



MECHATRONICS
MACHINERY & TOOLS
INDIA



THE PENTA SERIES

Plastic Injection Moulding Machines

- Designed in India for Indian Conditions
- Made in India
- Fully up-gradable for a long and Profitable Operating Life
- Maintained by us for a worry-free Ownership and Operating experience



THE PENTA SERIES

ITS SALIENT FEATURES.

The machine has a single integrated casting as a base for exceptional rigidity and durability.



In the Clamping Unit

1. Hard chrome plated Tie Bars
2. High strength Brass Bushes with embedded graphite, running on the Tie Bars
3. Moving platen guide shoes for low friction but fast and stable mold movement, again embedded with graphite as a Lubricant.
4. Adjusting all 4 Tie Bars for equal tonnage force.
5. Auto Lubrication for all Toggle Points with the Lubricant distribution system all around
6. A Mould height adjusting hydraulic-powered Gear Mechanism with a sensor for rough and fine adjustments.
7. Large space between Tie Bars for adapting more sizes of Moulds and multi capacity Moulds
8. T-slot Moulds clamping mechanism for easy Mould loading and unloading

In the Injection Unit

1. Twin-cylinder balanced Injection unit
2. Injection unit and the Hydro unit move on the Linear Motion Guide for low friction and fast movement
3. A 5 stage Injection, 2 stage hold-on and 3 stage charging
4. Post and pre suck back option
5. Injection speed display on graph
6. Nozzle contact force through Non Return Valve
7. Nitrided barrel and Nitrided hard Chromed Screw
8. A high torque Hydraulic Motor
9. Material cold start protection
10. Accurate PID heat control
11. Mechanical adjustment of Injection unit in respect to fixed Platen centre
12. Barrel protection
13. Purge cover
14. Auto Purging options

Control Unit

1. High Response Controller
2. All Switchgears by L & T
3. High precision proportional Pressure and Flow control
4. Full color Display
5. Closed loop PID Temperature control
6. 120 sets of Mould Memory
7. Quality control page displaying "Cushion, Open -Close- Injection Cycle time" parameters
8. Production Chart showing per hour produced pieces and rejections
9. Screw rotation Speed Display
10. Automatic Fault Detection & Display
11. USB for data uploading and downloading
12. Input/Output texting function on-board Diagnosis
13. Emergency buttons for rear and front safety doors
14. Alarm light with buzzer.

Hydraulic System

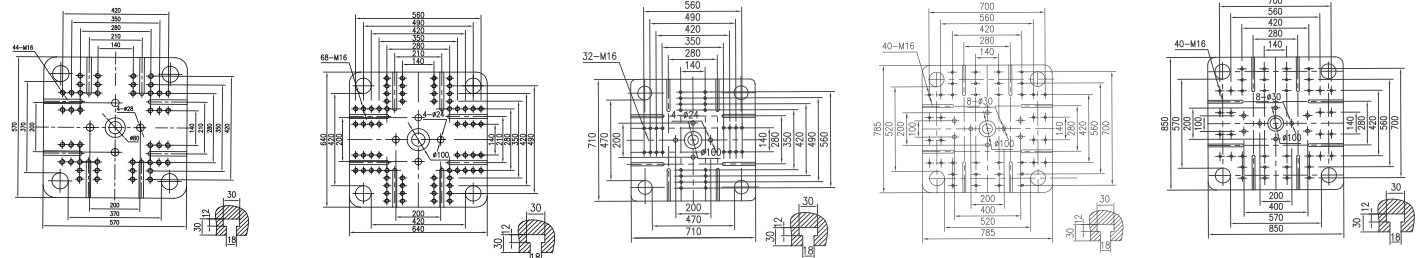
1. Hydraulic Valves from Rexroth
2. Hydraulic Circuit designed to meet International Safety Standards
3. Hydraulic Oil regeneration circuits
4. Servo Hybrid system
5. High response closed loop Hydraulic System
6. High Operating efficiency of around 95-98%
7. Low wastage of power hence high Power Saving
8. Better life of Hydraulic Seals, Oil and Valves
9. Low water consumption
10. Improved Precision Cycle and Repeatability



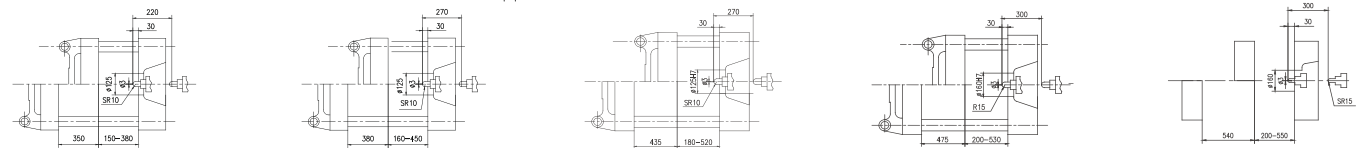
स्पेसिफिकेशन्स SPECIFICATIONS

प्रोजेक्ट	DESCRIPTION	UNIT	MMTI110/358			MMTI140/473			MMTI170/632			MMTI230/832			MMTI270/1085					
			डिस्क्रिप्शन			CM ³			358			473			632			832		
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C			
INJECTION UNIT इंजेक्शन यूनिट	स्क्रेव डायमीटर	Screw Diameter	mm	35	38	42	38	42	45	42	45	50	45	50	55	50	55	60		
	स्क्रेव एल/डी रेशियो	Screw L/D Ratio	L/D	22.8	21	19	22.1	20	18.6	23.5	22	19.8	23.4	21	19.1	25.2	22.9	21		
	शॉट वॉल्यूम	Shot Volume	cm ³	163	192	235	226	277	318	311	357	441	397	490	593	530	641	763		
	इंजेक्शन वेट (पी एस)	Injection Weight (PS)	g	148	175	213	206	252	289	283	325	402	362	446	540	482	583	694		
	इंजेक्शन रेट	Injection Rate	g/s	90	104	128	94	115	132	138	160	196	124	154	186	187	227	270		
	इंजेक्शन प्रेशर	Injection Pressure	MPa	219	186	158	208	171	149	203	177	143	207	168	138	205	169	142		
स्क्रेव स्पीड	Screw Speed	r/min		205			220			190			175			185				
CLAMPING UNIT क्लैम्पिंग यूनिट	क्लैम्पिंग फोर्स	Clamping Force	kN	1100			1400			1700			2300			2700				
	टॉगल स्ट्रोक	Toggle Stroke	mm	350			380			435			475			540				
	स्पेस बिटवीन टाई-बार्स (डब्ल्यू x एच)	Space Between Tie-Bars (WxH)	mm	370 x 370			420 x 420			470 x 470			520 x 520			570 x 570				
	मैक्सिमम मोल्ड हाइट	Max. Mold Height	mm	380			450			520			530			550				
	मिनिमम मोल्ड हाइट	Min. Mold Height	mm	150			160			180			200			200				
	इजेक्टर स्ट्रोक	Ejector Stroke	mm	100			120			135			140			150				
इजेक्टर टनेज	Ejector Tonnage	kN	30			50			50			70			70					
OTHERS अन्य	मैक्सिमम पंप प्रेशर	Max. Pump Pressure	MPa	16			16			16			16			16				
	मोटर पावर	Motor Power	kW	11+11			15+14.5			18.5+14.5			22+18			30+25.5				
	हीटर पावर	Heater Power	kW	7.55			9.3			12.3			14.8			16.8				
	मशीन डाइमेंशन्स	Machine Dimensions	m	4.2 x 1.2 x 1.79			4.4 x 1.33 x 1.90			5.04 x 1.43 x 2.12			5.68 x 1.50 x 2.14			5.90 x 1.60 x 2.25				
	आयल टैंक कैपेसिटी	Oil Tank Capacity	L	190			270			300			300			380				
	मशीन वेट	Machine Weight	T	3.2			4			6			7			8				

मोल्ड प्लेटेन डाइमेंशन्स
Mould Platen dimensions



मोल्ड स्पेस डाइमेंशन्स
Mould space dimensions



MMTI110/358

MMTI140/473

MMTI170/632

MMTI230/832

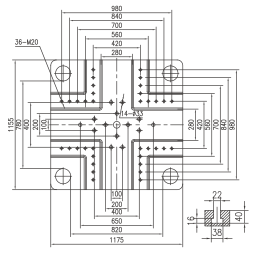
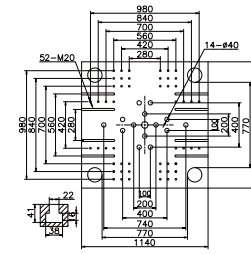
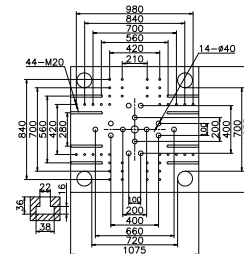
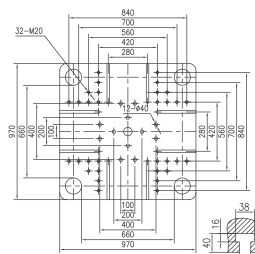
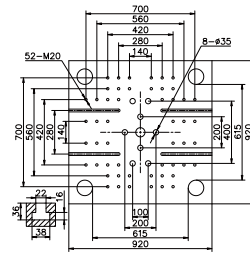
MMTI270/1085



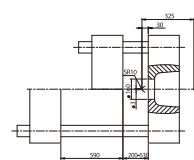
स्पेसिफिकेशन्स SPECIFICATIONS

प्रोजेक्ट	DESCRIPTION	UNIT	MMTI310/1354			MMTI360/2452			MMTI410/2710			MMTI460/2987			MMTI530/3290						
			दिक्रिप्शन			CM ³			1354			2452			2710			2987			3290
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	D			
INJECTION UNIT इंजेक्शन यूनिट	स्क्रेव डायमीटर	Screw Diameter	mm	55	60	65	65	70	75	470	75	80	70	75	80	75	80	85	90		
	स्क्रेव एल/डी रेशियो	Screw L/D Ratio	L/D	23	21	19	22.5	21	19.5	22	20	19	22	20	19	22.7	21.2	20	18.9		
	शॉट वॉल्यूम	Shot Volume	cm ³	677	805	945	1175	1362	1564	1501	1723	1960	1501	1723	1960	1722	1960	2213	2481		
	इंजेक्शन वेट (पी एस)	Injection Weight (PS)	g	615	732	860	1069	1239	1423	1366	1568	1784	1366	1568	1784	1567	1783	2013	2257		
	इंजेक्शन रेट	Injection Rate	g/s	223.5	266	312.2	337	368	422	335	384	437	335	384	437	386	442	499	560		
	इंजेक्शन प्रेशर	Injection Pressure	MPa	200	168	143	208	180	157	174	152	133	199	173	152	191	168	148	132		
स्क्रेव स्पीड	Screw Speed	r/min		190			155			172			169					130			
CLAMPING UNIT क्लैम्पिंग यूनिट	क्लैम्पिंग फोर्स	Clamping Force	kN	3100			3600			3980			4600			5300					
	टॉगल स्ट्रोक	Toggle Stroke	mm	590			660			705			740			770					
	स्पेस बिटवीन टाई-बार्स (डब्ल्यू x एच)	Space Between Tie-Bars (WxH)	mm	615 x 615			660x660			720 x 700			770 x 770			820 x 780					
	मैक्सिमम मोल्ड हाइट	Max. Mold Height	mm	630			680			780			780			810					
	मिनिमम मोल्ड हाइट	Min. Mold Height	mm	200			250			250			250			330					
	इजेक्टर स्ट्रोक	Ejector Stroke	mm	150			160			150			200			200					
इजेक्टर टनेज	Ejector Tonnage	kN	70			70			79			110			150						
OTHERS अन्य	मैक्सिमम पंप प्रेशर	Max.Pump Pressure	MPa	16			16			16			16			16					
	मोटर पावर	Motor Power	kW	30+25.5			37+27			37+36			45+36			55+45					
	हीटर पावर	Heater Power	kW	18.3			24.6			29.5			29.5			32.6					
	मशीन डाइमेंशन्स	Machine Dimensions	m	5.98 x 1.66 x 2.35			7.21 x 1.88 x 2.34			7.4 x 1.9 x 2.35			7.5 x 1.95 x 2.4			8.82 x 2.05 x 2.82					
	आयल टैंक कैपेसिटी	Oil Tank Capacity	L	385			620			700			720			900					
	मशीन वेट	Machine Weight	T	9			12.5			16			20			28					

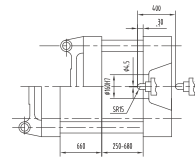
मोल्ड प्लाटेन डाइमेंशन्स
Mould Platen dimensions



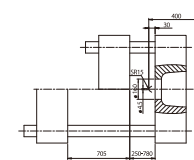
मोल्ड स्पेस डाइमेंशन्स
Mould space dimensions



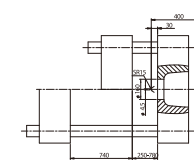
MMTI310/1354



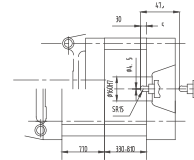
MMTI360/2452



MMTI410/2710



MMTI460/2987



MMTI530/3290

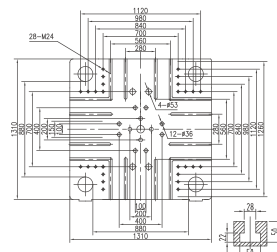


स्पेसिफिकेशन्स SPECIFICATIONS

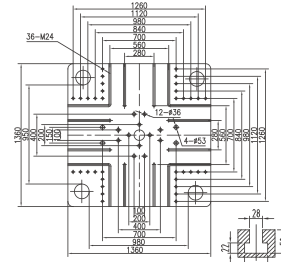
प्रोजेक्ट	DESCRIPTION	UNIT	MMTI650/4680				MMTI780/5707				MMTI900/6910				MMTI1180/8603								
			डिस्क्रिप्शन				CM ³				4680				5707				6910				8603
			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D					
INJECTION UNIT इंजेक्शन यूनिट	स्क्रेव डायमीटर	Screw Diameter	mm	90	95	100	105	90	95	105	110	95	100	105	110	100	110	120	130				
	स्क्रेव एल/डी रेशियो	Screw L/D Ratio	L/D	23	21	20	19	23	21	20	18.5	25.5	23	21.9	20.9	23	20.9	19.1	18.5				
	शॉट वॉल्यूम	Shot Volume	cm ³	2544	2834	3140	3412	2925	3259	3982	4369	3544	3927	4330	4751	4367	5284	6288	7380				
	इंजेक्शन वेट (पी एस)	Injection Weight (PS)	g	2315	2579	2857	3150	2662	2966	3623	3977	3225	3645	3940	4323	3974	4808	5722	6716				
	इंजेक्शन रेट	Injection Rate	g/s	552	612	679	748	574	640	708	781	580	717	867	948	580	717	867	948				
	इंजेक्शन प्रेशर	Injection Pressure	MPa	184	165	149	135	194	174	143	130	195	175	158	143	197	163	137	117				
	स्क्रेव स्पीड	Screw Speed	r/min	149				110				100				100							
CLAMPING UNIT क्लैम्पिंग यूनिट	क्लैम्पिंग फोर्स	Clamping Force	kN	6500				7800				9000				11800							
	टॉगल स्ट्रोक	Toggle Stroke	mm	870				950				1000				1200							
	स्पेस बिटवीन टाई-बार्स (डब्ल्यू x एच)	Space Between Tie-Bars (WxH)	mm	880 x 880				980 x 950				1125 x 1085				1180 x 1100							
	मैक्सिमम मोल्ड हाइट	Max. Mold Height	mm	900				960				1100				1250							
	मिनिमम मोल्ड हाइट	Min. Mold Height	mm	350				400				400				500							
	इजेक्टर स्ट्रोक	Ejector Stroke	mm	250				280				325				325							
	इजेक्टर टनेज	Ejector Tonnage	kN	150				210				215				245							
OTHERS अन्य	मैक्सिमम पंप प्रेशर	Max. Pump Pressure	MPa	16				16				16				16							
	मोटर पावर	Motor Power	kW	37*2+27*2				(37+45) + (27+36)				45*2+36*2				(55+45)+45*2							
	हीटर पावर	Heater Power	kW	42.8				54.3				59				67							
	मशीन डाइमेंशन्स	Machine Dimensions	m	10.2 x 2.2 x 2.71				11.43 x 2.4 x 3.14				12.15 x 2.6 x 2.85				12.15 x 2.6 x 2.85							
	आयल टैंक कैपैसिटी	Oil Tank Capacity	L	1100				1200				1700				2050							
	मशीन वेट	Machine Weight	T	32				42				53				53							

मोल्ड प्लाटेन डाइमेंशन्स
Mould Platen dimensions

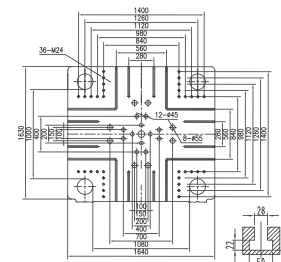
मोल्ड स्पेस डाइमेंशन्स
Mould space dimensions



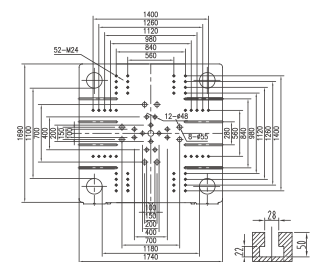
MMTI650/4680



MMTI780/5707



MMTI900/6910



MMTI1180/8603



ACCESSORIES



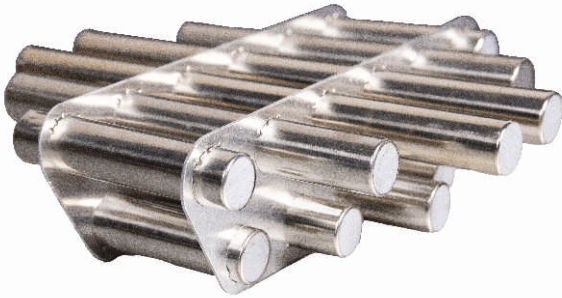
हॉपर ड्रायर
HOPPER DRYER



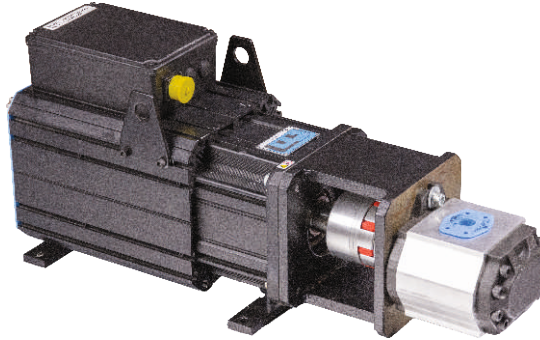
पावरफुल क्रशर
Powerfull Crusher



डिवाइडेड माइक्रो कम्प्यूटर
फुल्ली आटोमेटिक मटेरियल सकिंग मशीन
Divided Micro Computer Fully Automatic
Material Sucking Machine



हॉपर मैग्नेट
Hopper Magnet



सर्वो मोटर
SERVO MOTOR

माइक्रो कम्प्यूटर
फुल्ली आटोमेटिक मटेरियल सकिंग मशीन
Micro Computer Fully Automatic
Material Sucking Machine





ACCESSORIES



मोल्ड क्लैम्स
MOULD CLAMPS



वाटर मनीफोल्ड
WATER MANIFOLD



डिवाइडेड माइक्रो कम्प्यूटर
फुल्ली आटोमेटिक मटेरियल सर्किंग मशीन
Divided Micro Computer Fully Automatic
Material Sucking Machine



Certificate of Registration

This is to certify that

MECHATRONICS MACHINERY & TOOLS (INDIA)
Plot No. 20 & 21, Sector 63, Phase V, Kundli Ind. Area, Sonapat,
Haryana-131028, India

has been independently assessed by QRO
and is compliant with the requirement of:

ISO 9001:2015

Quality Management System

For the following scope of activities:

**Manufacturing and Supply of Plastic Injection Molding Machines,
Plastic Molded and Machined Metal Components**

Date of initial registration: 1st August 2022 Certificate Expiry: 31st July 2025
Date of this Certificate: 1st August 2022 Recertification Due: 31st July 2025

Certificate Number: 305022080106Q



Head of Certification

Validity of this certificate is subject to annual surveillance audits to be done successfully on or before 365 days from date of the audit.
(In case surveillance audit is not allowed to be conducted; this certificate shall be suspended / withdrawn).
The Validity of this certificate can be verified at www.qrocert.org
This certificate of registration remains the property of QRO Certification LLP, and shall be returned immediately upon request.

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Website : www.qrocert.org, E-mail : info@qrocert.org



ABOUT US

MECHATRONICS MACHINERY & TOOLS (INDIA) is one of the leading solution providers for Injection moulding machines and processes in India.

MMTI was established 25 years back at Delhi NCR, to cater to the sudden and huge demand of injection moulding parts for the automobile, and almost every industry which came up with the opening up of the Indian economy.

MMTI addressed the challenge of providing machines immediately at low capital expenditure to the industries across India, by importing used machines from Japan, Europe and America, re-conditioning them and also adapting them to the Indian conditions.

Over the years, MMTI has served these machines, kept them in perfect working conditions, and upgraded them with new features and customizations as per users' needs.

With both founders, **Mr SS Chauhan and Mr Ajay Bedi**, being engineers and having worked in this industry prior to setting up MMTI, the innovations, value adds and customizations were quick to come by, like fitting of hybrid servo motors on used and old machines way back in 2009 for saving precious electricity, and bringing in efficiencies with new technology control systems.

We have launched our own designed Penta Series Plastic Injection moulding machines, based on our experience of the issues faced by imported machines in Indian requirements and conditions.

We are now offering complete solutions starting with consultancy to delivering the Penta series and customized machines along with moulds and accessories for your component manufacturing requirements.



CONTACT US



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SCAN FOR CATALOGUE

