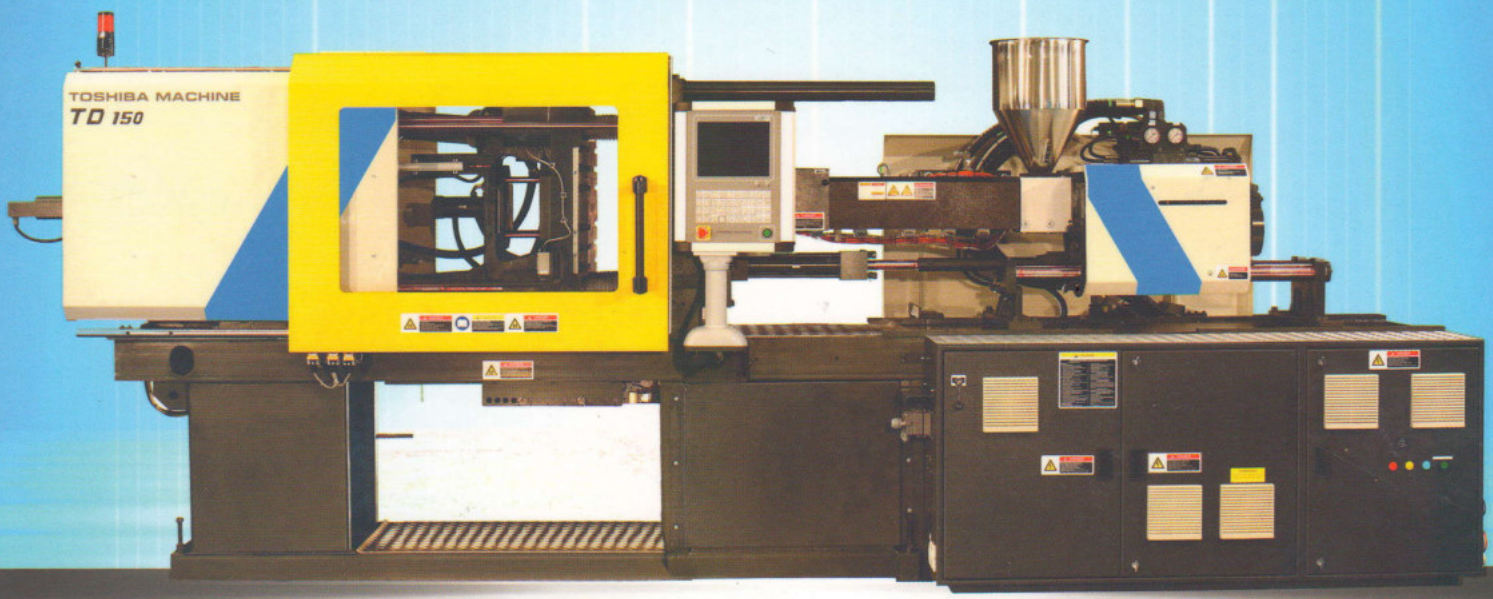
TOSHIBA MACHINE

TD Series

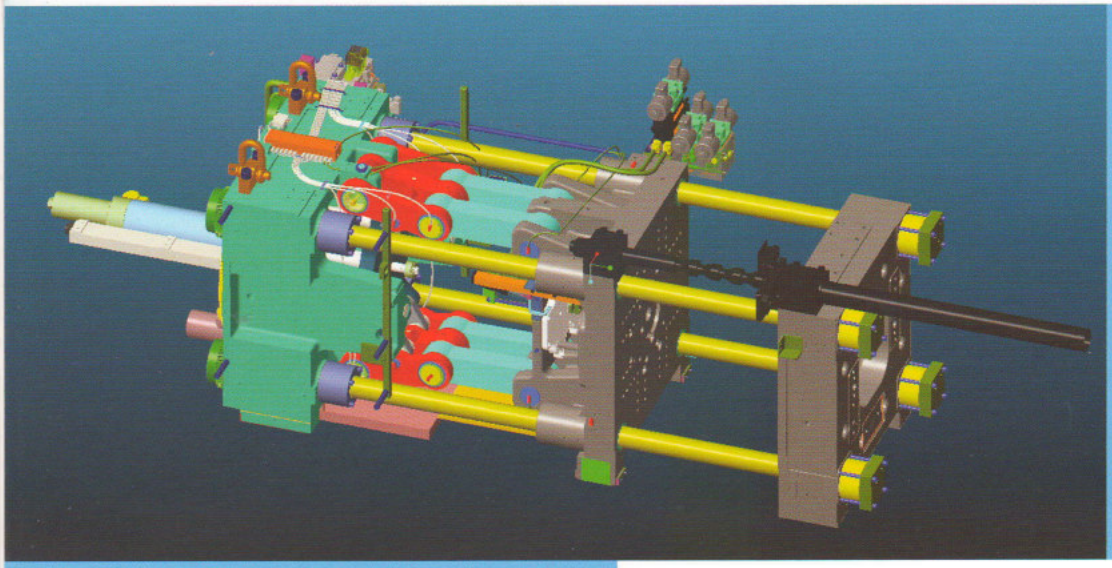
Legendary Performance



60-350

Clamping Unit

Fast, Accurate and Rigid

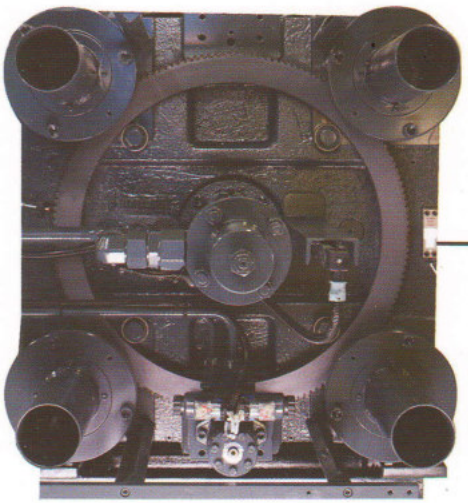


Clamping Unit - Fast and Strong

Toshiba Machine TD series offers rugged and proven five point twin toggle clamping mechanism with stroke amplification for faster cycling. Additional Reserve locking force helps avoid mold breathing. Mechanical drop bar provided for additional safety.

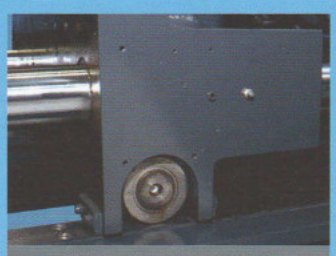
Highlights of Clamping unit

- Computer-optimised braking and acceleration profiles provide sensitive control of high speed movements
- Precise control of mold sensing force through reduced force amplification and by regeneration circuit
- Lesser foot print due to optimum use of stroke amplification
- Graphite impregnated bushes for toggle ensuring efficient lubrication
- Automated centralised lubrication system for toggles
- Anti-friction roller bearings for moving platen



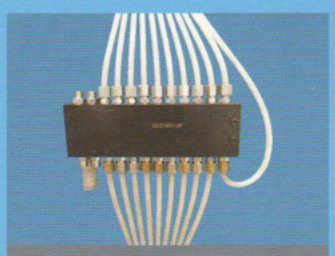
Sun and planetary gear mechanism for mold height adjustment

Load cell on end platen for closed loop control of set clamp force



Moving platen supported on anti-friction roller bearings

Manifold blocks closer to the actuator for faster response

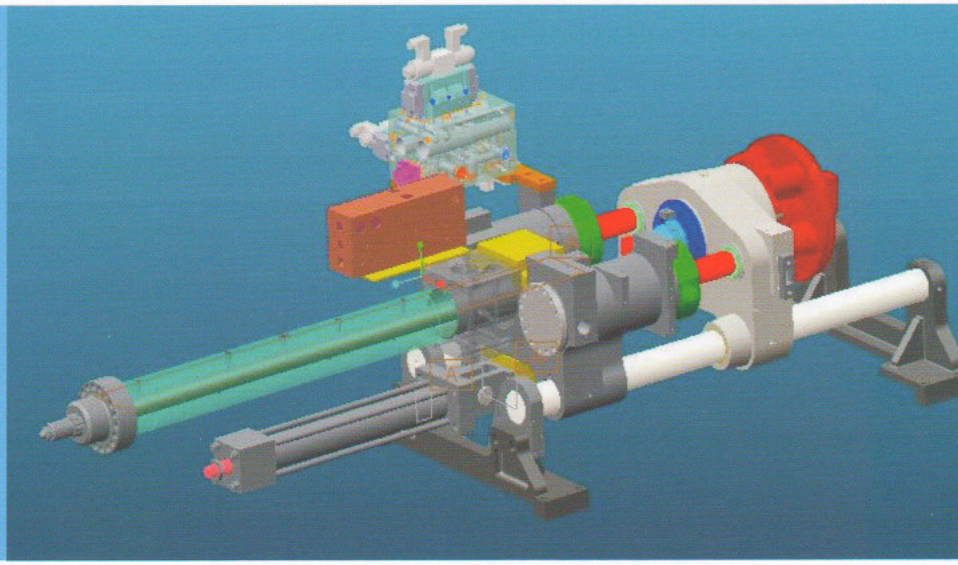


Automated centralised lubrication for toggle bushes

Safer hydraulic actuated grease cylinder

Injection Unit -
Precise and Modular

Toshiba Machine TD Series comes with robust construction of injection unit with higher injection power suitable for thin wall applications and also helps in the molding 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. Different screw geometries are available for plasticizing resin like RPVC/CPVC/PET etc

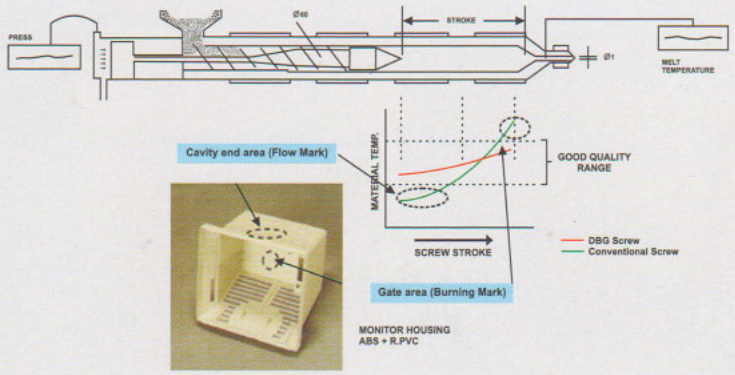


Highlights of Injection unit

- 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 standard
- Nozzle contact force through single carriage cylinder- easy access to nozzle area
- Modular selection of injection unit

Excellent Melt Quality in TD series machines

- Excellent melt homogeneity at low shear heat coupled with high plasticizing capacity. Latest control architecture with graphical monitoring, to produce precision parts to closest tolerances on dimensional stability and weight.
- Specially designed Sub flight screw offers best processing condition
- Better uniformity in cavity end peak pressure
- Minimum variation in the melt temperature
- Wear-less high response screw tip
- Ceramic heater band as standard

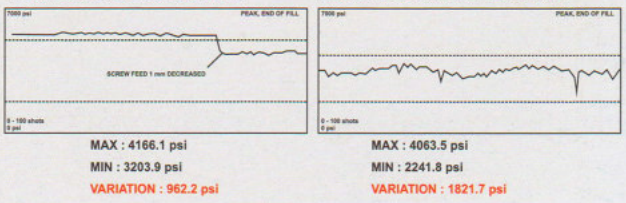


COMPARISON OF CAVITY END PEAK PRESSURE UNIFORMITY

PRODUCT: AUTOMOTIVE DOOR PART

MATERIAL: PP

LOCATION OF CAVITY PRESSURE TRANSDUCER: END OF CAVITY



MAX : 4166.1 psi
MIN : 3203.9 psi
VARIATION : 962.2 psi

MAX : 4063.5 psi
MIN : 2241.8 psi
VARIATION : 1821.7 psi

FEATURES & OPTIONS

CLAMPING UNIT FEATURES	
• Computer optimised 5-point twin toggle system, for fast, smooth platen movement and even distribution of clamp force	o
• Moving platen supported on the machine bed by anti-friction roller bearings	o
• Mold opening and ejector forward with safety guard open/closed position (Motion / No Motion)	o
• Threaded holes for mold mounting on fixed platen and moving platen as per Euromap layout	o
• Threaded holes for mold mounting on fixed platen and moving platen as per JIS layout	✓
• T-Slotted mold platens as per Euromap/JIS(250T and above)	✓
• Moving platen ejector holes compatible for JIS/Euromap	o
• Tapped holes for take-out robot on fixed platen	o
• Chrome plated tie bars	o
• Toggle bushings grease lubricated automatically: lubrication signals computer optimised under adaptive control	o
• Motorised mold height adjustment through sun & planetary gear mechanism	o
• Automatic mold height adjustment by proximity switch	o
• Auto mold height adjustment by linear potentiometer	✓
• Consistent mold open stop position using stroke adjustment mechanism in cylinder set manually upto 350T	o
• Consistent mold open stop position using proportional direction control valve above 350T	o
• Closed loop clamp force control on control panel with display and correction every cycle, settable using load cell	o
• Closing and opening speeds independently set: each programmable in 5 stages	o
• Regenerative circuit in mold closing for higher speeds	o
• Low pressure mold safety, settable	o
• Low pressure and slow speed circuit for mold set up	o
• Mold protection with stroke dependent change over with time monitoring and repeat of a clamping cycle aborted in the protected range	o
• Central hydraulic ejector with multiple stroke features; pressure and speed independently set in both directions, ejector speed programmed in two stages forward & one stage retraction	o
• Mold cooling water switch off in case of interruption of cycle, with settable timer	✓
• Multi point ejector plate as per Euromap	o
• Multi point ejector plate as per JIS	✓
• Mold clamps	✓
• Central ejector rod	o
• Multi point ejector rods	✓
• Pilot operated check valve for ejector hold circuit	o
• Hydraulic and electrical interlocks for safety gates	o
• Automatically operated safety door 450T and above	o
• Parallel ejector using separate pump- manually settable flow and pressure	✓
• Parallel ejector using separate servo pump with settable flow and pressure	✓
• Pneumatic ejector using 5/2 valve (upto 6 valves)	✓
• Hydraulic core pull control 1or 2 lines for machines upto 180T-16 circuits	✓
• Hydraulic core pull control 1 to 4 lines for machines 200T and above - 16 circuits	✓

• Good/Bad part selector	✓
• Stainless steel discharge chute	✓
• Water manifold 4 circuits upto 180T	o
• Water manifold 6 circuits 200T-350T	o
• Water manifold 8 circuits 450T and above	o
• Water battery 4, 6, 8 circuits	✓
• Mechanical drop bar for safety	o
INJECTION UNIT FEATURES	
• Modular selection of Injection Units	o
• Injection unit speed of nozzle advance and retraction programmed in two stages forward & one stage retraction	o
• Injection speed, holding pressure and screw speed controlled by fast response servo pump	o
• High torque charging hydromotor	o
• Screw cylinder fitted with chrome plated high kneading DBG screw and nitrided barrel	o
• Enhanced rotating screw tip assembly - Quick response and wearless design	o
• Screw cylinder suitable for L/D ratio 20:1 for all diameters	o
• Ceramic cylinder heating bands	o
• Insulated heater bands	✓
• PID controlled barrel heater bands	o
• Self-optimising 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	o
• Wear resistant through hardened screw and bimetallic barrel for abrasive materials	✓
• Temperature of the screw cylinder feed zone adjustable	o
• Injection speed profile programmable in 10 position dependent interpolation stages	o
• Holding pressure profile programmable in 10 time dependent interpolation stages	o
• Holding pressure switching activated as a function of position, time or hydraulic pressure	o
• Screw speed and back pressure control, profile programmable in 6 position dependent interpolation steps	o
• Screw speed input in %	o
• Injection speed input in mm/s	o
• Screw suck back before/after screw rotation to prevent melt drooling	o
• Delay feature for commencement of plasticising and nozzle retraction	o
• Barrel temperature shift mode- Reduction of temperature during no operation	o
• Nozzle guard with electrical interlock for operator safety	o
• Intrusion and cold slug removal	o
• Accumulator assisted injection	✓
• Injection closed loop with servo valve	✓
• PET package	✓
• RPVC/CPVC package	✓
• Thermoset package and sequence for screw dia 32mm and above	✓
• 25 L/D screw (for A&B)	✓

o Standard feature ✓ Optional feature

FEATURES & OPTIONS

TD Series

• Nozzle with melt filter for screw dia 32mm and above	✓
• Hydraulically operated shut off nozzle	✓
• Extended nozzle with heater band	✓
• Stainless steel hopper	✓
• Cold start prevention for screw	o
HYDRAULICS FEATURES	
• Energy saving and close loop controlled pressure and flow rates by single pump with servo motor and drive	o
• Low noise drive with quiet and fast responding pumps for hydraulics	o
• Induction motor with electronically controlled flow and pressure using closed loop pump	✓
• Additional energy saving by high efficiency hydraulic circuit	o
• All manifold blocks & valves mounted close to the actuators for faster response	o
• Oil tank with large opening for cleaning	o
• Pre-heating circuit for hydraulic oil	o
• Oil temperature regulated with temperature indication	o
• Connectors for external oil filtration during production	o
• Pump unit switched off if minimum oil level is reached	o
• Production stoppage if oil temperature exceeds maximum value	o
• High pressure filter with automatic monitoring of clogging with advance warning and stoppage	o
• External oil cooler	o
• Fast responding cartridge logic elements	o
• Proportional pressure relief valve for back pressure control	o
• Hydraulic UPS for completing one molding cycle in the event of power shut down	✓
• Bypass filtration	✓
• Suction strainer with magnetic filtration and facility to inspect strainer without emptying the oil tank	o
• Fast responding hydraulic safety interlock for guard door	o
CONTROL UNIT FEATURES	
• Intelligent operator terminal - with large multi-color LCD display (12.1") with touch screen	o
• Actual Graphic display: Injection pressure, Back pressure, Screw speed	o
• Mold condition memory 300	o
• Number of history (Alarm, stop and setting) 1000 alarms	o
• USB interface	o
• Digital display (position, speed, pressure, temperature, servo motor speed, torque & temperature)	o
• Quality monitoring (CPC)	o
• Down time log	o
• SPC package	✓
• Insert loading sequence	✓
• Hot runner control	✓
• Hot runner shut off -pneumatic	✓
• Auto purging	✓
• Hot runner shut off - hydraulic	✓

• Sequential valve gate control- Pneumatic	✓
• Sequential valve gate control- Hydraulic	✓
• Set of electrical power outlets 3-ph 1x16A, 1-Ph 1x10A	o
• Set of electrical power outlets 3-ph 1x16A, 1-Ph 1x10A	✓
• Process data statistics- graphical display	o
• Processing alarm	o
• Diagnostic function-alarm help menu	o
• Sequence ladder display for trouble shooting	o
• Programme heat up for oil pre-heating and cylinder heating	✓
• Shift and batch production counters with rejection monitoring with automatic switch off feature	o
• LAN port for machine networking	✓
• Hourly production data – 1 year	o
• Operation indicator	o
• Process data statistics – 25000 shots	o
• Protection against surges and high voltages	o
• LED on solenoid to indicate status of valves	o
• Power on indication on control panel	o
• Energy meter- display on HMI	✓
• Graphical display of injection velocity	✓
• Position measuring system using linear potentiometers for mold, ejector and screw movements	o
• Heater current monitoring upto IU 900	o
• Process parameter change history	o
• Multi-level password function	o
GENERAL	
• Guarded machine enclosure with space for protruding molds and peripheral connections	✓
• Single control cabinet for better floor space saving	o
• Transparent cladding for preventive maintenance	✓
• Three colour lamp	✓
• Discharge control interface with photocell assembly	✓
• Safety equipment as per EN 201	o
• 3 way part removal	o
• Manual crane for mold loading	✓
• Flexible machine support with anti-vibration mounts	o
FUNCTIONS / INTERFACE	
• Interface for additional nozzle heater band –plug only	✓
• Interface for indexing conveyor	✓
• Chiller/peripheral fault interface	o
• Freely programmable I/O's (Max.2 I/O)	o
• Robot interface as per Euromap-12 / Euromap-67	✓
• Robot interface as per JIS	✓
• Rotating core interface	✓
• Blending unit interface	✓
• Freely programmable I/O upto 6 Nos.	✓
• Ejector retract confirmation circuit for mold protection	✓
• Interface for ejector limitswitch-2nos in the mold	✓

o Standard feature ✓ Optional feature

TD 60 Vcon

TECHNICAL DATA

Clamping Unit			60/320								
Clamping Force		kN	600								
Locking Force		kN	660								
Mold Opening Stroke		mm	310								
Mold Height(Min/Max)		mm	180/410								
Max.Daylight between Platens		mm	720								
Overall Size of Platens		mm	480x480								
Distance between Tiebars		mm	320x320								
Total Mold carrying capacity		kg	400								
Max.mold.wt.in moving platen		kg	260								
Hydraulic Ejector stroke		mm	100								
Ejection Force/Retraction Force		kN	28/13								
Oil Tank Capacity		L	180								
Net Weight (Without oil)		kg	3200								
Dimensions of machines (Approx)	L	mm	4300								
	B	mm	1400								
	H	mm	1900								
Injection Unit Size			120			200			310		
Screw Cylinder			A	B	C	A	B	C	A	B	C
Screw Diameter		mm	22	25	28	25	28	32	32	36	40
L/D Ratio			20	20	20	20	20	20	20	20	20
Injection Pressure		bar	2591	2006	1599	2740	2184	1672	2421	1913	1550
Cylinder Head Volume		cc	42	61	77	61	93	121	121	178	220
Shot weight in Polystrene(PS)		g	38	56	70	56	84	110	110	162	200
Rate of Injection #		cc/s	78	101	127	71	89	116	84	106	131
Plasticising flow in PS*	Stage I	g/s	8.4	10.2	-	10.2	12.6	-	17.1	23.3	-
	Stage II	g/s	6.7	9.2	12.6	8	11.1	17.3	13.7	20.8	30.1
Screw Stroke		mm	110	125	125	125	150	150	150	175	175
Max.Nozzle dipping depth(SVO)		mm	20	20	20	45	45	45	45	45	45
Nozzle Contact force		kN	33	33	33	33	33	33	33	33	33
Heating Capacity		kW	5.8	7.0	8.0	7.0	8.0	8.6	8.6	11.8	12.6
Pump unit-Induction Motor (Equivalent Servo motor)		kW	11	11	11	11	11	11	11	11	11

#Achieved in air injection

*Theoretical value is given. Actual would depend on Resin, Density and Residence time

TD 80 Vcon

TECHNICAL DATA

Clamping Unit			80/400
Clamping Force		kN	800
Locking Force		kN	880
Mold Opening Stroke		mm	350
Mold Height(Min/Max)		mm	200/480
Max.Daylight between Platens		mm	830
Overall Size of Platens		mm	580x580
Distance between Tiebars		mm	400x400
Total Mold carrying capacity		kg	700
Max.mold.wt.in moving platen		kg	450
Hydraulic Ejector stroke		mm	120
Ejection Force/Retraction Force		kN	49/24
Oil Tank Capacity		L	285
Net Weight (Without oil)		kg	3900
Dimensions of machines (Approx)	L	mm	4650
	B	mm	1460
	H	mm	2010

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 Polystrene(PS)		g	56	84	110	110	162	200	162	210	266
Rate of Injection #		cc/s	112	140	183	132	168	207	128	158	200
Plasticising flow in PS*	Stage I	g/s	-	-	-	-	-	-	-	-	-
	Stage II	g/s	10.2	12.6	17.3	17.3	23.3	30.4	23.3	30.4	33.1
Screw Stroke		mm	125	150	150	150	175	175	175	184	184
Max.Nozzle dipping depth(SVO)		mm	45	45	45	45	45	45	45	45	45
Nozzle Contact force		kN	33	33	33	33	33	33	45	45	45
Heating Capacity		kW	7.0	8.0	8.6	8.6	11.8	12.6	11.8	12.6	12.8
Pump unit-Induction Motor (Equivalent Servo motor)		kW	22	22	22	22	22	22	22	22	22

#Achieved in air injection
*Theoretical value is given. Actual would depend on Resin, Density and Residence time

TD 100 Vcon

TECHNICAL DATA

Clamping Unit			100/420								
Clamping Force		kN	1000								
Locking Force		kN	1100								
Mold Opening Stroke		mm	380								
Mold Height(Min/Max)		mm	200/530								
Max.Daylight between Platens		mm	910								
Overall Size of Platens		mm	600x600								
Distance between Tiebars		mm	420x420								
Total Mold carrying capacity		kg	850								
Max.mold.wt.in moving platen		kg	550								
Hydraulic Ejector stroke		mm	120								
Ejection Force/Retraction Force		kN	49/24								
Oil Tank Capacity		L	285								
Net Weight (Without oil)		kg	4800								
Dimensions of machines (Approx)	L	mm	5300								
	B	mm	1510								
	H	mm	2010								
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 Polystrene(PS)		g	110	162	200	162	210	266	210	294	363
Rate of Injection #		cc/s	132	168	207	128	158	200	132	167	207
Plasticising flow in PS*	Stage I	g/s	-	-	-	-	-	-	-	-	-
	Stage II	g/s	17.3	23.3	30.4	23.3	30.4	33.1	29.3	33.1	44.4
Screw Stroke		mm	150	175	175	175	184	184	184	203	203
Max.Nozzle dipping depth(SVO)		mm	45	45	45	45	45	45	45	45	45
Nozzle Contact force		kN	33	33	33	45	45	45	45	45	45
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	22	22	22	22	22	22	22	22	22

#Achieved in air injection
*Theoretical value is given. Actual would depend on Resin, Density and Residence time

TD 125 Vcon

TECHNICAL DATA

Clamping Unit			125/460
Clamping Force		kN	1250
Locking Force		kN	1375
Mold Opening Stroke		mm	430
Mold Height(Min/Max)		mm	220/550
Max.Daylight between Platens		mm	980
Overall Size of Platens		mm	700X700
Distance between Tiebars		mm	460x460
Total Mold carrying capacity		kg	1100
Max.mold.wt.in moving platen		kg	700
Hydraulic Ejector stroke		mm	160
Ejection Force/Retraction Force		kN	49/24
Oil Tank Capacity		L	350
Net Weight (Without oil)		kg	6200
Dimensions of machines (Approx)	L	mm	5650
	B	mm	1570
	H	mm	2120

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 Polystrene(PS)		g	110	162	200	162	210	266	210	294	363
Rate of Injection #		cc/s	132	168	207	128	158	200	132	167	207
Plasticising flow in PS*	Stage I	g/s	-	-	-	-	-	-	-	-	-
	Stage II	g/s	17.3	23.3	30.4	23.3	30.4	33.1	29.3	33.1	44.4
Screw Stroke		mm	150	175	175	175	184	184	184	203	203
Max.Nozzle dipping depth(SVO)		mm	45	45	45	45	45	45	45	45	45
Nozzle Contact force		kN	33	33	33	45	45	45	45	45	45
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	22	22	22	22	22	22	22	22	22

#Achieved in air injection
*Theoretical value is given. Actual would depend on Resin, Density and Residence time

TD 150 Vcon

TECHNICAL DATA

Clamping Unit			150/510
Clamping Force		kN	1500
Locking Force		kN	1650
Mold Opening Stroke		mm	450
Mold Height(Min/Max)		mm	200/550
Max.Daylight between Platens		mm	1000
Overall Size of Platens		mm	720x720
Distance between Tiebars		mm	510x510
Total Mold carrying capacity		kg	1250
Max.mold.wt.in moving platen		kg	800
Hydraulic Ejector stroke		mm	160
Ejection Force/Retraction Force		kN	49/24
Oil Tank Capacity		L	350
Net Weight (Without oil)		kg	6400
Dimensions of machines (Approx)	L	mm	6100
	B	mm	1570
	H	mm	2120

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 Polystrene(PS)		g	162	210	266	210	294	363	326	402	579
Rate of Injection #		cc/s	128	158	200	132/186	167/236	207/291	128/181	159/223	228/322
Plasticising flow in PS*	Stage I	g/s	-	-	-	-/-	-/-	-/-	33.1/33.1	44.4/-	61.8/-
	Stage II	g/s	23.3	30.4	33.1	29.3/30.4	33.1/33.1	44.4/44.4	20.7/29.4	30.9/43.7	51.6/61.8
Screw Stroke		mm	175	184	184	184	203	203	225	225	225
Max.Nozzle dipping depth(SVO)		mm	45	45	45	45	45	45	45	45	45
Nozzle Contact force		kN	45	45	45	45	45	45	45	45	45
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	22	22	22/30	22/30	22/30	22/30	22/30	22/30

#Achieved in air injection
*Theoretical value is given. Actual would depend on Resin, Density and Residence time

TD 180 Vcon

TECHNICAL DATA

Clamping Unit			180/500								
Clamping Force		kN	1800								
Locking Force		kN	1980								
Mold Opening Stroke		mm	450								
Mold Height(Min/Max)		mm	200/550								
Max.Daylight between Platens		mm	1000								
Overall Size of Platens		mm	720x720								
Distance between Tiebars		mm	500x500								
Total Mold carrying capacity		kg	1250								
Max.mold.wt.in moving platen		kg	800								
Hydraulic Ejector stroke		mm	160								
Ejection Force/Retraction Force		kN	49/24								
Oil Tank Capacity		L	350								
Net Weight (Without oil)		kg	6500								
Dimensions of machines (Approx)	L	mm	6100								
	B	mm	1570								
	H	mm	2120								
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 Polystrene(PS)		g	162	210	266	210	294	363	326	402	579
Rate of Injection #		cc/s	128	158	200	132/186	167/236	207/291	128/181	159/223	228/322
Plasticising flow in PS*	Stage I	g/s	-	-	-	-/-	-/-	-/-	33.1/33.1	44.4/-	61.8/-
	Stage II	g/s	23.3	30.4	33.1	29.3/30.4	33.1/33.1	44.4/44.4	20.7/29.4	30.9/43.7	51.6/61.8
Screw Stroke		mm	175	184	184	184	203	203	225	225	225
Max.Nozzle dipping depth(SVO)		mm	45	45	45	45	45	45	45	45	45
Nozzle Contact force		kN	45	45	45	45	45	45	45	45	45
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	22	22	22/30	22/30	22/30	22/30	22/30	22/30

#Achieved in air injection

*Theoretical value is given. Actual would depend on Resin, Density and Residence time

TD 250 Vcon

TECHNICAL DATA

Clamping Unit			250/580
Clamping Force		kN	2500
Locking Force		kN	2750
Mold Opening Stroke		mm	575
Mold Height(Min/Max)		mm	340/790
Max.Daylight between Platens		mm	1365
Overall Size of Platens		mm	860x860
Distance between Tiebars		mm	580x580
Total Mold carrying capacity		kg	2500
Max.mold.wt.in moving platen		kg	1600
Hydraulic Ejector stroke		mm	180
Ejection Force/Retraction Force		kN	69/31
Oil Tank Capacity		L	500
Net Weight (Without oil)		kg	10000 - For IU600/900 11000 - For IU1400
Dimensions of machines (Approx)	L	mm	7000
	B	mm	1930
	H	mm	2120

Injection Unit Size			600			900			1400		
Screw Cylinder			A	B	C	A	B	C	A	B	C
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 Polystrene(PS)		g	210	294	363	326	402	579	482	746	1016
Rate of Injection #		cc/s	186	236	291	181/253	223/313	322/450	176/246	253/355	345/483
Plasticising flow in PS*	Stage I	g/s	-	-	-	33.1/-	-/-	-/-	31/43.4	51.8/61.8	71.7/-
	Stage II	g/s	30.4	33.1	44.4	29.4/33.1	43.7/44.4	61.8/61.8	22/30.9	36.8/51.5	50.9/71.3
Screw Stroke		mm	184	203	203	225	225	225	270	290	290
Max.Nozzle dipping depth(SVO)		mm	45	45	45	45	45	45	45	45	45
Nozzle Contact force		kN	45	45	45	45	45	45	70	70	70
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	30	30	30	30/37	30/37	30/37	30/37	30/37	30/37

#Achieved in air injection
*Theoretical value is given. Actual would depend on Resin, Density and Residence time

TD 275 Vcon

TECHNICAL DATA

Clamping Unit			275/645								
Clamping Force		kN	2750								
Locking Force		kN	3025								
Mold Opening Stroke		mm	600								
Mold Height(Min/Max)		mm	310/710								
Max.Daylight between Platens		mm	1310								
Overall Size of Platens		mm	940x940								
Distance between Tiebars		mm	645x645								
Total Mold carrying capacity		kg	3000								
Max.mold.wt.in moving platen		kg	1900								
Hydraulic Ejector stroke		mm	200								
Ejection Force/Retraction Force		kN	70/39								
Oil Tank Capacity		L	740								
Net Weight (Without oil)		kg	14200								
Dimensions of machines (Approx)	L	mm	7750								
	B	mm	1980								
	H	mm	2320								
Injection Unit Size			**900**			**1400**			**2350**		
Screw Cylinder			**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
Screw Diameter		mm	45	50	60	50	60	70	60	70	80
L/D Ratio			20	20	20	20	20	20	20	20	20
Injection Pressure		bar	2496	2022	1404	2565	1780	1309	2557	1878	1438
Cylinder Head Volume		cc	358	442	636	530	820	1116	919	1251	1634
Shot weight in Polystrene(PS)		g	326	402	579	482	746	1016	836	1138	1487
Rate of Injection #		cc/s	253	313	450	246/301	355/433	483/590	230/281	313/383	409/500
Plasticising flow in PS*	Stage I	g/s	-	-	-	43.4/44.4	61.8/-	-/-	56.3/61.8	73.3/-	88.4/-
	Stage II	g/s	33.1	44.4	61.8	30.9/37.5	51.5/61.8	71.3/73.3	42.9/52.4	59.4/72.5	81.9/88.4
Screw Stroke		mm	225	225	225	270	290	290	325	325	325
Max.Nozzle dipping depth(SVO)		mm	45	45	45	45	45	45	45	45	45
Nozzle Contact force		kN	45	45	45	70	70	70	70	70	70
Heating Capacity		kW	12.8	19.4	24.3	19.4	24.3	27	24.3	27	30.6
Pump unit-Induction Motor (Equivalent Servo motor)		kW	37	37	37	37/45	37/45	37/45	37/45	37/45	37/45

#Achieved in air injection
*Theoretical value is given. Actual would depend on Resin, Density and Residence time

TD 350 Vcon

TECHNICAL DATA

Clamping Unit			350/720								
Clamping Force		kN	3500								
Locking Force		kN	3850								
Mold Opening Stroke		mm	780								
Mold Height(Min/Max)		mm	330/830								
Max.Daylight between Platens		mm	1610								
Overall Size of Platens		mm	1040x1040								
Distance between Tiebars		mm	720x720								
Total Mold carrying capacity		kg	3900								
Max.mold.wt.in moving platen		kg	2500								
Hydraulic Ejector stroke		mm	200								
Ejection Force/Retraction Force		kN	69/31								
Oil Tank Capacity		L	740								
Net Weight (Without oil)		kg	15400/16400								
Dimensions of machines (Approx)	L	mm	9050								
	B	mm	2200								
	H	mm	2370								
Injection Unit Size			**1400**			**2350**			**4000**		
Screw Cylinder			**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
Screw Diameter		mm	50	60	70	60	70	80	70	80	95
L/D Ratio			20	20	20	20	20	20	23	20	20
Injection Pressure		bar	2565	1780	1309	2557	1878	1438	2474	1894	1343
Cylinder Head Volume		cc	530	820	1116	919	1251	1634	1636	2137	3013
Shot weight in Polystrene(PS)		g	482	746	1016	836	1138	1487	1488	1944	2741
Rate of Injection #		cc/s	246/301	355/433	483/590	230/281	313/383	409/500	312	407	574
Plasticising flow in PS*	Stage I	g/s	43.4/44.4	61.8/-	-/-	56.3/61.8	73.3/-	88.4/-	59.6	82.2	112
	Stage II	g/s	30.9/37.5	51.5/61.8	71.3/73.3	42.9/52.4	59.4/72.5	81.9/88.4	48.3	66.7	100
Screw Stroke		mm	270	290	290	325	325	325	425	425	425
Max.Nozzle dipping depth(SVO)		mm	45	45	45	45	45	45	45	45	45
Nozzle Contact force		kN	70	70	70	70	70	70	110	110	110
Heating Capacity		kW	19.4	24.3	27	24.3	27	30.6	31.2	31.2	43.9
Pump unit-Induction Motor (Equivalent Servo motor)		kW	37/45	37/45	37/45	37/45	37/45	37/45	45	45	45

#Achieved in air injection

*Theoretical value is given. Actual would depend on Resin, Density and Residence time