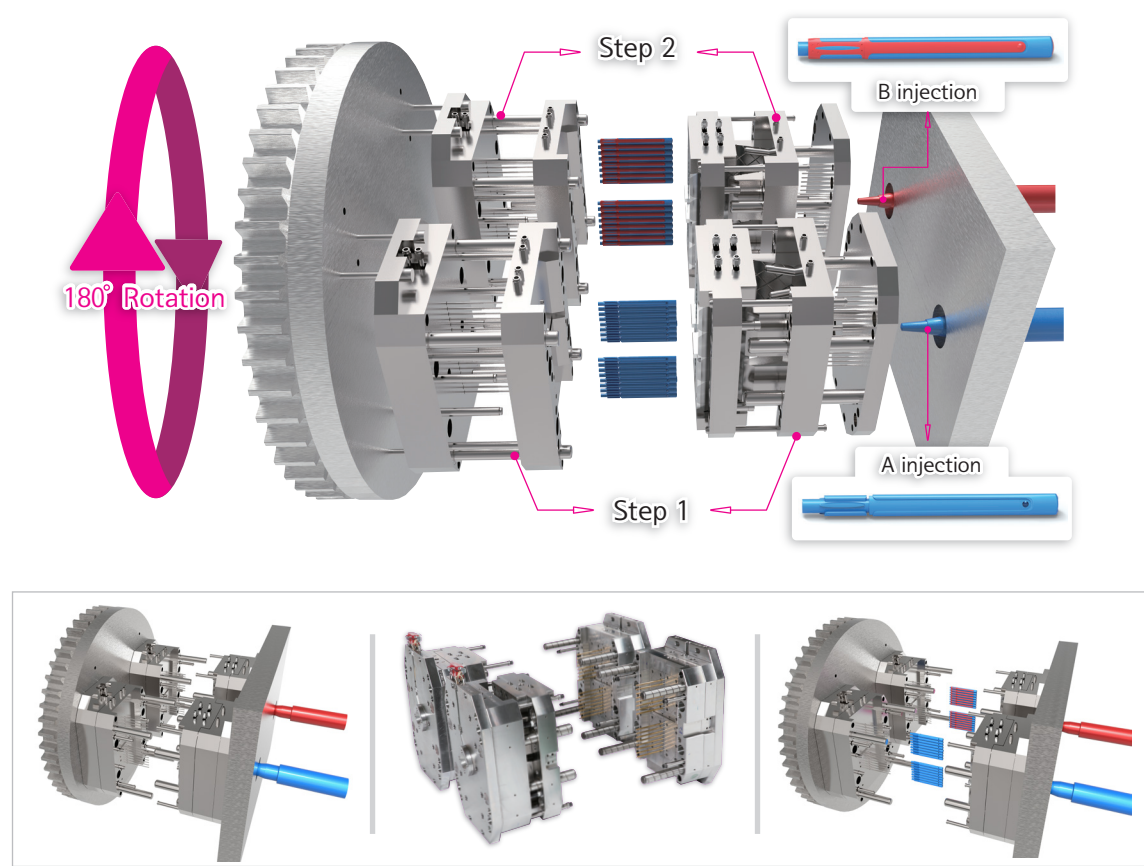
Platen size

- Largest Rotating plate dimension in same range (ø805, ø1100, ø1320)
- Possible to install the one-piece mold and two separated molds by applying an external distributor

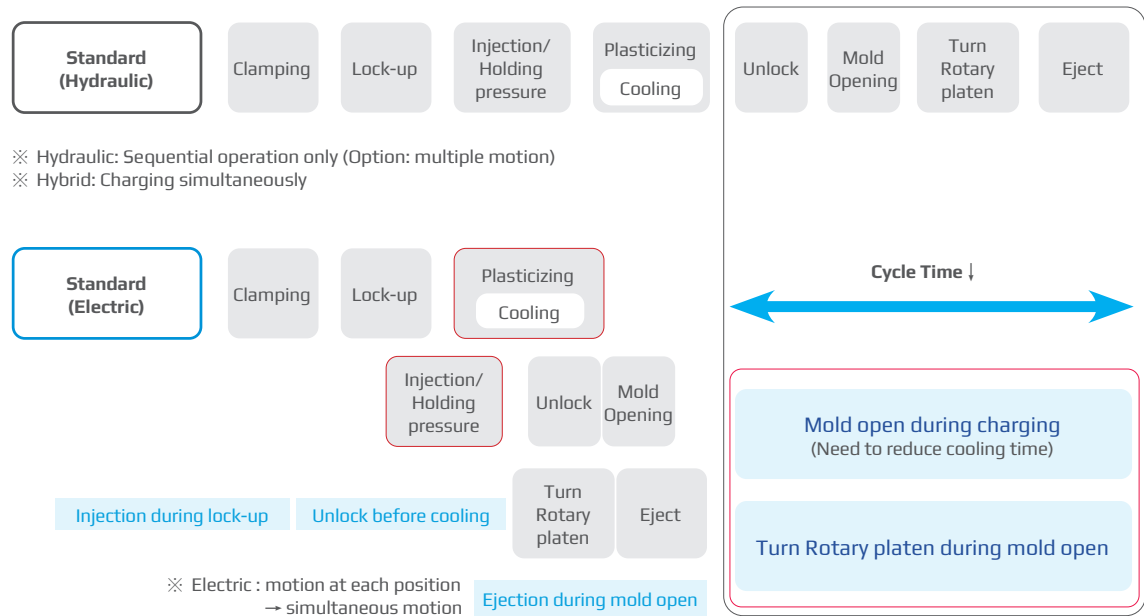
Hydraulic and Electric Comparison

		Hydraulic		Electric
Classification		General Hydraulic	Hybrid	Electric
Driving Method classification	Driving Source	Induction motor + Hydraulic pump	Servo motor + Hydraulic pump	Servo Motor
	Driving Method	Central supply(Hydraulic)		Multi-axis
	Drive-line	Oil(Hydraulic)		Timing belt + Pulley
	Driving part	Hydraulic Cylinder		Ball Screw
	Pressure Sensor type	Hydraulic		Load cell
Performance	Injection Speed	50~150mm/s		0~500mm/s
	Position Control	0.5mm		0.01mm
	Simultaneous Motion	No		Standard
	Noise	90dB		70dB
	Power consumption	100%	70~80%	30~40%
Product		Wide use		Wide use ~ High-Cycle, High-Precision

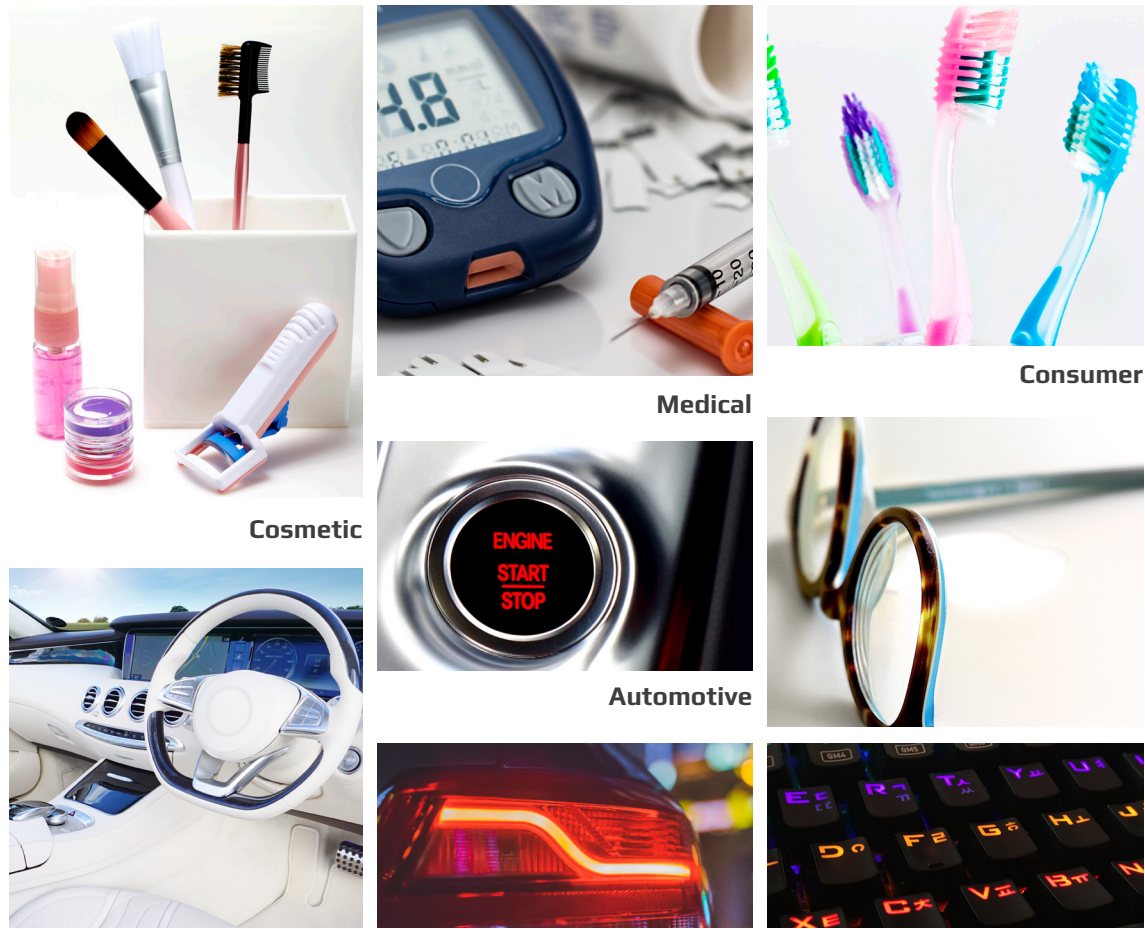
■ Process



■ Reduction of cycle time



■ Injection molded parts



■ Clamping and Injection unit matrix

A wide range of injection specifications can be selected according to injection

	Injection unit	Injection speed (mm/s)	Screw diameter (mm)		
			20	22	25
WIZ150EC	i0.6 (30 Ton)	300/500	20	22	25
	i1.2 (50 Ton)	200/300/500	22	25	28
	i1.7 (80 Ton)	200/300/500	25	28	32
WIZ250EC	I2.4 (110 Ton)	200/300/500	28	32	36
	I3.6 (170 Ton)	150/200/500	32	36	40
WIZ400EC	i5.8 (220 Ton)	150/200/300	36	40	45
	i8.6 (280 Ton)	150/200/300	40	45	50
	i6.7 (350 Ton)	150/300	50	55	60



Major Specification

INJECTION UNIT

Model			WIZ 150EC						WIZ 250EC						WIZ 400EC					
Injection Unit Code			1st Injection Unit (80T)			2nd Injection Unit (80T)			1st Injection Unit (150T)			2nd Injection Unit (150T)			1st Injection Unit (280T)			2nd Injection Unit (280T)		
Screw Type			Y	A	B	Y	A	B	Y	A	B	Y	A	B	Y	A	B	Y	A	B
Screw Diameter		mm	25	28	32	25	28	32	32	36	40	32	36	40	40	45	50	40	45	50
Injection Capacity Calculated		cm³	59	74	97	59	74	97	129	163	201	129	163	201	302	382	471	302	382	471
Injection Capacity	PS	g	54	68	89	54	68	89	119	150	185	119	150	185	277	351	434	277	351	434
	PE	g	43	54	71	43	54	71	94	119	147	94	119	147	220	279	344	220	279	344
Standard	Max. Injection Pressure	Mpa	246	196	150	246	196	150	242	191	155	242	191	155	275	221	181	275	221	181
		kgf/cm²	2,510	2,000	1,530	2,510	2,000	1,530	2,470	1,950	1,580	2,470	1,950	1,580	2,800	2,250	1,850	2,800	2,250	1,850
	Max. Holding Pressure	Mpa	222	177	135	222	177	135	218	172	139	218	172	139	247	199	163	247	199	163
		kgf/cm²	2,259	1,800	1,377	2,259	1,800	1,377	2,223	1,755	1,422	2,223	1,755	1,422	2,520	2,025	1,665	2,520	2,025	1,665
	Injection Rate	cm³/S	98	123	161	98	123	161	121	153	188	121	153	188	188	239	295	188	239	295
	Injection Speed	mm/sec	200			200			150			150			150			150		
High Speed (Option)	Max. Injection Pressure	Mpa	246	196	150	246	196	150	242	191	155	242	191	155	275	221	181	275	221	181
		kgf/cm²	2,510	2,000	1,530	2,510	2,000	1,530	2,470	1,950	1,580	2,470	1,950	1,580	2,800	2,250	1,850	2,800	2,250	1,850
	Max. Holding Pressure	Mpa	222	177	135	222	177	135	218	172	140	218	172	140	247	199	163	247	199	163
		kgf/cm²	2,259	1,800	1,377	2,259	1,800	1,377	2,223	1,755	1,422	2,223	1,755	1,422	2,520	2,025	1,665	2,520	2,025	1,665
	Injection Rate	cm³/S	147	185	241	147	185	241	161	204	251	161	204	251	251	318	393	251	318	393
	Injection Speed	mm/sec	300			300			200			200			200			200		
Charging	Plasticizing Capacity(PS)	kg/h	36	47	59	36	47	59	52	74	99	52	74	99	71	93	135	71	93	135
	Screw Speed	rpm	~400			~400			~350			~350			~250			~250		

CLAMPING UNIT

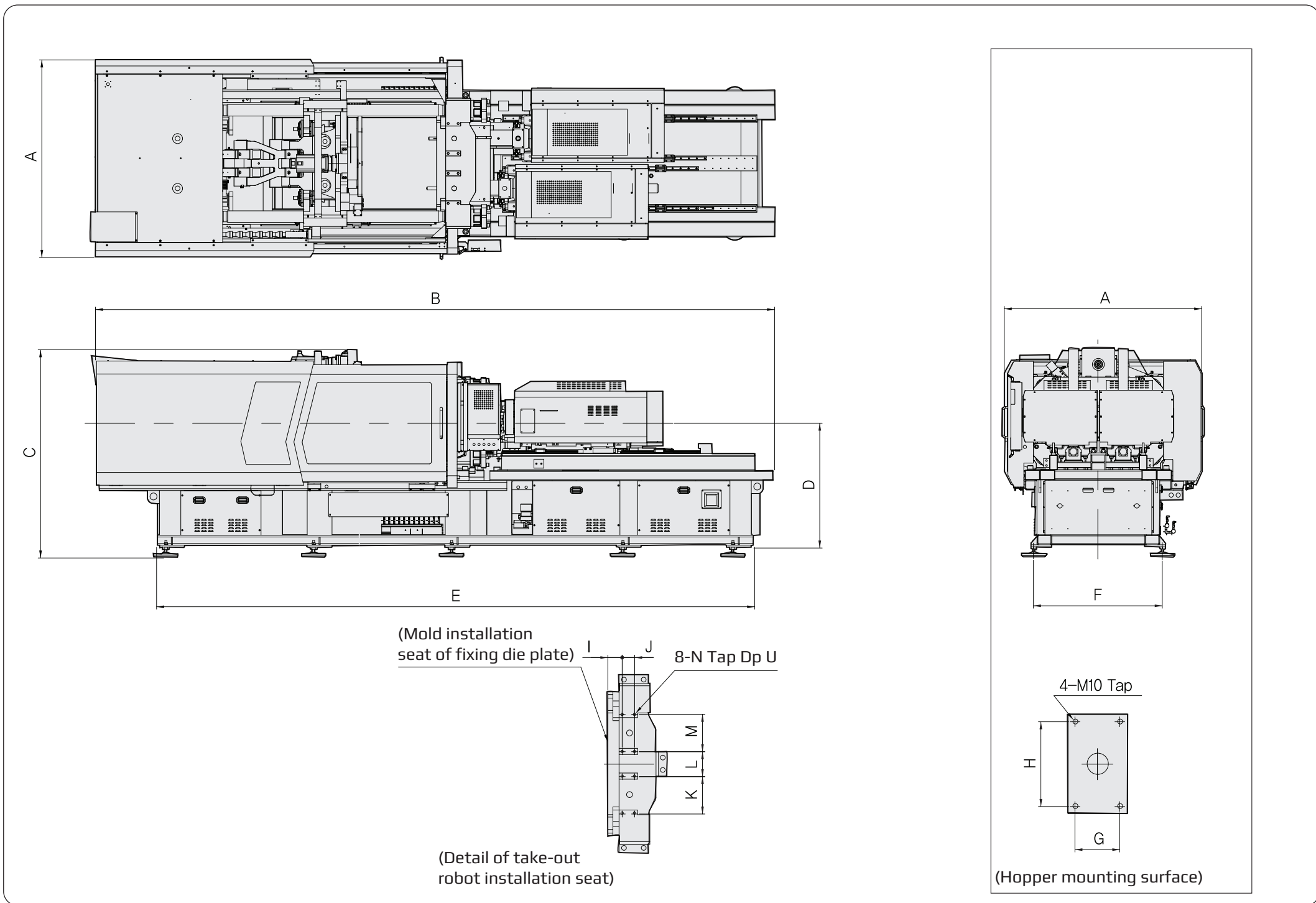
Clamping Force	ton(KN)	150	250	400
Tie Bar Distance : H x V	mm	700 x 410	950 x 560	1,110 x 670
Clamping Stroke	mm	400	550	620
Daylight	mm	950	1,200	1,320
Mold Thickness	mm	150 ~ 550	200 ~ 650	300 ~ 700
Ejector Force	ton	2.5	4.5	4.6
Ejector Stroke	mm	200	150	150
Ejector Rod Protrusion	mm	100	100	100
Rotary Table Diameter	mm	805	1,100	1,320
Rotary Table Positioning		0 °, 180° (2-station)	0 °, 180° (2-station)	0 °, 180° (2-station)
Max. Mold Size	mm	(250x450) 2EA	(400x630) 2EA	(500x700) 2EA
Max. Mold Weight on Moving Platen	kg	250 x 2EA	500 x 2EA	800 x 2EA

GENERAL

Heater	kw	8.4	10.1	12.8	8.4	10.1	12.8	12.8	14.6	14.3	12.8	14.6	14.3	14.3	16.2	17.5	14.3	16.2	17.5
Machine Dimension : L x W x H	m	5.71 x 1.7 x 2.0						6.8 x 1.98 x 2.1						7.4 x 2.3 x 2.5					
Machine Weight	ton	10.5						15						21					

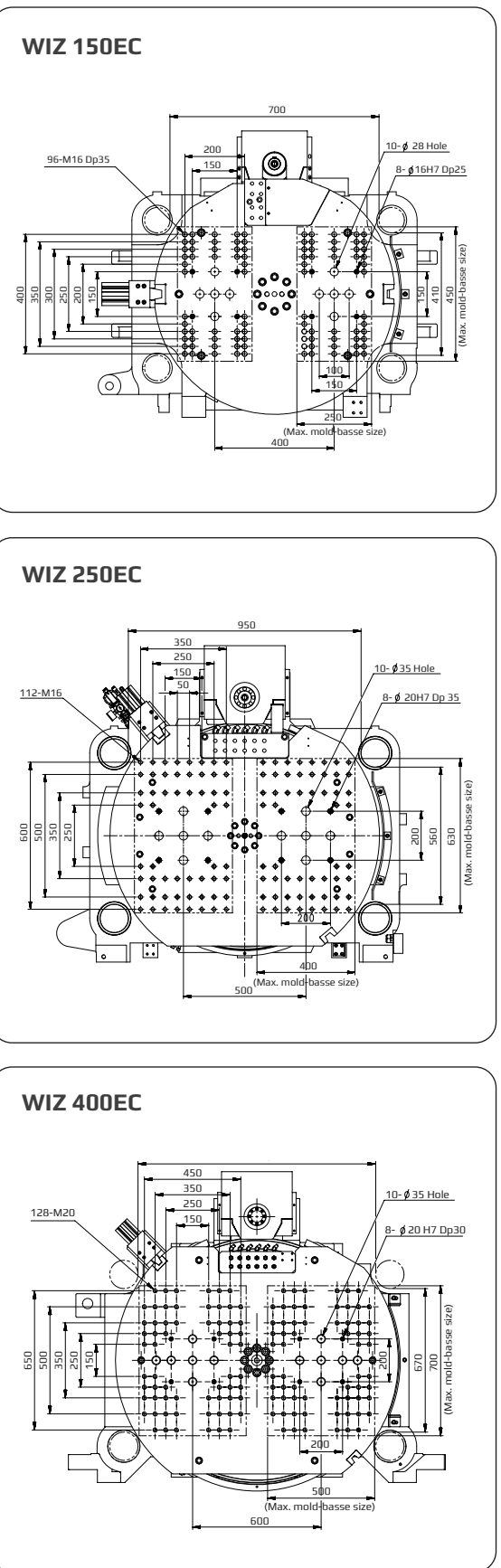
Note 1. Injection capacity calculated : Screw Area x Screw Stroke. 2. Actual injection capacity output may vary from calculated injection capacity. 3. Clamping system is double 5-point toggle structures.		4. The maximum injection and holding pressures are maximum pressure that can be set on the machine. Actual setting pressure will be restricted by molding condition and cycle time.		5. The maximum injection rate and speed are calculated values. Actual injection rate and speed will be restricted by an injection pressure. 6. The mold size should be bigger than 60% of the Tie-bar distance. (HxV) 7. Due to continuous improvements, specifications are subject		to change without notice.	
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External Form Drawing



Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	U
WIZ 150EC	1700	5700	2000	1250	5100	1050	90	170	60	100	200	200	200	M16	30
WIZ 250EC	1980	6800	2100	1250	6000	1292	90	170	115	100	300	200	300	M20	40
WIZ 400EC	2350	7400	2457	1425	6810	1790	90	170	35	140	270	80	270	M20	40

Moving Platen Drawing



Mixing various resins as I want?

MULTI-COMPONENT

A customized solution for customers who require special-purpose injection by precisely controlling two or more resins at the same time.

A solution that reduces cost, production time, and even lowers the defect rate by integrating free injection expression and post processing



Various multi shot series

Application

1. Multi-shot Simultaneous or sequential injection of two or more resins
2. Electric technologyApplication of LS drive and motors that can more precisely control different injection amounts and speeds through digital control
3. Rotation technology Conveyance in axial or vertical rotation using rotational technology on machines or molds
4. Various combinationsStandard electric injection molding machines can be modified and combined according to customer needs, providing customized solutions to customers who require special purpose injection molding.

Features

1. Customized molding Various types of injection are possible depending on the shape of the customer's product
2. Electric technologyApplication of LS drive and motors that can more precisely control different injection amounts and speeds through digital control
3. High-quality molded productsReduction of defects in loading/unloading and transportation by shortening post
4. Reduce assembly processCompared to the previous process, additional manpower and facilities are reduced.
5. Reduce production timeMaximize efficiency by reducing incidental production time through one-stop production

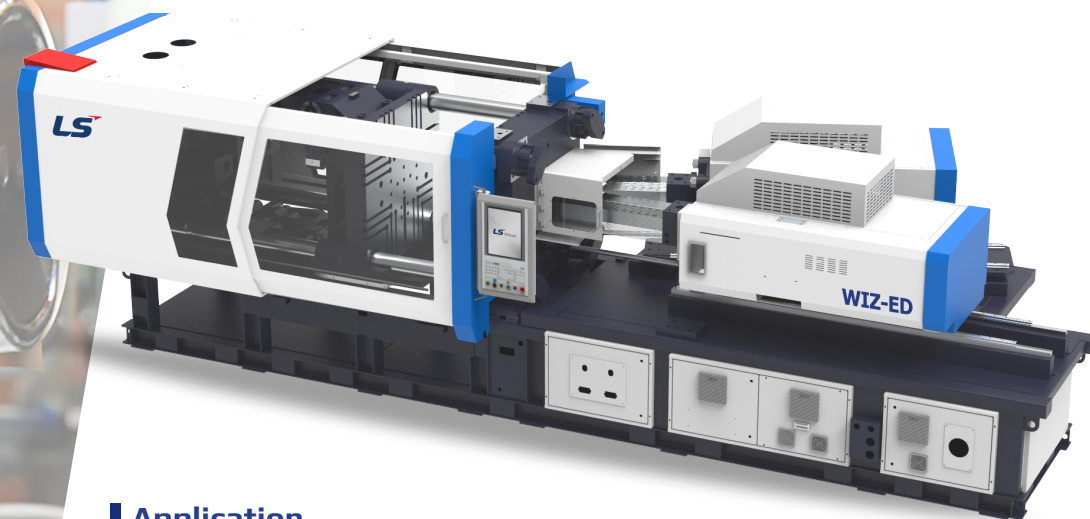
분류	position	P	W(side)	W(upper)	V	L
Minimize foot print		○	○	◎	◎	-
Minimum installation height		○	○	△	-	○
Ease of mold design		◎	○	○	○	○
Factory automation		○	○	○	-	○
Switch to single material injection		△	◎	○	○	○
Core Tum		-	○	○	○	○
Application model		WIZ-EC	WIZ-ED	WIZ-EPR	WIZ-EV	WIZ-EL

P : Parallel, W : piggyback(45°), V: Vertical, L: 90°

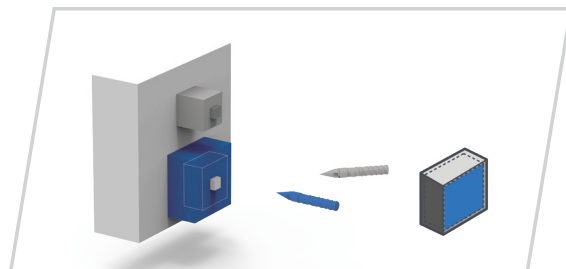
분류	DIV	Clamping force(ton)														
		80	110	170	220	280	350	400	450	550	650	850	900	1400	1600	1800
WIZ-EC	Electric			◎		◎		◎								
WIZ-ED	Electric	○	○	○	○	○	○	◎	○	○	◎	◎				
WIZ-EPR	Electric	○	○	○	◎	◎	○	◎	○	○	○	○				
WIZ-EV	Electric	○	○	◎	◎	◎	○	○	○	○	○	○				
WIZ-EL	Electric+: Hydraulic	○	◎	◎	◎	◎	○	◎	○	○	○	○				
WIZ-ETC**	Electric			○		○		◎								
WIZ-DC	Hydraulic								○	○	○	○	◎	◎	◎	◎

* Model options other than those indicated above can be negotiated separately with LS

WIZ-ED2



Application



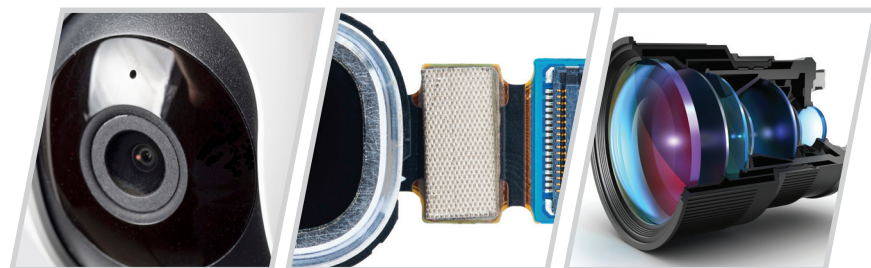
Injection for LENS

- Possible to mount a large specification screw on the 1st and 2nd injection unit
- Application of screw design for exclusive use of transparent resin
- Molding thick products requiring long holding pressure by applying servo motors (holding time of more than 300 seconds)
- Low injection speed precise control
- Cycle time reduction effect (double layered molding)
- Application of high rigidity center press platen

Features

- Possible to install 2nd injection device without restriction on injection amount
- Easy conversion to general injection (single material)
- Relatively efficient use of foot print

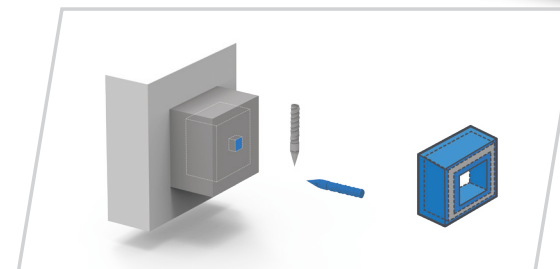
Industries



WIZ-EV3



Application



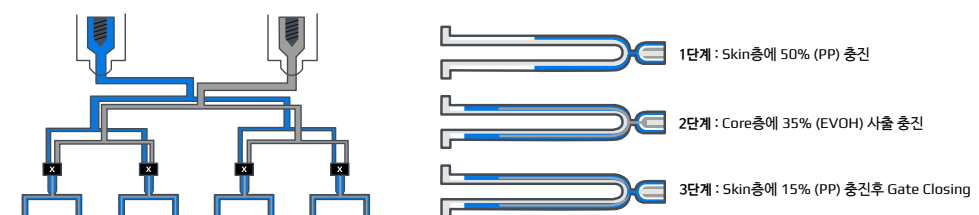
2component injection device vertical structure

Injection unit is mounted vertically on top of the fixed platen and occupies the same space as a standard machine

- Application of high cycle clamping unit for high speed
- Application of highly plasticized screws exclusively for packaging

Multi layer technology

Technology to improve vacuum by forming a barrier layer (EVOH) on the product surface through multi stage injection



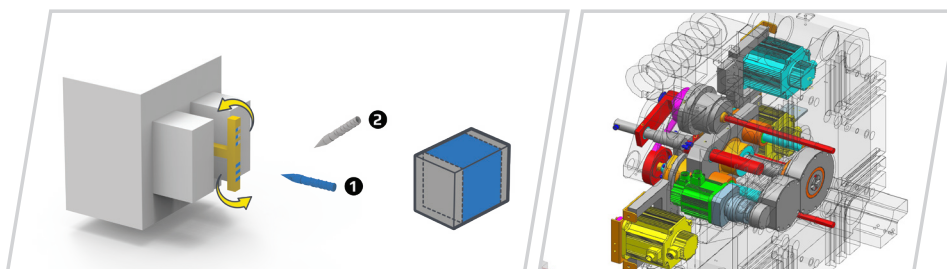
Industries



WIZ-EPR4



Application



Molding features

- As the distance between the two nozzles becomes narrower, the space between the four tie bars can be fully utilized, minimizing the mold size.
- Improved molding precision by individually controlling the two injection units
- European style double injection mold or standard mold can also be applied

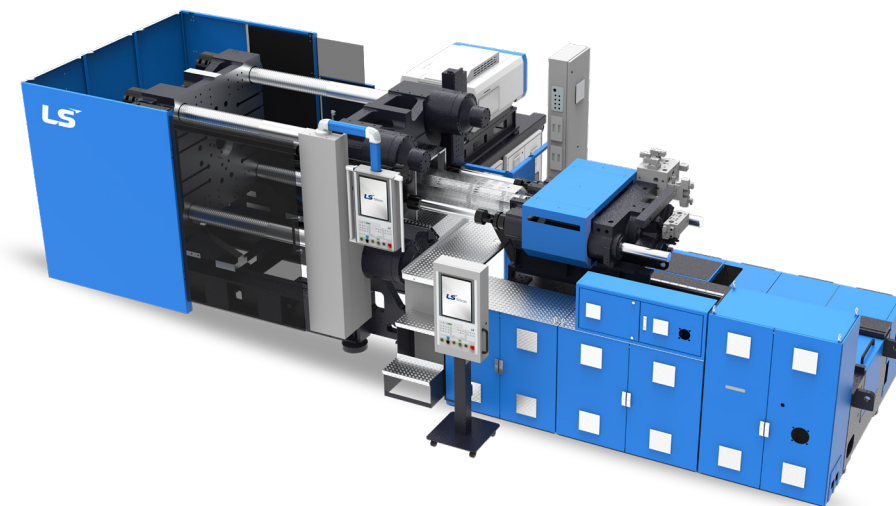
CoreTurn

- Injection molding machine applying core turn (index core)
- Individual/simultaneous operation by installing 4 servo motors on the moving platen side
- Simplify mold design and improve productivity
- Fast and accurate core rotation with servo precision control

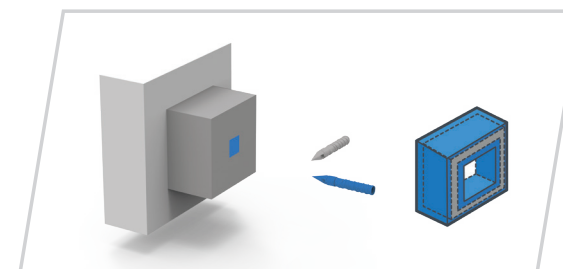
Industries



WIZ-EL5



Application



Machine Structure

- Additional injection device is located on the counter operating side (position can be changed depending on the mold structure)
- A structure in which two gates form a right angle in the mold (2 types)
- Injection unit : 1st hydraulic type + 2 nd electric type

CoreTurn

- The Easiest to install the 2nd injection unit
- Applicable to existing injection molding machines or other brand machine
- Possible to install up to 5 additional injection units

Industries





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LS injection molding machine

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