

FIVE POINT TWIN TOGGLE SERIES

NEWRA SERIES

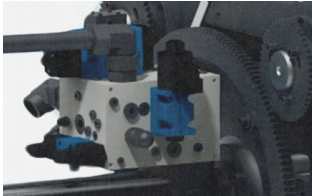
INJECTION MOULDING MACHINE

80 - 210 T



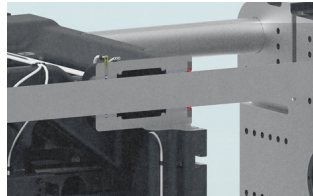
CLAMPING UNIT

CU Block directly on Cylinder



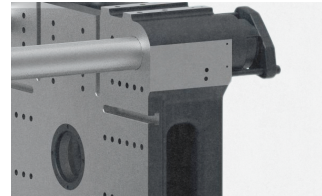
- * Faster response
- * Better controllability

Wiper Seal on Mould Side

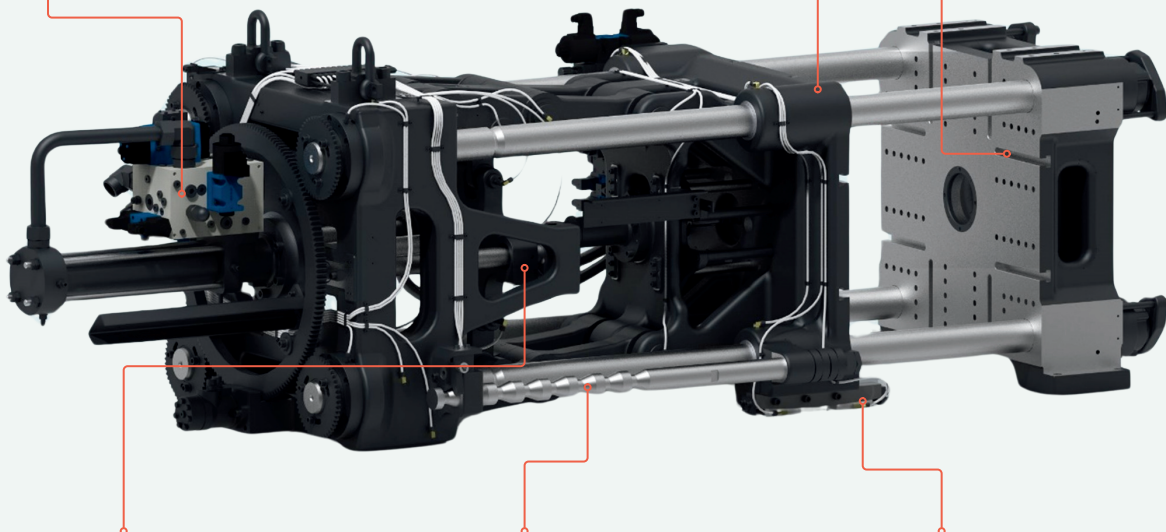


- * Ensures ejected parts are free from lubricant.
- * Maintains a clean and tidy appearance of the machine.

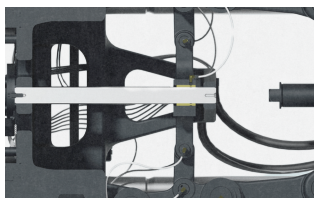
T-Slot on platens



- * Easy to install moulds
- * Increased life for prolonged usage

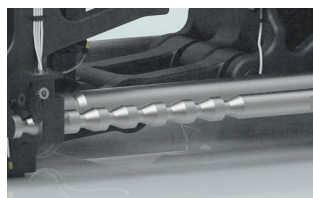


Straight Cross head



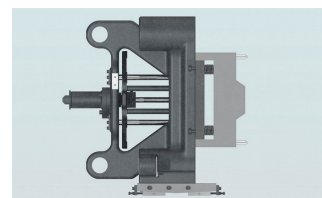
- * Load acting in line with bushes

Mechanical safety device



- * Enhanced safety
- * Simplifies layout by being placed between the moving and end platens

MP supported by skates



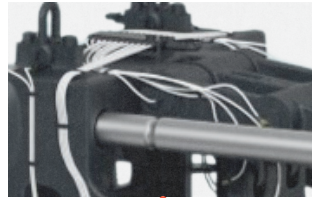
- * CG falls inside support
- * Bigger moulds can be loaded

TOUCH-FREE AUTOMATIC LUBRICATION FOR CLAMPING UNIT

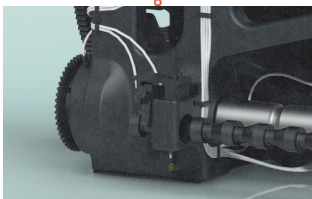
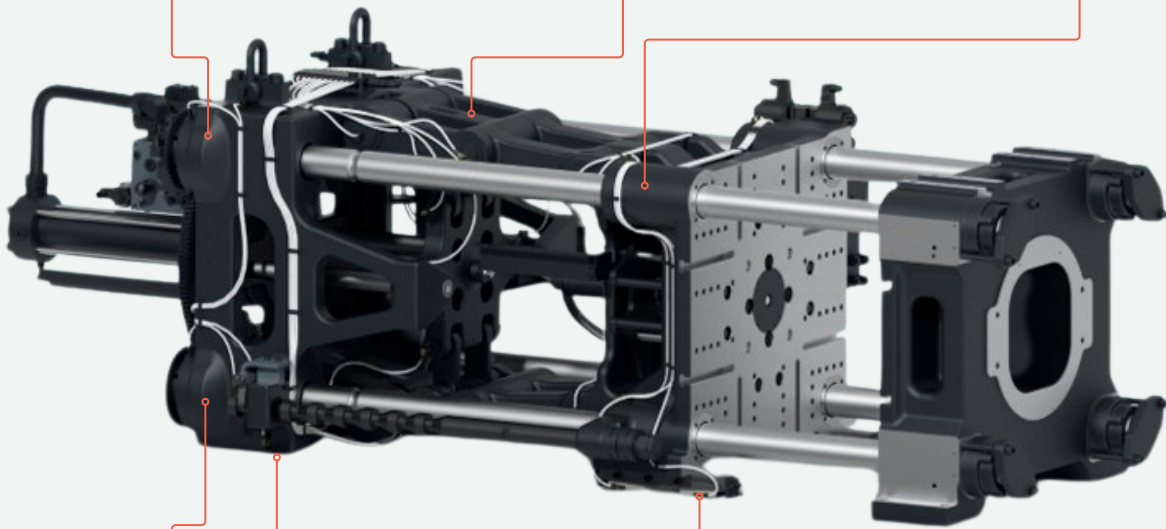
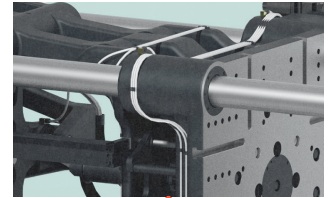
Tie-bar nut rings



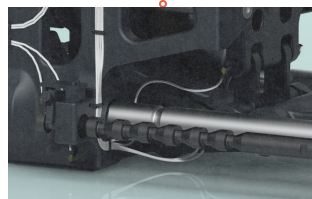
Toggle links



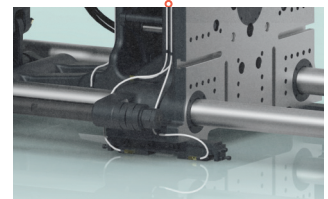
Moving platen Tie-bar bushes



End platen tiebar location



End platen sliding pads



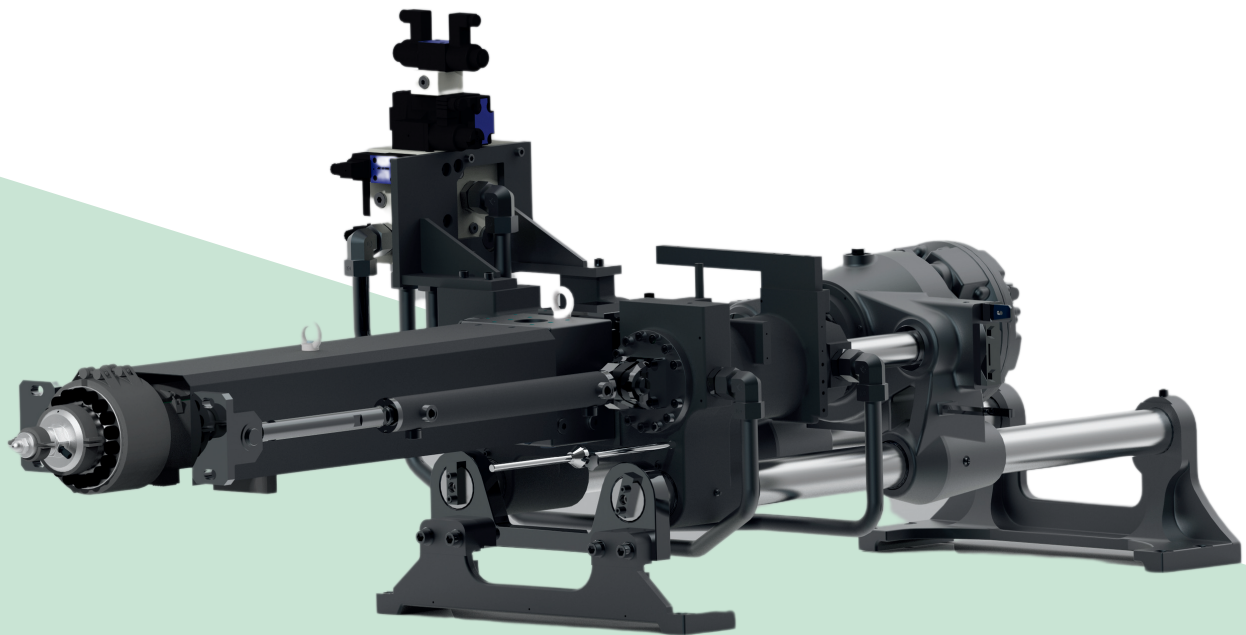
Moving platen skate wedges

Major Features of NEWRA

- Rectangular Tiebar Distance
- Enhanced tiebar strength with fine pitch thread design using alloy steel material
- End Platen on frictionless sliding pads
- Aesthetically improved base using extruded structures
- Reduced deflection on platens increases mould life
- Usage of EP0 grease ensures easy lubrication
- Return line filter with clog indicator
- Additional AVM pads to improve stability
- Reduced width improves nozzle accessibility
- Reduced footprint
- Cladding supports from base ensures constant machine length for all mold heights

INJECTION UNIT

Shibaura Machine NEWRA series comes with robust construction of injection unit with higher injection power suitable for multiple applications and also helps in the moulding of highly viscous resin. Modular concept in the selection of the injection unit offers a high degree of flexibility, for each clamping unit there is a choice of three different injection units and each injection unit is available with three alternative choices of screws.



Highlights of Injection Unit

- * Injection unit movement on anti-friction bushes
- * Well supported barrel assembly for easy alignment
- * Larger cooling water channels to minimize effect of scale formation
- * Hopper throat temperature control
- * Nozzle residual force for long life of mould sprue
- * Modular selection of injection unit
- * Latest control architecture with graphical monitoring, to produce precision parts to closest tolerances on dimensional stability and weight
- * Excellent melt homogeneity with low shear heat
- * Specially designed Sub flight DBG screw offers best processing condition
- * Uniformity in cavity end peak pressure
- * Minimum variation in the melt temperature
- * Wear-less high response screw tip
- * Ceramic heater band

C7 CONTROL



High performance controller - C7

Standard features

- ★ 12.1" Display
- ★ SMI I / O Modules
- ★ Integrated Motherboard
- ★ EtherCAT Communication Between Motherboard and I / O
- ★ SPI Communication Between HMI and PLC-CPU Boards
- ★ 72 Digital Inputs and 72 Digital Outputs with Short Circuit Protection
- ★ 8 Analog Inputs (0-10V) and 4 Analog Outputs (-10V to +10V)
- ★ 5 MODBUS ports (Dedicated one MODBUS Port for HRTC)

Optional features

- Upto 4 SSI Sensors interface
- Energy meter interface with RS485
- Auxiliary devices interface with RS485

CLAMPING UNIT

Model	Clamp Force	Distance between Tiebars (H x V)	Overall Size of Platens (H x V)	Mould opening stroke
	Ton	mm	mm	mm
NEWRA 80	80	400 x 360	580 x 540	340
NEWRA 100	100	435 x 400	615 x 580	380
NEWRA 120	120	465 x 425	655 x 615	410
NEWRA 150	150	510 x 470	720 x 680	440
NEWRA 180	180	545 x 505	760 x 720	465
NEWRA 210	210	570 x 530	780 x 740	510

INJECTION UNIT

IU	Screw Ø	mm	25	28	32	36	40	45	50	60	70
200	Injection Pressure	bar	2740	2184	1672						
	Cylinder Head Volume	cc	61	93	121						
310	Injection Pressure	bar			2421	1913	1550				
	Cylinder Head Volume	cc			121	178	220				
430	Injection Pressure	bar				2501	2026	1601			
	Cylinder Head Volume	cc				178	231	293			
600	Injection Pressure	bar					2448	1934	1567		
	Cylinder Head Volume	cc					231	323	399		
900	Injection Pressure	bar						2496	2022	1404	
	Cylinder Head Volume	cc						358	442	636	
1400	Injection Pressure	bar							2565	1780	1309
	Cylinder Head Volume	cc							530	820	1116

NEWRA 80		
Clamping Unit		80 / 400 x 360
Clamping Force	kN	800
Mould Opening Stroke	mm	340
Minimum Mould Height	mm	150
Maximum Mould Height	mm	380
Max.Daylight between Platens	mm	720
Overall Size of Platens (H x V)	mm	580 x 540
Distance between Tiebars (H x V)	mm	400 x 360
Total Mould carrying capacity	kg	710
Max.mould.wt.in moving platen	kg	470
Ejection Force	kN	49
Hydraulic Ejector stroke	mm	120
Min. mould dimensions (H x V)	mm	245 x 220

Injection Unit Size		200			310			430			
Screw Cylinder		A	B	C	A	B	C	A	B	C	
Screw Diameter	mm	25	28	32	32	36	40	36	40	45	
L/D Ratio		20	20	20	20	20	20	20	20	20	
Injection Pressure	bar	2740	2184	1672	2421	1913	1550	2501	2026	1601	
Cylinder Head Volume	cc	61	93	121	121	178	220	178	231	293	
Shot weight in Polystyrene(PS)	g	56	84	110	110	162	200	162	210	266	
Rate of Injection #	cc/s	71/88	89/110	116/144	84/104	106/132	131/163	81/101	100/125	127/158	
Plasticising flow for DBG screw in PS *	Stage I	g/s	10/10.1	12.6	-/-	17.1/17.2	23	-/-	20/23	30	33
	Stage II	g/s	7.9/9.8	11/12.6	17.2/17	13.7/17	20/23	30/30	16.6/20	24/29	29/33
Screw Stroke	mm	125	150	150	150	175	175	175	184	184	
Max.Nozzle dipping depth	mm	45	45	45	45	45	45	45	45	45	
Nozzle Contact force	kN	37	37	37	37	37	37	37	37	37	
Carriage Stroke	mm	250			250			350			
No of Heater zones (Barrel + Nozzle)		3+1	3+1	3+1	3+1	3+1	3+1	3+1	3+1	3+1	
Heating Capacity	kW	7	8	8.6	8.6	11.8	12.6	11.8	12.6	12.8	
Pump unit-Induction Motor (Equivalent Servo motor)	kW	11/15									

General											
Water Requirement		LPM	40			40			40		
Total Connected Load		kW	18/22	19/23	19.6/23.6	19.6/23.6	22.8/26.8	23.6/27.6	22.8/26.8	23.6/27.6	23.8/27.8
Oil Tank Capacity		L	160								
Net weight without oil		kg	3650								
Dimensions of machines	Length	m	4.63					4.63		4.7	
	Breadth	m	1.27								
	Height	m	2.2					2.03			

Achieved in air injection. Actual value depends on material grade, melt density and residence time.

Specifications are subject to change due to continuous improvements

* Plasticising flow as per EUROMAP standard

NEWRA 100		
Clamping Unit		100 / 435 x 400
Clamping Force	kN	1000
Mould Opening Stroke	mm	380
Minimum Mould Height	mm	150
Maximum Mould Height	mm	410
Max.Daylight between Platens	mm	790
Overall Size of Platens (H x V)	mm	615 x 580
Distance between Tiebars (H x V)	mm	435 x 400
Total Mould carrying capacity	kg	900
Max.mould.wt.in moving platen	kg	600
Ejection Force	kN	49
Hydraulic Ejector stroke	mm	120
Min. mould dimensions (H x V)	mm	265 x 245

Injection Unit Size		310			430			600			
Screw Cylinder		A	B	C	A	B	C	A	B	C	
Screw Diameter	mm	32	36	40	36	40	45	40	45	50	
L/D Ratio		20	20	20	20	20	20	20	20	20	
Injection Pressure	bar	2421	1913	1550	2501	2026	1601	2448	1934	1567	
Cylinder Head Volume	cc	121	178	220	178	231	293	231	323	399	
Shot weight in Polystyrene(PS)	g	110	162	200	162	210	266	210	294	363	
Rate of Injection #	cc/s	104/132	132/168	163/207	101/128	125/158	158/200	104/132	132/167	163/207	
Plasticising flow for DBG screw in PS *	Stage I	g/s	17.2	-/-	-/-	23	30	-/-	29/30	33	44
	Stage II	g/s	17/17.2	23	30	20/23	29/30	33	23/29	28/33	37/44
Screw Stroke	mm	150	175	175	175	184	184	184	203	203	
Max.Nozzle dipping depth	mm	45	45	45	45	45	45	45	45	45	
Nozzle Contact force	kN	37	37	37	37	37	37	37	37	37	
Carriage Stroke	mm	250			350			350			
No of Heater zones (Barrel + Nozzle)		3+1	3+1	3+1	3+1	3+1	3+1	3+1	3+1	4+1	
Heating Capacity	kW	8.6	11.8	12.6	11.8	12.6	12.8	12.6	12.8	19.4	
Pump unit-Induction Motor (Equivalent Servo motor)	kW	15/22									

General											
Water Requirement		LPM	40			40			40		
Total Connected Load		kW	23.6/30.6	26.8/33.8	27.6/34.6	26.8/33.8	27.6/34.6	27.8/34.8	27.6/34.6	27.8/34.8	34.4/41.4
Oil Tank Capacity		L	200								
Net weight without oil		kg	4150								
Dimensions of machines	Length	m	4.69			4.74	4.82	4.74	4.82	4.97	
	Breadth	m	1.37								
	Height	m	2.18					2.08			

Achieved in air injection. Actual value depends on material grade, melt density and residence time.

Specifications are subject to change due to continuous improvements

* Plasticising flow as per EUROMAP standard

NEWRA 120		
Clamping Unit		120 / 465 x 425
Clamping Force	kN	1200
Mould Opening Stroke	mm	410
Minimum Mould Height	mm	150
Maximum Mould Height	mm	450
Max.Daylight between Platens	mm	860
Overall Size of Platens (H x V)	mm	655 x 615
Distance between Tiebars (H x V)	mm	465 x 425
Total Mould carrying capacity	kg	1120
Max.mould.wt.in moving platen	kg	740
Ejection Force	kN	49
Hydraulic Ejector stroke	mm	120
Min. mould dimensions (H x V)	mm	285 x 260

Injection Unit Size		310			430			600			
		A	B	C	A	B	C	A	B	C	
Screw Cylinder											
Screw Diameter	mm	32	36	40	36	40	45	40	45	50	
L/D Ratio		20	20	20	20	20	20	20	20	20	
Injection Pressure	bar	2421	1913	1550	2501	2026	1601	2448	1934	1567	
Cylinder Head Volume	cc	121	178	220	178	231	293	231	323	399	
Shot weight in Polystyrene(PS)	g	110	162	200	162	210	266	210	294	363	
Rate of Injection #	cc/s	104/132	132/168	163/207	101/128	125/158	158/200	104/132	132/167	163/207	
Plasticising flow for DBG screw in PS *	Stage I	g/s	17.2	-/-	-/-	23	30	-/-	29/30	33	44
	Stage II	g/s	17/17.2	23	30	20/23	29/30	33	23/29	28/33	37/44
Screw Stroke	mm	150	175	175	175	184	184	184	203	203	
Max.Nozzle dipping depth	mm	45	45	45	45	45	45	45	45	45	
Nozzle Contact force	kN	37	37	37	37	37	37	37	37	37	
Carriage Stroke	mm	250			350			350			
No of Heater zones (Barrel + Nozzle)		3+1	3+1	3+1	3+1	3+1	3+1	3+1	3+1	4+1	
Heating Capacity	kW	8.6	11.8	12.6	11.8	12.6	12.8	12.6	12.8	19.4	
Pump unit-Induction Motor (Equivalent Servo motor)	kW	15/22									

General											
Water Requirement		LPM	40			40			40		
Total Connected Load		kW	23.6/30.6	26.8/33.8	27.6/34.6	26.8/33.8	27.6/34.6	27.8/34.8	27.6/34.6	27.8/34.8	34.4/41.4
Oil Tank Capacity		L	200								
Net weight without oil		kg	5600								
Dimensions of machines	Length	m	4.97				5.07	4.97	5.07	5.22	
	Breadth	m	1.37								
	Height	m	2.19			2.09					

Achieved in air injection. Actual value depends on material grade, melt density and residence time.

Specifications are subject to change due to continuous improvements

* Plasticising flow as per EUROMAP standard

NEWRA 150		
Clamping Unit		150 / 510 x 470
Clamping Force	kN	1500
Mould Opening Stroke	mm	440
Minimum Mould Height	mm	170
Maximum Mould Height	mm	500
Max.Daylight between Platens	mm	940
Overall Size of Platens (H x V)	mm	720 x 680
Distance between Tiebars (H x V)	mm	510 x 470
Total Mould carrying capacity	kg	1500
Max.mould.wt.in moving platen	kg	990
Ejection Force	kN	49
Hydraulic Ejector stroke	mm	160
Min. mould dimensions (H x V)	mm	315 x 290

Injection Unit Size		430			600			900			
Screw Cylinder		A	B	C	A	B	C	A	B	C	
Screw Diameter	mm	36	40	45	40	45	50	45	50	60	
L/D Ratio		20	20	20	20	20	20	20	20	20	
Injection Pressure	bar	2501	2026	1601	2448	1934	1567	2496	2022	1404	
Cylinder Head Volume	cc	178	231	293	231	323	399	358	442	636	
Shot weight in Polystyrene(PS)	g	162	210	266	210	294	363	326	402	579	
Rate of Injection #	cc/s	128/180	158/223	200/282	132/186	167/236	207/291	128/181	159/223	228/322	
Plasticising flow for DBG screw in PS *	Stage I	g/s	-/-	-/-	-/-	30	-/-	-/-	33	44	56
	Stage II	g/s	23	30	33	29/30	33	44	20/29	27/38	43/56
Screw Stroke	mm	175	184	184	184	203	203	225	225	225	
Max.Nozzle dipping depth	mm	45	45	45	45	45	45	45	45	45	
Nozzle Contact force	kN	37	37	37	37	37	37	37	37	37	
Carriage Stroke	mm	350			350			400			
No of Heater zones (Barrel + Nozzle)		3+1	3+1	3+1	3+1	3+1	4+1	3+1	4+1	4+1	
Heating Capacity	kW	11.8	12.6	12.8	12.6	12.8	19.4	12.8	19.4	24.3	
Pump unit-Induction Motor (Equivalent Servo motor)	kW	22/30									

General											
Water Requirement	LPM	40/60			40/60			40/60			
Total Connected Load	kW	33.8/41.8	34.6/42.6	34.8/42.8	34.6/42.6	34.8/42.8	41.4/49.4	34.8/42.8	41.4/49.4	46.3/54.3	
Oil Tank Capacity	L	300									
Net weight without oil	kg	6150									
Dimensions of machines	Length	m	5.36			5.49	5.56	5.43	5.58	5.86	
	Breadth	m	1.48								
	Height	m	2.14								

Achieved in air injection. Actual value depends on material grade, melt density and residence time.

Specifications are subject to change due to continuous improvements

* Plasticising flow as per EUROMAP standard

NEWRA 180		
Clamping Unit		180 / 545 x 505
Clamping Force	kN	1800
Mould Opening Stroke	mm	465
Minimum Mould Height	mm	180
Maximum Mould Height	mm	530
Max.Daylight between Platens	mm	995
Overall Size of Platens (H x V)	mm	760 x 720
Distance between Tiebars (H x V)	mm	545 x 505
Total Mould carrying capacity	kg	1800
Max.mould.wt.in moving platen	kg	1190
Ejection Force	kN	49
Hydraulic Ejector stroke	mm	160
Min. mould dimensions (H x V)	mm	335 x 315

Injection Unit Size		430			600			900			
		A	B	C	A	B	C	A	B	C	
Screw Cylinder											
Screw Diameter	mm	36	40	45	40	45	50	45	50	60	
L/D Ratio		20	20	20	20	20	20	20	20	20	
Injection Pressure	bar	2501	2026	1601	2448	1934	1567	2496	2022	1404	
Cylinder Head Volume	cc	178	231	293	231	323	399	358	442	636	
Shot weight in Polystyrene(PS)	g	162	210	266	210	294	363	326	402	579	
Rate of Injection #	cc/s	128/180	158/223	200/282	132/186	167/236	207/291	128/181	159/223	228/322	
Plasticising flow for DBG screw in PS *	Stage I	g/s	-/-	-/-	-/-	30	-/-	-/-	33	44	56
	Stage II	g/s	23	30	33	29/30	33	44	20/29	27/38	43/56
Screw Stroke	mm	175	184	184	184	203	203	225	225	225	
Max.Nozzle dipping depth	mm	45	45	45	45	45	45	45	45	45	
Nozzle Contact force	kN	37	37	37	37	37	37	37	37	37	
Carriage Stroke	mm	350			350			400			
No of Heater zones (Barrel + Nozzle)		3+1	3+1	3+1	3+1	3+1	4+1	3+1	4+1	4+1	
Heating Capacity	kW	11.8	12.6	12.8	12.6	12.8	19.4	12.8	19.4	24.3	
Pump unit-Induction Motor (Equivalent Servo motor)	kW	22/30									

General											
Water Requirement		LPM	40/60			40/60			40/60		
Total Connected Load		kW	33.8/41.8	34.6/42.6	34.8/42.8	34.6/42.6	34.8/42.8	41.4/49.4	34.8/42.8	41.4/49.4	46.3/54.3
Oil Tank Capacity		L	300								
Net weight without oil		kg	6500								
Dimensions of machines	Length	m	5.36			5.73			5.8	6.09	
	Breadth	m	1.48								
	Height	m	2.15								

Achieved in air injection. Actual value depends on material grade, melt density and residence time.

Specifications are subject to change due to continuous improvements

* Plasticising flow as per EUROMAP standard

NEWRA 210		
Clamping Unit		210 / 570 X 530
Clamping Force	kN	2100
Mould Opening Stroke	mm	510
Minimum Mould Height	mm	200
Maximum Mould Height	mm	550
Max.Daylight between Platens	mm	1060
Overall Size of Platens (H x V)	mm	780 x 740
Distance between Tiebars (H x V)	mm	570 x 530
Total Mould carrying capacity	kg	2010
Max.mould.wt.in moving platen	kg	1330
Ejection Force	kN	49
Hydraulic Ejector stroke	mm	160
Min. mould dimensions (H x V)	mm	350 x 330

Injection Unit Size		600			900			1400			
		A	B	C	A	B	C	A	B	C	
Screw Cylinder											
Screw Diameter	mm	40	45	50	45	50	60	50	60	70	
L/D Ratio		20	20	20	20	20	20	20	20	20	
Injection Pressure	bar	2448	1934	1567	2496	2022	1404	2565	1780	1309	
Cylinder Head Volume	cc	231	323	399	358	442	636	530	820	1116	
Shot weight in Polystyrene(PS)	g	210	294	363	326	402	579	482	746	1016	
Rate of Injection #	cc/s	132/186	167/236	207/291	128/181	159/223	228/322	125/176	180/253	245/345	
Plasticising flow for DBG screw in PS *	Stage I	g/s	30	-/-	-/-	33	44	56	19/27	30/43	50/71
	Stage II	g/s	29/30	33	44	20/29	27/38	43/56	13/19	21/30	36/50
Screw Stroke	mm	184	203	203	225	225	225	270	290	290	
Max.Nozzle dipping depth	mm	45	45	45	45	45	45	45	45	45	
Nozzle Contact force	kN	37	37	37	37	37	37	70	70	70	
Carriage Stroke	mm	350			400			450			
No of Heater zones (Barrel + Nozzle)		3+1	3+1	4+1	3+1	4+1	4+1	4+1	4+1	4+1	
Heating Capacity	kW	12.6	12.8	19.4	12.8	19.4	24.3	19.4	24.3	27	
Pump unit-Induction Motor (Equivalent Servo motor)	kW	22/30									

General											
Water Requirement		LPM	40/60			40/60			60/80		
Total Connected Load		kW	34.6/42.6	34.8/42.8	41.4/49.4	34.8/42.8	41.4/49.4	46.3/54.3	49.4/56.4	54.3/61.3	57/64
Oil Tank Capacity		L	300								
Net weight without oil		kg	7150								
Dimensions of machines	Length	m	5.36			5.97	6.25	6.45	6.45	6.55	
	Breadth	m	1.53								
	Height	m	2.16								

Achieved in air injection. Actual value depends on material grade, melt density and residence time.

Specifications are subject to change due to continuous improvements

* Plasticising flow as per EUROMAP standard

CLAMPING UNIT

	80 – 210T
AI optimized 5-point twin toggle system, for fast, smooth platen movement and even distribution of clamp force	*
Moving platen supported on the machine bed by sliding wedge	*
Mold opening and ejector forward with safety guard open / closed position (Motion / No Motion)	*
Threaded + T-Slot holes for mold mounting on fixed platen and moving platen as per Euromap 2	*
Moving platen ejector holes compatible for JIS / Euro map 2	*
Tapped holes for take-out robot	*
High strength alloy steel tiebar with Chrome plating	*
Automatic grease lubrication for all clamping unit points	*
Toggle bushings grease lubricated automatically: lubrication signals computer optimized under adaptive control	*
Motorized mold height adjustment through sun & planetary gear mechanism	*
Automatic mold height adjustment by proximity switch	*
Concept of clamp force control using M.T Setting logic	*
Closing and opening speeds independently set: each programmable in 5 stages	*
Regenerative circuit in mold closing for higher speeds	*
Low pressure mold safety, settable	*
Low pressure and slow speed circuit for mold set up	*
Mold protection with stroke dependent change over with time monitoring and repeat of a clamping cycle aborted in the protected range	*
Central hydraulic ejector with multiple stroke features; pressure and speed independently set in both directions, ejector speed programmable in 2 stages	*
Multi point ejector plate as per Euro map 2 / JIS	*
Mold clamps	☆
Central Ejector rod	*
Multi point ejector rods-4 Nos.	☆
All port close valve for ejector hold	*
Hydraulic and electrical interlocks for safety gates	*
Pneumatic ejector using 5 / 2 valve (up to 2 valves)	☆
Hydraulic core pull control 1 or 2 lines for machines up to 210T	☆
Powder coated funnel type discharge chute	☆
Water manifold 4circuits	*
Water manifold 6,8(2x4), 12(2x6) circuits	☆
Mechanical drop bar for safety	*

* - Standard ☆ - Optional

INJECTION UNIT

	80 – 210T
Two IU per CU and Three PU per IU	*
Injection unit speed of nozzle advance and retraction programmable in 2 stages	*
Injection speed, holding pressure and screw speed controlled by fast response servo pump	*
High torque charging hydro motor	*
Screw cylinder fitted with chrome plated high kneading DBG screw and nitrided barrel	*
Enhanced Rotating screw tip assembly – Quick response and wear less design	*
Screw cylinder suitable for L / D ratio 20:1 for all diameters	*
Insulated heater bands	☆
PID controlled ceramic heater bands for screw barrel	*
Self-optimizing temperature control circuits for the cylinder and nozzle heating system with adjustable tolerance monitoring of deviation from set point and thermocouple break indication; operating range of up to 400°C	*
Wear resistant through hardened screw and bimetallic barrel for abrasive materials	☆
Temperature of the screw cylinder feed zone adjustable	*
Injection speed profile programmable in 10 position dependent interpolation stages	*
Holding pressure profile programmable in 10 time dependent interpolation stages	*
Holding pressure switching activated as a function of position or time	*
Holding pressure switching activated as a function of hydraulic pressure	*
Screw speed and back pressure control, profile programmable in 6 position dependent interpolation steps	*
Screw speed input in %	*
Injection speed input in mm / s	*
Screw suck back before / after screw rotation to prevent melt drooling	*
Delay feature for commencement of plasticizing and nozzle retraction	*
Barrel temperature shift mode- Reduction of temperature during no operation	*
Nozzle guard with electrical interlock for operator safety	*
Intrusion and cold slug removal	*
Extended nozzle with heater band	☆
Hopper with sliding arrangement	☆
Cold start prevention for screw	*

* - Standard ☆ - Optional

HYDRAULIC UNIT

	80 – 210T
Energy saving and close loop controlled pressure and flow rates by single pump with servo motor and drive	★
Low noise drive with quiet and fast responding pumps for hydraulics	★
Pre-heating circuit for hydraulic oil	★
Connectors for external oil filtration during production	★
Pump unit switched off if minimum oil level is reached	★
Production stopped if oil temperature exceeds maximum value	★
External oil level indicator for predictive maintenance	★
Return line filter mounted on oil Tank with clogging indicator	★
External oil cooler	★
Proportional pressure relief valve for back pressure control	★
By-pass filtration	★
Fast responding hydraulic safety interlock for guard door	★
Suction strainer with magnetic filtration and facility to inspect strainer without emptying the oil tank	★

CONTROL UNIT

	80 – 210T
Intelligent operator terminal - with large multi-color LCD display (12.1") with touch screen	★
Mold condition memory 300	★
Number of history (Alarm, stop and setting) 1000 alarms	★
USB interface	★
Digital display (position, speed, pressure, temperature)	★
Digital display (servo motor speed, torque & temperature)	★
Quality monitoring	★
Down time log	★
SPC package	★
Insert loading sequence	★
Hot runner shut off -pneumatic	★
Auto purging	★
Sequential valve gate control- Pneumatic-4Nos.	★
Set of electrical power outlets 3-ph 1x16A, 1-Ph 1x10A	★
Process data statistics- graphical display	★
Processing alarm	★
Diagnostic function-alarm help menu	★
Program heat up for oil pre-heating and cylinder heating	★
Shift and batch production counters with rejection monitoring with automatic switch off feature	★
LAN port for machine networking	★

★ - Standard ★ - Optional

	80 – 210T
Hourly production data – 1 year	*
Operation indicator	*
Process data statistics – 25000 shots	*
Protection against surges and high voltages	*
LED on solenoid to indicate status of valves	*
Power on indication on control panel	*
Position measuring system using linear potentiometers for mold, ejector and screw movements	*
Heater current monitoring up to IU900	*
Process parameter change history	*
Multi-level password function	*

GENERAL

	80 – 210T
Three color lamp	☆
Discharge control interface with photocell assembly	☆
Safety equipment as per IS 20430:2020	*
3 way part removal	*
Flexible machine support with anti-vibration mounts	*
Ergonomically designed machine covers and doors for safety, with elegant aesthetics.	*
Rear emergency stop	*
Servo drive integrated with power cabinet for better floor space saving	*

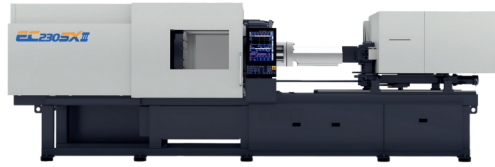
FUNCTIONS / INTERFACES

	80 – 210T
Interface for additional nozzle heater band –plug only	☆
Chiller / peripheral fault interface	☆
Freely programmable I / O's (Max.2 I / O)	☆
Robot interface as per Euromap-12 / Euromap-67	☆
Robot interface as per JIS	☆
Rotating core interface	☆
Blending unit interface	☆
Freely programmable I / O up to 6 Nos.	☆
Ejector retract confirmation circuit for mold protection	☆
Interface for ejector limitswitch-2nos in the mold	☆
Electrical un-screwing interface.	☆
Interface mold temperature display on IBED; 1 or 2 – mold circuits	☆

* - Standard ☆ - Optional

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FOR PLASTIC & METAL INDUSTRIES



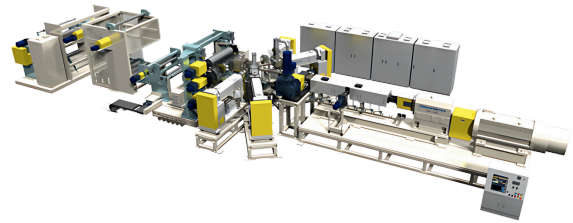
Injection Molding Machines
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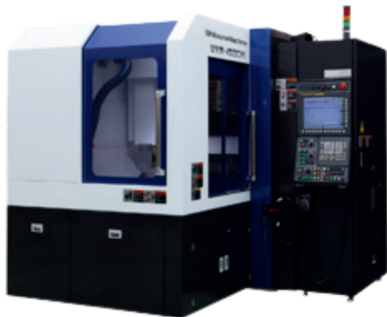
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INTERNATIONAL BUSINESS




South-East-Asia | SAARC
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73059 39777

Shibaura Machine India Private Limited

India Head Office

No. 65 (PO Box No. 5), Chennai-Bangalore Highway,
Chembarambakkam, Chennai – 600123

 shibauramachine.co.in
 sales@shibauramachine.co.in
 +91-8220017782

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