

Plastic Material Handling Solutions
re-engineers bottom line



Conveying Solutions

Drying Solutions

Blending Units

Chillers

Temperature Control Units

Granulators

Bulk Material Handling

TOSHIBA MACHINE (CHENNAI) PVT.LTD.

ONE COMPANY MANY SOLUTIONS

Toshiba Machine (Chennai) Pvt. Ltd one of the pioneers in manufacture of Injection Moulding Machines & Auxiliary Systems for over two decades are serving the Industry with expertise and proven solutions in enhancing the bottom line of Plastic Processing Industry be it Injection Moulding, Blow Moulding, Extrusion, Roto, Thermoforming, Rubber, Die Casting and Compression Molding by providing the state-of-the-art technology to its Esteemed Clients across the Globe.

We are presenting the latest Auxiliary Units & Systems to suit the needs of any molding shop floor which can be adapted to have the latest Automation techniques in order to enhance productivity and to ensure consistent product quality and repeatability. The various product lines are

- Central Conveying System with the latest Touch Screen and SCADA type systems tailor made to suit the customer / production needs
- Dehumidified Air Dryers (50 to 2400 cum / hr air generators which can be coupled with single or multiple bin combinations from 15 to 2400 Liters) with energy saving features
- Hot Air Dryers – Machine / Floor Mounted versions ranging from 30 to 4000 Liters
- Vacuum Loaders with conveying capacity from 50 – 1200 Kg/hr
- Industrial Chillers - Air Cooled & Water Cooled from 3.5 to 20 TR
- Blending Units - Gravimetric 100 – 600 Kg/hr and Volumetric Units 100 – 1200 Kg/hr
- Granulators – Sprue Granulator. Slow Speed Units, Part Granulators (on request)
- Mould Temperature Controllers – Direct Cooling with Water up to 120 Deg C and Open tank systems for use with either Water at 95 Deg C or Oil up to 225 Deg C
- Silo's, Debugging Station, Day Bin, Special storage solutions



LMD 250 / 400



SSL 06



LSG 1

Technical Specifications mentioned are subject to changes due to continuous improvements

VACUUM LOADERS



Models

HLB-E, HLB-ET, HBE 3/4, HLS, SSL06

Conveying capacity - upto 1200 kgs/hr

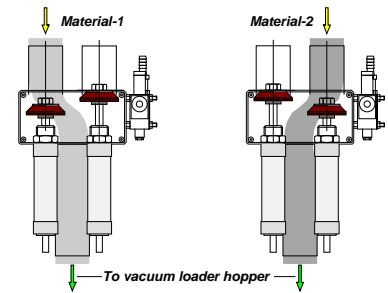
Options available:

- System Loader with central Blower
- Unit with 3 phase, stand alone Blower
- PLC control, Mimic Display of Conveying sequence
- Automatic cleaning of filter after every cycle
- 2 / 5 / 15 Liter adaptor for M/c mounting
- Alarm when material is not being conveyed
- System loader HLS 02 - HLS 75 liters
- Option with Glass Tube Assembly for Low Throughput
- Magnetic Grill for undried material

Proportioning Valve

Models - PV dia 38/45/60

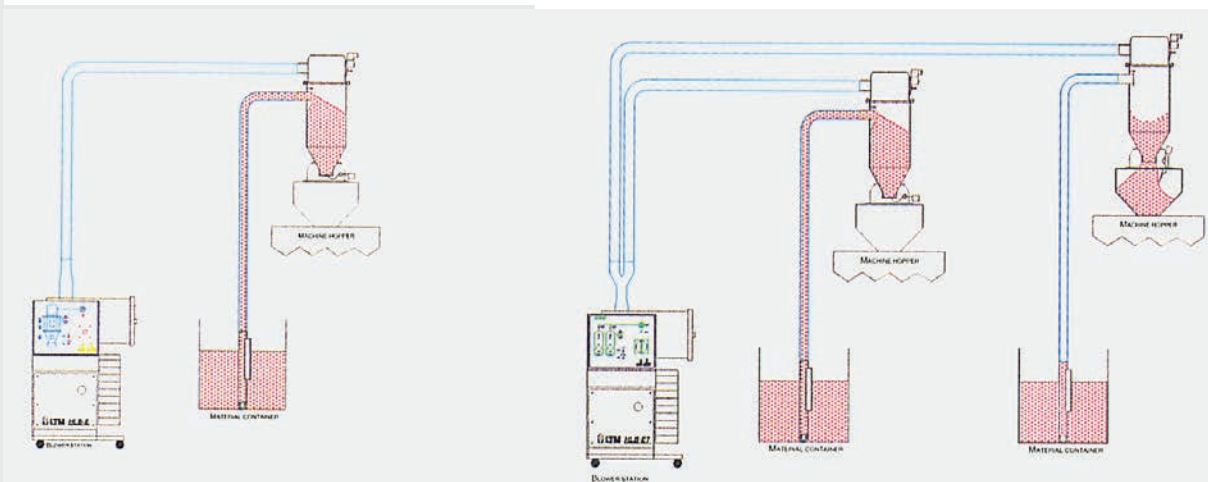
- Stainless steel construction
- Can be integrated with Toshiba Machine Vacuum Loader
- Online recycling of regrind material



Schematic of HLB-E

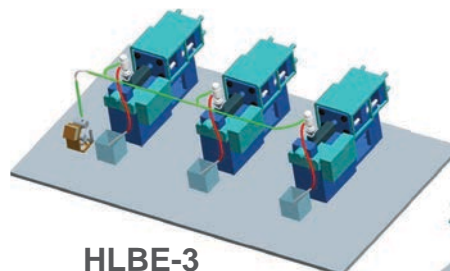
Schematic of HLB-ET

Operation sequence

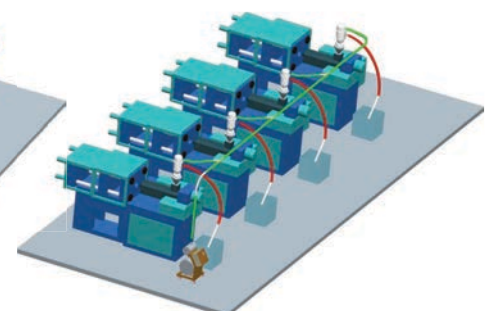


UNIQUE FEATURES

- Filter is cleaned automatically during every conveying cycle.
- Parts of loader coming in contact with plastic materials are manufactured from abrasion resistant stainless steel.
- Metallic material inlet and discharge flaps ensure that material being conveyed does not come into contact with synthetic seals.
- Blowers are highly reliable with zero maintenance.
- Large discharge opening prevents bridging when conveying regrind.
- Automatic alarm when material is not being conveyed.
- Top section is easily removable to facilitate maintenance.
- Robust design ensures reliable performance.
- **Optional: Special Dust Filter for Regrind usage**



HLBE-3



HLBE-4

VACUUM LOADERS

Technical Specification

Model	Conveying Capacity* (kg / hr / loader)	Approx. dimension (mm)		Blower Rating (kW)		PVC Hose Dia (mm) <small>Vaccum & Material</small>	PVC Hose Qty (Mtr) <small>Vaccum & Material</small>	Suction probe (no)	Weight (kg)	Compressed air connection	Power Supply
		Blower station W x D x H (mm)	Loader Dia x H	Std	Opt ^{**}						
SSL06	80	600x540x715	242x512	1.3	1.3	45 & 38	4 & 4	1	40		
HLB-E 08	250	590x540x830	335x560	1.3	2.2	45 & 45	4 & 4	1	50		
HLB-ET 08	130	590x540x830	335x560	1.3	2.2	45 & 45	8 & 8	2	60		
HLB-E3 08	80	590x590x830	335x560	1.3	2.2	45 & 45	12 & 12	3	70		
HLB-E4 08	60	590x590x830	335x560	1.3	2.2	45 & 45	16 & 16	4	80		
HLB-E 15	500	590x590x830	520x665	1.3	2.2	45 & 45	4 & 4	1	70	Male	415 V, 3 phase 50Hz
HLB-ET 15	250	590x590x830	520x665	1.3	2.2	45 & 45	8 & 8	2	80	connector	
HLB-E3 15	160	590x590x830	520x665	2.2	2.2	45 & 45	12 & 12	3	70	1/8" - M8	
HLB-E4 15	125	590x590x830	520x665	2.2	2.2	45 & 45	16 & 16	4	80		
HLB-E 30	800	590x590x830	520x805	2.2	4.0	60 & 60	4 & 4	1	70		
HLB-ET 30	400	590x590x830	520x805	2.2	4.0	60 & 60	8 & 8	2	80		
HLB-E3 30 ^{**}	260	590x590x830	520x805	2.2	4.0	60 & 60	12 & 12	3	80		
HLB-E4 30 ^{**}	180	590x590x830	520x805	2.2	4.0	60 & 60	16 & 16	4	110		
HLB-E 75 & CDF ^{**}	1200	1400x700x1350	520x1330	4.0	7.5	60 & 60	4 & 4	1	120		

* SSL06 - for an equivalent length of 8mtr with dia 38mm hose in ML line. * HLB-E 08/15 - for an equivalent length of 10/25mtr subject to Kg/Hr & RG usage

Compressed air supply 4 - 5 bar moisture and oil free for loader implosion.

** Consult factory

HOT AIR DRYER



Models

LHD30, LHD60, LHD100
LHD150, LHD200, LHD300, LHD450
LDL600, LDL900, LDL1200, LDL2000
LDL3000, LDL 4000

Hopper Capacity in Liters - 30 to 4000

Options available

LHD Series - Machine mounted / Floor mounted

LDL Series - Only Floor mounted

- Energy efficient
- Compact and light weight
- Fully insulated aluminium bin with SS cladding
- PID control of temperature
- Large cleaning window for quick material change over from 60 Liter onwards
- Magnetic Grill BM - 60 for LHD 30
- Magnetic Grill BM - 300 for LHD 60 - 100
- Loader are must for conveying material from 150 liter onwards

Optional

- Pneumatic Suction box for line purging
- Special DOL for various IU's in IMM's
- Special DOL for Extruders

Machine Mounted Version

	LHD 30	LHD 60	LHD 100	LHD 150	LHD 200
Hot Air Capacity m ³ /hr	25	50	70	100	120
Bin capacity lts.	30	60	100	150	200
Connected load (kW)	1.30	1.84	2.84	4.48	4.98
Power supply	230 V, Single Phase 50 Hz			415V, 3 Phase 50Hz	
Temp Range °C	60 - 130			60 - 130	
Weight approx kg	39	50	75	90	105
(HxW1xW2) in mmHeight	950	1086	1250	1450	1684
Width W1	540	625	685	661	740
Width W2	430	550	560	741	661

Floor Mounted Version

	LHD300	LHD450	LDL 600	LDL 900	LDL 1200	LDL 2000	LDL 3000	LDL 4000
Hot Air Capacity m ³ /hr	200	200	400	400	800	850	1800	2500
Bin capacity lts.	300	450	600	900	1200	2000	3000	4000
Connected load (kW)	6.85	6.85	6.65	6.65	13.00	13.00	14.2	21.6
Power supply	3 Ph, 415V / 50 Hz / N+PE							
Temp Range °C	60 - 130							
Weight approx kg	110	125	175	210	250	350	600	800
(HxW1xW2) in mmHeight	1790	2700*	2510*	3030	3040*	4430*	3985*	4170*
Width W1	1025	1150*	1100*	1100	1450*	1700*	1700*	1870*
Width W2	750	800*	1300*	1300	1270*	1620*	1725*	2020*

* Dimension of Floor Mounted Version

DEHUMIDIFIED



LMD 250 / 400

Models

- LMD50, LMD80, LMD120, LMD160
LMD200, LMD250, LMD 400
LMD800

Also available

- Dryers of capacity 1200 to 2400m³/hr (dry air generation)

Dry Air capacity in m³/hr - 50 to 800

Bin size in ltr. - 15 to 4000 and above

- Continuous supply of dry air to the drying bin
- Closed loop regeneration process
- PLC Control facility to monitor all drying functions
- Large cleaning windows from 60 liter bins
- Integrated conveying versions

Technical Data

Models

Data	LMD 50				LMD 80				LMD 120				LMD 160					
Dry air capacity (m ³ /h)	50				80				120				160					
Compressed air pressure (bar) Oil & Moisture free	4-5				-				Not Required				-					
Air Consumption (l/h)	2.3				-				-				-					
Power Supply	3 Phase, 415V + N + PE, 50 Hz																	
Connected load dryer (kW) (excluding drying bin, loaders)	1.9				2.4				5.0				6.5					
Volume of drying bins (litres)	30	60	100	150	60	100	150	250	100	150	250	350	150	250	400	600		
Standard Combinations (no. of respective bins)	3	2	1	1	3	2	2	1	3	2	1	1	3	2	1	1		
Drying temperature °C maximum	130				130				130				130					
Standard bin	-				-				-				-					
HT-High temperature bin (Dryer equipped with after cooler)	180				180				-				180					
Heater (kW) Standard bin	1.5	1.5	2.5	2.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5	4.5	2.5	2.5	4.5	4.5		
HT-High temperature bin (Dryer equipped with after cooler)	-				-				-				4.5	4.5	-	4.5	6.0	6.0
Dimension (mm)																		
Length L1	2205	1630	1085	1085	2205	1665	1665	1255	2390	1775	1440	1500	2400	2200	1425	1565		
Height H1	1310	1500	1705	2040	1500	1705	2040	2040	2040	2450	2050	2450	2450	2040	2450	2450		
Depth	600	600	840	840	600	840	840	840	1080	1080	1080	1080	1080	1080	1080	1080		
Weight of drying bin each with frame (kg) approx	50	70	75	90	70	75	90	120	75	90	120	120	90	120	120	135		
Weight of dry air generator (kg) approx	95				105				140				160					
Colour	RAL 5007 / RAL 7035																	

AIR DRYER

LMD 120 / 160



LMD 50 / 80



Options for LMD 50, LMD 80 and LMD 120, LMD 160, LMD 200, LMD 250, LMD 400, LMD 800

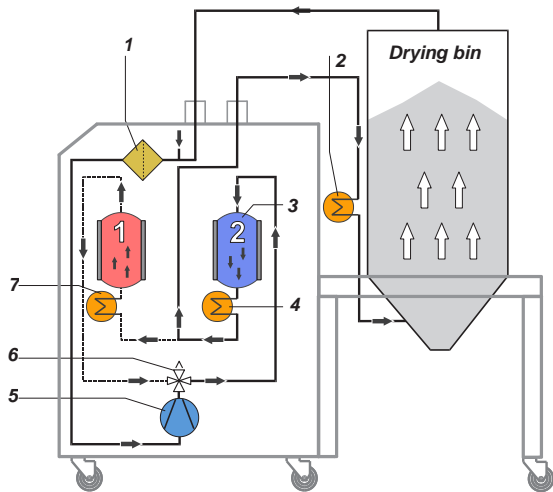
- Pneumatic Operated Suction box for purging operation during conveying • Dry air conveying
- Water based After / Pre Cooler for HT / N - HT version 20 - 40 lpm (Tap / Chilled Water, 2 - 3 bar pressure)
- Dew point based change over with display • Energy Saving & Automatic Temperature regulation , VFD Drives in Large dryers

LMD 200				LMD 250/300				LMD 400				LMD 600				LMD 800						
200				250/350				400				600				800						
5-7				5-7				5-7				5-7				5-7						
2.3				2.3				3.5				3.5				3.5						
3 Phase, 415V + N + PE, 50 Hz																						
5.7				6.5				11.5				17				28.5						
100	150	250	600	100	250	450	600	450	600	900	1200	450	600	900	1200	600	1200	1800	2400			
5	4	2	1	6	3	2	1	3	2	1	1	4	4	2	2	5	3	1	1			
130				130				130				130				130						
-		180		-		180		-		180		-		180		-		180				
3.0	3.0	3.0	6.0	3.0	3.0	4.5	6.0	4.5	6.0	8.0	8.0	4.5	6.0	8.0	8.0	6.0	8.0	12.0	18.0			
-		4.5	6.0	-		4.5	6.0	8.0	-		-	12.0	12.0	-		8.0	12.0	12.0	6.0	12.0	18.0	24.0
3700	3120	2400	2000	4880	3100	2780	2000	4200	3050	2600	2600	5100	9300	3520	4150	7000	6800	2850	2820			
2040	2450	2040	2450	2040	2040	2260	2450	2260	2450	3030	3500	2260	2450	3030	3500	3020	3500	3800	4400			
980	980	980	1050	980	980	1060	1050	1100	1100	1220	1220	1100	1100	1220	1220	1460	1460	1550	1550			
350	320	240	135	90	120	260	135	360	270	220	160	520	600	440	320	650	360	220	320			
278				320				400				490				580						
RAL 5007 / RAL 7035																						

DEHUMIDIFIED AIR DRYER

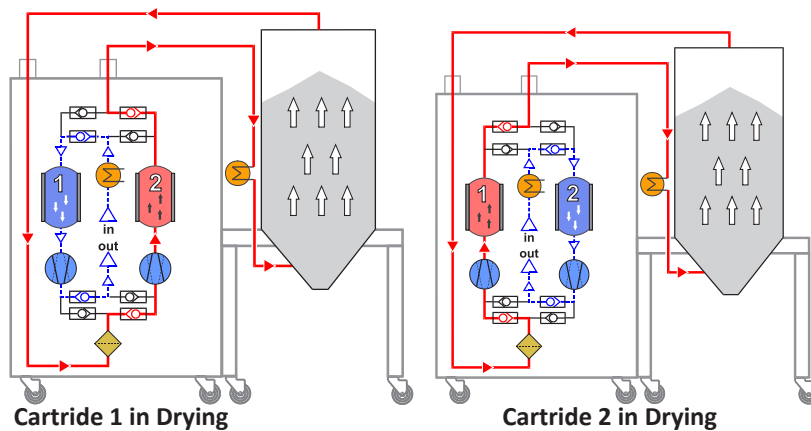
COMPACT DRYER LMD 50 / LMD 80

The mobile compact dryer LMD 50 and LMD 80 drying systems are provided with the latest servo cylinder change over systems ensuring consistent supply of Dry Air for drying various Engg. plastic pellets. The air generator can be equipped with up to three fully insulated drying bins to suit the requirement for drying different grades of plastic pellets.



1. Filter
2. Heater
3. Desiccant cartridge 2
4. Regenerating heater
5. Blower
6. Reversing valve
7. Regenerating heater
8. Water based Aftercooler

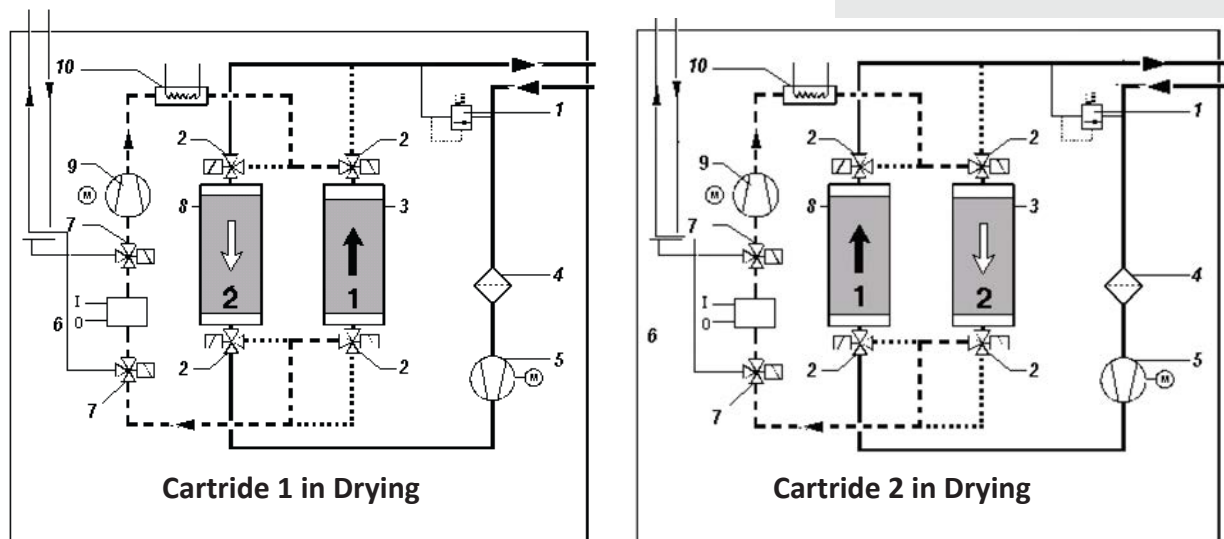
MEDIUM CAPACITY DRYER LMD 120 / LMD 160



The dry air generator operates with air directional flow control valve with separate Blowers for the Drying & Regeneration Circuit operates as required for the process condition.

LARGE CAPACITY DRYER LMD 200 / 250 / 400 / 600 / 800

The dry air generator operates with very low constant dew point.



PET DRYING SYSTEM

FOR STRETCH BLOW MOULDING MACHINES



Models - ASB 01, ASB 02, ASB 03

ASB 04, ASB 05

On request - Dryers of capacity 600 to 2400m³/hr (dry air generation)
- Bin capacity 1200 to 2400 liters

Dry Air capacity in m³/hr - 80 to 250

Bin size in ltr. - 100 to 900

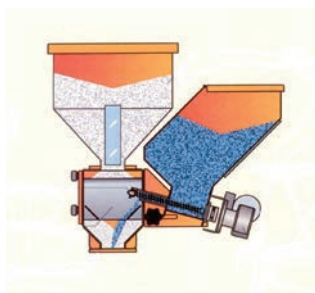
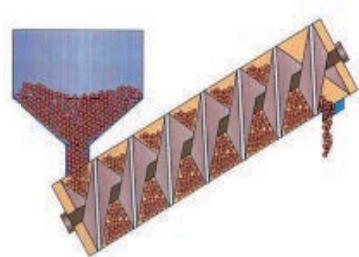
- Continuous supply of dry air to the drying bin
- Closed loop system regeneration
- PLC Control with four line display to monitor all dryer functions
- Machine mounted version
- Water based after cooler (20-40lpm at 15 °C, normal pressure)

Technical Data

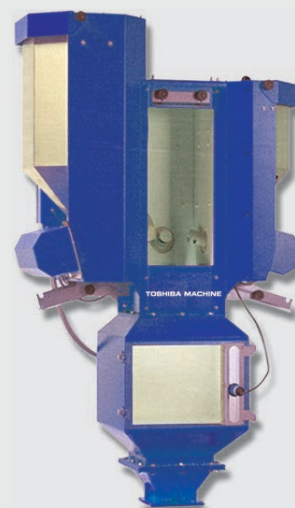
Model	ASB 01	ASB 02	ASB 03	ASB 04	ASB 05
Dry Air Capacity (m3/hr)	75	120	160	200	250
Drying Temp (° C)	160 - 180				
Total Connected Load (kW) *	7.80*	11.0*	12.0*	14.0*	18.0*
Compressed air pressure (bar)	5 - 7 (Oil & Moisture Free)				
Power Supply	415V, 50Hz, 3 Phase (Other frequency on request)				
Specific Air Volume (m3/kg)	2.5	2.5	2.5	2.5	2.5
Bin Capacity (litre)	100 / 150	350	450	600	900
Maximum Throughput (kg/hr)	16 / 24	48	64	80	115
Overall Dimensions LxBxH (mm)	1303x859x2219	1450x859x2621	2000x1050x2700	2000x1050x2820	2250x1150x3830
Weight in kgs (approx)	200	250	300	430	480
* Dryer Generator + Bin + Conveying Blower + Controls		❖ Machine mounted and Floor mounted versions to suit requirements			

VOLUMETRIC & GRAVIMETRIC

VOLUMETRIC BLENDER

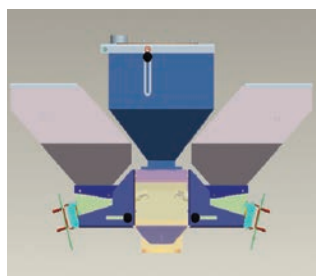


- Consistent dosing with brush less motor
- PLC supported control
- Saving on additives, high repeatability
- Inclined Screw Setting for accurate dosing



SC 1200

MB MINI



Model	MB MINI	MB 250	SC 100	SC 250	SC 1200	
Total Throughput (kg/hr)	120	250	100	250	1200	
Applicable dosing units / Throughput range (kg/hr)	G1S	0.1 - 1.5	0.1 - 1.5	0.1 - 1.5	0.1 - 1.5 ②	0.1 - 1.5 ②
	G2S	0.5 - 9.0	0.5 - 9.0	0.5 - 9.0	0.5 - 9.0	0.5 - 9.0 ②
	G3S	1.5 - 20.0	1.5 - 20.0	1.5 - 20.0	1.5 - 20.0	1.5 - 20.0 ②
	G4S	-	5.0 - 75.0 ③	5.0 - 75.0 ③	5.0 - 75.0	5.0 - 75.0 ②
	G5S	-	-	-	10.0 - 130.0	
	G5L	-	-	-	-	10.0 - 130.0
	G7L	-	-	-	-	50.0 - 700.0
Max.no. of stations	2	3	3	4	4	
Volume of dosing station (Liters)	5	15	5	15	40 / 15	
Voltage	230V, Single Phase 50Hz					
External signal	Potential free in IMM & Blow Moulding / 0 - 10 V Interface in Extrusion					
Power (watt. approx.)	200	500	500	700	700	
Dimensions (mm approx.)	Length	543	629	880	880	1020
	Width	307	359	880	880	1020
	Height	710	562	1640	1825	2150
Weight (kg. approx.)						
Basic unit +1 station	26	30	30	86	94	

② = with 15 litre hopper ③ = with mixer in storage chamber

Optional: Mechanical stirrer for homogeneous mix of main material, master batch and regrind.
Level Sensors for dosing stations. Low Through put Dosing Screw on Request.

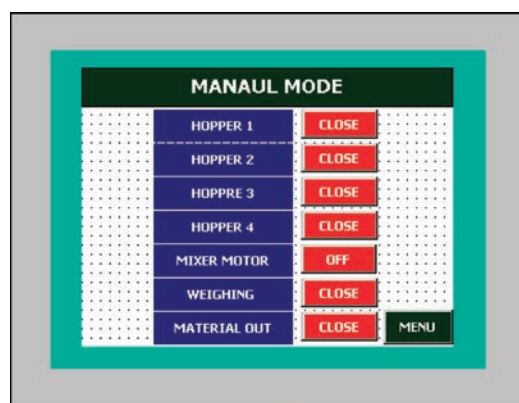
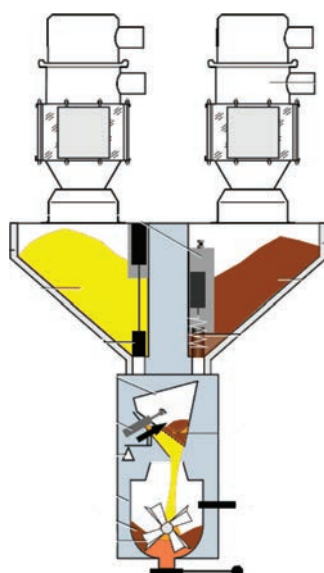
BLENDING SYSTEMS

GRAVIMETRIC BLENDER

- Precise Dosing of pellets & additives
- PLC with touch panel
- Saving on additives, high productivity
- Consistent Batches & Quality
- Up to 100 Recipe storage
- Dedicated PLC Module for Load Cell
- Central Mixing Unit with Mech. stirrer
- Pneumatic slide gate for discharge
- Report print function
- Inventory Management
- Selection of Volumetric / Gravi Mode
- Intelligent self optimising control

Optional

- Pneumatic Suction box for line purging
- Vacuum Loader for dosing stations
- Three level password & special programs
- Micro Dosing screw for low additive Throughputs (less than 4%)

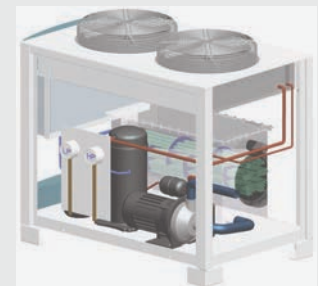
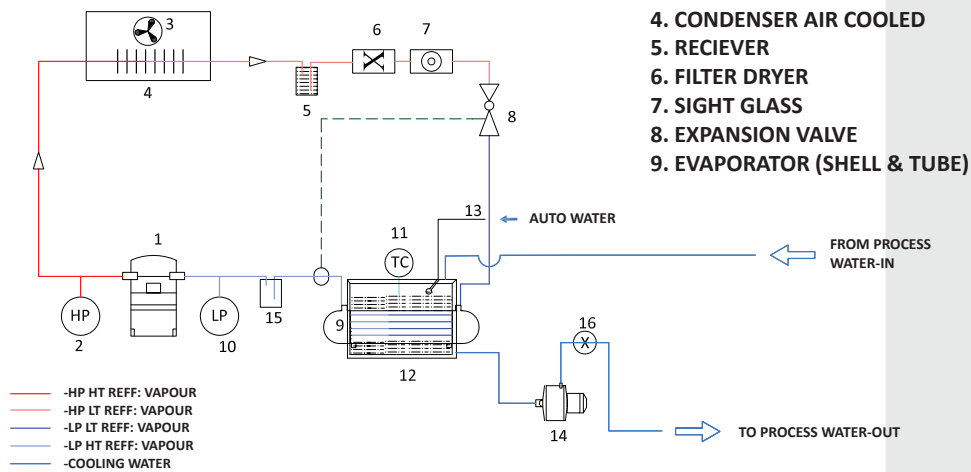


METRO GRAVI SERIES				
SPECIFICATION	UNIT	LTMG - 150	LTMG - 300	LTMG - 600
Max blending rate * (@ 0.7 Bulk Density)	(kg/h)	100	250	450
Max no of Blending materials	nos	4	4	4
Dosing percentage(Main component)	%	50 - 100	50 - 100	50 - 100
Dosing percentage(Additive)	%	4* - 10	4* - 10	4* - 10
Dosing Station Hopper	Liters	15	60	60
Load Cell capacity	kg	6	12	20
No. of Load Cell	No	1	2	2
Power supply 1PH+N+E	Volts/Hz	3 Ph, 415V / 50 Hz / N+PE		
Mixer Motor power	kw	0.12	0.25	0.25
Mixer Motor Speed	rpm	50	25	25
Compressed air supply	bar	5 - 7		
Compressed air Consumption	m ³ /h	0.30	0.45	0.45
Dimensions L X B X H	mm	625 x 850 x 1730	810 x 1050 x 2010	930 x 1090 x 2010
Total connected load	kw	0.25	0.45	0.45
Weight(Aprox)	kg	120	180	210

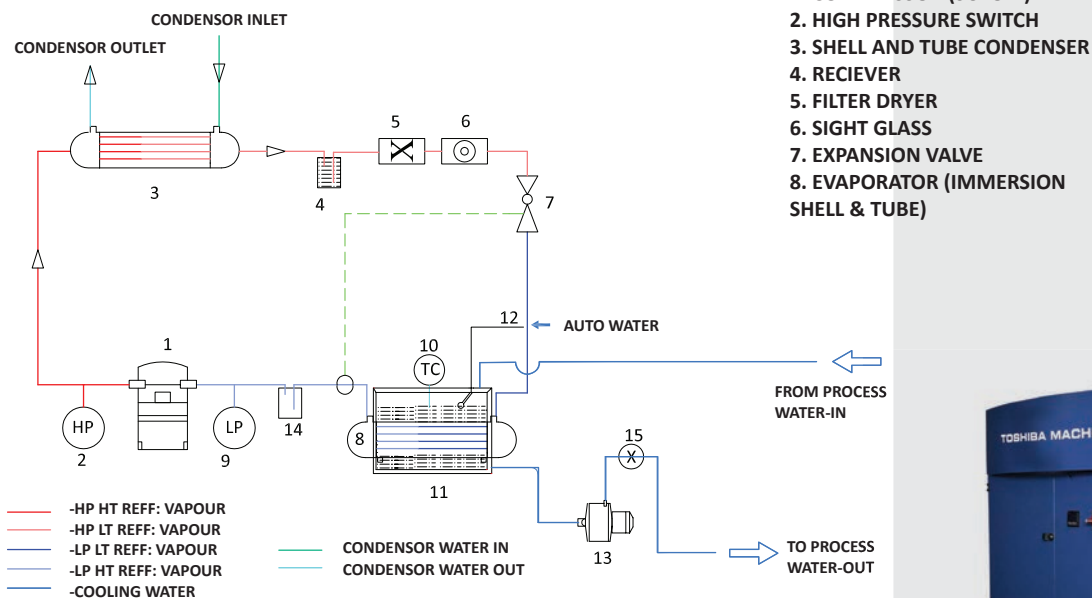
* Special units for % Less than 4% on request

* Throughput Varies with Bulk Density & MB percentage

AIR COOLED CHILLERS



WATER COOLED CHILLERS



Features

- High Pressure & Low Pressure Trip
- High Voltage Trip & Low Voltage Trip
- Overload Trip for fan, processes pump
- Low Temperature Anti-Freeze Safety Thermostat
- Safety pressure switch for process pump
- Internal Over Load Trip for Compressor
- Glass with moisture indicator
- Single phase & phase reversal preventer, MCB for Fan Motor
- Manual By pass valve
- Energy efficient Shell & Tube with immersion type Evaporator

Indications

- Pump , Compressor, Fan ON/OFF
- Programmable digital controller
- Common Light indication with Alarm

Refrigerants circuit add ons

- Accumulator
- Liquid receiver from LTAC 13/LTWC 13 onwards
- High/Low pressure Gauges
- Filter dryer

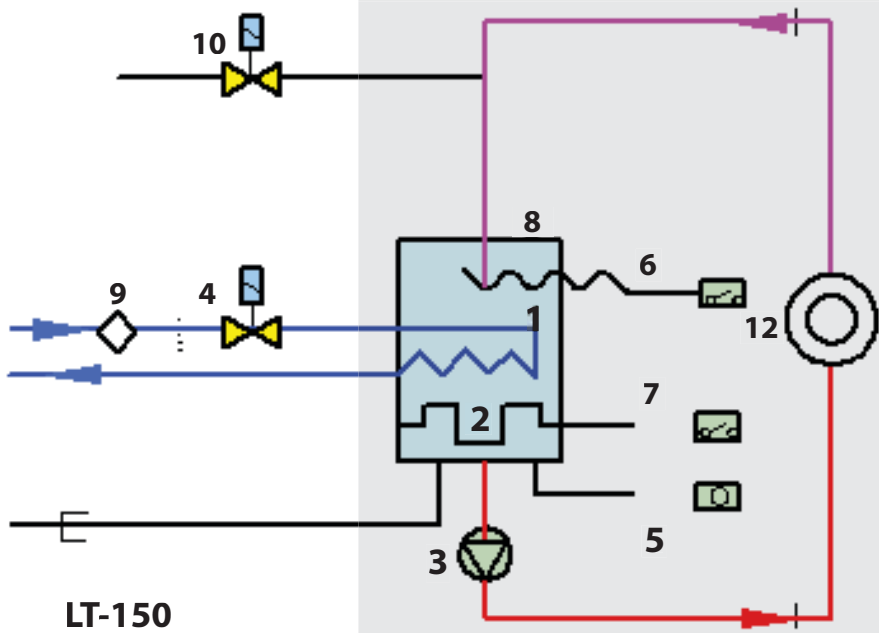
SOLUTIONS

CHILLER-TECHNICAL SPECIFICATIONS - AIR COOLED								
	UNIT	LTAC-3.5	LTAC-5.0	LTAC-7.50	LTAC-10.0	LTAC 13	LTAC-17.0	LTAC 21.0
Nominal Cooling Capacity	Kw	12.25	18.30	27.60	36.9	45	59.80	74.00
At Water Temperature	°C	+15°C						
Control Range	°C	+12°C to + 30°C						
Compressor Drive	Kw	3.42	4.83	6.91	9.27	13.65	17.75	21.70
Refrigerant	-	R-22 (R-407C on request)						
Power supply	V	415 V,50Hz ,3 Phase+N						
Tank capacity	Its	75	100	150	150	300	300	400
Water Connection	BSP	1 1/2"	2 1/2"	2"	2"	2"	2"	2 1/2"
Make up water connection	BSP	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Process Pump Flow	Lpm	130	200	240	240	380	400	500
Process Pump Pressure	bar	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Process Pump Drive	Kw	2.2	4.0	4.0	4.0	5.0	5.5	7.5
Total connected load	Kw	6.12	9.45	11.81	14.17	19.40	25.10	31.70
Dimensions L x B x H	mm	800 x 1400 x 1200		950 x 1800 x 1400		1200 x 1900 x 1800		1300 x 3000 x 1800
Unit Weight	Kg	350	450	600	700	800	900	1000
Water	ph	7.0						
Control Unit		PLC / Microprocessor						

CHILLER-TECHNICAL SPECIFICATIONS - WATER COOLED								
	UNIT	LTWC-3.5	LTWC-5.0	LTWC-7.50	LTWC-10.0	LTWC 13	LTWC-17.0	LTWC 21.0
Nominal Cooling Capacity	Kw	12.25	18.30	27.60	36.9	45	59.80	74.00
At Water Temperature	°C	+15°C						
Control Range	°C	+12°C to + 30°C						
Compressor Drive	Kw	3.42	4.83	6.91	9.27	13.65	17.75	21.70
Refrigerant	-	R-22 (R-407C on request)						
Power supply	V	415 V,50Hz ,3 Phase+N						
Tank capacity	Its	75	100	150	150	300	300	400
Condensor Pump Flow	LPM	50	80	100	110	150	200	240
Water Connection	BSP	1 1/2"	2 1/2"	2"	2"	2"	2"	2 1/2"
Make up water connection	BSP	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Process Pump Flow	Lpm	130	200	240	240	380	400	500
Process Pump Pressure	bar	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Process Pump Drive	Kw	2.2	4.0	4.0	4.0	5.0	5.5	7.5
Total connected load	Kw	5.62	8.83	10.91	13.27	17.55	23.25	29.2
Dimensions L x B x H	mm	800 x 1400 x 1200		950 x 1800 x 1400		1200 x 1900 x 1800		1300 x 3000 x 1800
Unit Weight	Kg	400	500	650	700	850	950	1150
Water	ph	7.0						
Control Unit		PLC / Microprocessor						
Special Note		Condensor Pump is customer scope for Water Cooler Chillers						

TEMPERATURE

OPEN TANK SYSTEMS



LT-150

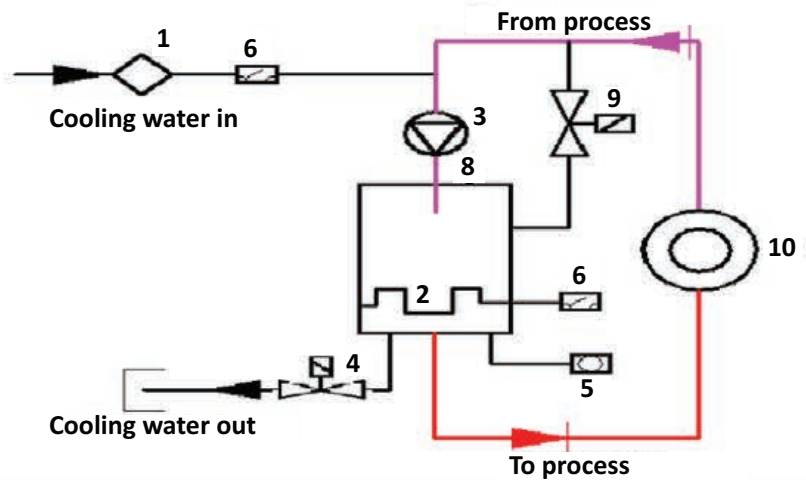
- 1. Cooler, 2. Heater, 3. Pump, 4. Solenoid valve. cooling
- 5. Temperature probe, 6. Level control, 7. Thermostat, 8. Tank
- 9. Filter, water mains, 10. Solenoid valve, 12. Consumer

Technical Data		LT150		LT200	
Outlet temperature (max)	°C	150	90	200	95
Heat transfer fluid		Oil	Water	Oil	Water
Filling quantity	l	12		30	30
Expansion volume (max)	l	4		10	10
Heating Capacity at 400V	kW	6 / 9	6 / 9	12	9 / 12
Cooling Capacity	kW	32	32	32	32
at outlet temperature	°C	140	80	140	80
Cooler (K)		2	2	2	2
Pump capacity / type at 400V	kW				
Flow rate (max)	L / min	70	60	100 / 70	100 / 70
Pressure (max)	bar	5.4	3.8	3.8 / 5.4	3.8 / 5.4
Motor	kW	1.5	0.5	2.8 / 1.0	2.8 / 1.0
Control		P I D		P I D	
Measuring mode (std.)		Pt 100		Pt 100	
Operating voltage (std.)	V / Hz	3 Ph, 415V / 50 Hz / N+PE			
Connection					
Outlet / inlet	G	1 / 2"		1" / 1/2"	
Cooling water mains		1 / 2"		1/2" / 1/2"	
Dimensions W/H/D	mm	200 x 650 x 700		810 x 270 x 880	
Weight	kg	50		100	
Ambient temperature	°C	40			
Noise level	dB	<70			

Optional: Audible Alarm, Outlet Pressure Guage, Auto Water Refill, Manifold and Nylon / Steel braided hoses

CONTROL UNITS

PRESSURISED SYSTEMS



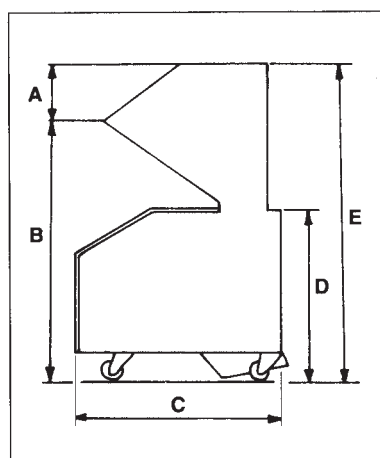
1. Strainer (optional), 2. Heater, 3. Pump,
4. Solenoid valve – Cooling, 5. Temperature probe,
6. Pressure Switch, 7. Safety thermostat,
8. Heater housing, 9. Excess Pressure Relief Solenoid valve,
10. Consumer

Unit can be used only for Operation with Water as Thermal Medium

Model	LT DK70	LT DK150	LTDK200	LTDK300	LTDK400
Temp. Control Range	40 ~ 95°C (Max.140°C)				
Temp. Control Accuracy	± 2°C				
Temp. Control Method	P I D				
Power	3 Ph, 415V / 50 Hz / N+PE				
Heat Transfer Medium	Water with Ph Value - 7.0				
Cooling Method	Direct Cooling				
Heating Capacity (Kw)	9	9	9 / 18	12 / 18	18
Pump Power (Kw)	0.84	1.85	2.20	4.00	4.40
Max Pump Flow (l/min)	70	150	200	300	400
System Pressure (max/bar)	3	3	3	3	3
Cooling water pipe	1 / 2 "	1 / 2 "	1 / 2 "	1 / 2 "	1 / 2 "
Circulation water pipe	3 / 4 "	1 1/2 "	1 1/2 "	2 "	2 "
Dimensions L (mm)	400	400	400	400	510
Dimensions B (mm)	950	800	800	930	1150
Dimensions H (mm)	660	870	870	870	1000
Weight (kg)	70	110	110	110	110

* Special Units for Operation at 140 Deg C on request . Optional: Pressure Guage, Y Strainer, Manifold, Nylon braided hoses.

GRANULATING SYSTEMS



Dimensions in mm

Model	LSG1	LSG5
A	200 x 150	250 x 400
B	1007	1050
C	550 x 500	800 x 720
D	710	715
E	1160	1300

SPRUE GRANULATOR

Dimensions

Model	LSG1	LSG5
Throat (mm)	200 x 150	420 x 200
Rotor ϕ (mm)	150	180
Speed of rotor (rpm)	330	330
No. of rotating blades	3	3
No. of fixed blade	1	1 / 2
Rotating blade length (mm)	195	415
Fixed blade length (mm)	199	419
Throughput (kg/h)	20 - 30	50 - 80
Standard Sieve hole dia (mm)	5 / 7	5 / 7
Power (kW)	1.5	5.5
Power supply	3 PNE, 415 Volts, 50Hz	
Collection Tray Capacity (Liters)	5 / 12*	5 / 30*
Weight (kg) approx	150	235
APPLICATION	SPRUE	SPRUE & SMALL COMPONENT

*Option: Table & Frame with Large Collection Tray

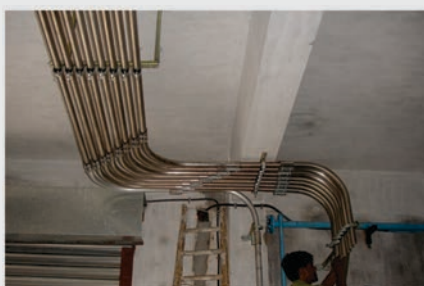
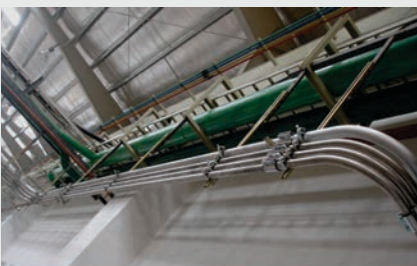
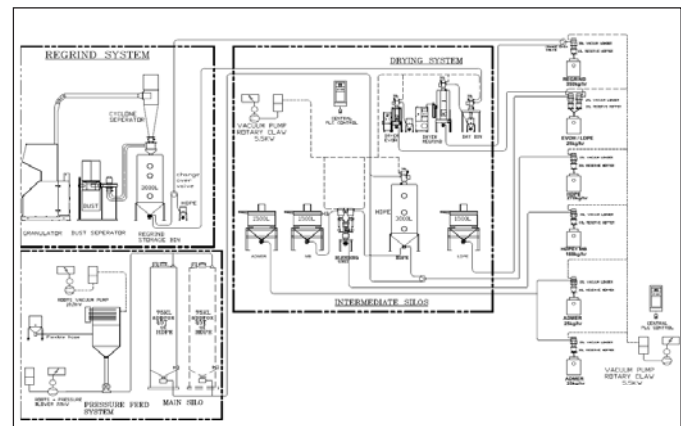
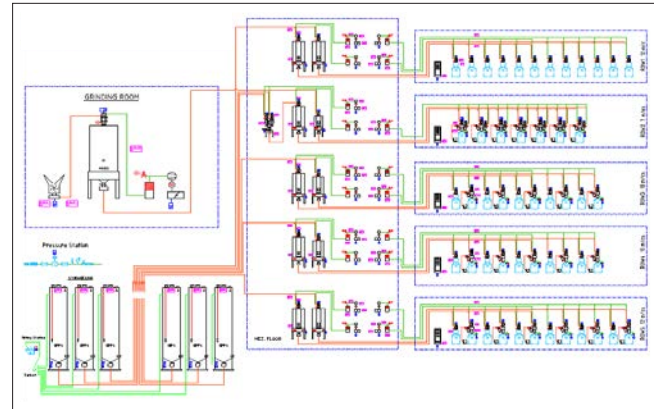
- Standard unit is mobile on castors with a suction pipe, dia 7 mm sieve for ON – LINE Recycling
- Option of special blades to granulate runners up to 30% GF materials
- Option of having a Table & Frame with large versatile container for ON & OFF – LINE application.
The granulate can be collected in a crate OR can be also directly connected to the Vacuum Loader
- Option of Muffler Hood for noise reduction for LSG 5.

MATERIAL HANDLING SYSTEMS

Toshiba Machine Central Material Handling Systems are designed to suit customer needs in Injection, Blow Moulding, Thermoforming, Extrusion (Cable / Pipe / Sheet) and Blown Film Lines.

Benefits of Central Systems:

- Increased machine uptime
- Lower scrap/higher yield
- Improved quality, reduced rejections
- Reduced spillage and wastage
- Improved or gained floor space
- Improved safety
- Reduced labour and maintenance
- Reduced energy costs
- Neat and clean shop floor
- Better aesthetics
- User friendly & Modular

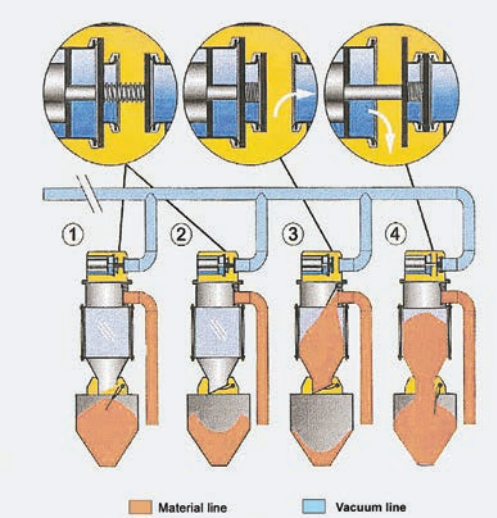


System Installation



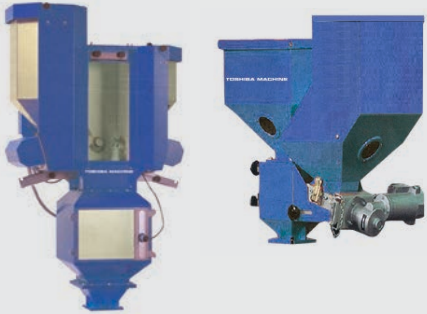
CENTRAL CONVE

VACUUM LOADERS - HLS SERIES



These Loaders are used in a conveying system and are selected to specific requirements. System loaders are integrated with a single central blower station and a central dust filter. The sequence of operation is controlled by a PLC or microprocessor based central control system.

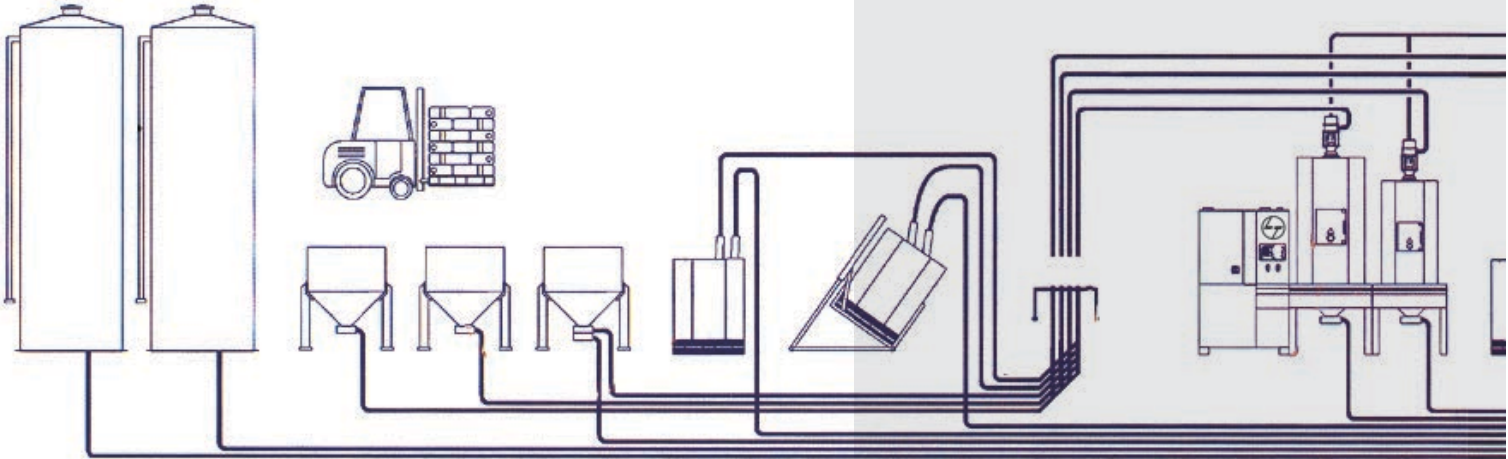
1. Vacuum valve closed = no conveying process
2. Vacuum valve closed = material requirement
3. Vacuum valve open = conveying
4. Vacuum valve closed/implosion valve open = conveying/implosion concluded



BLENDED SYSTEM :

Accuracy and consistency of the blend are the key factors in determining product quality

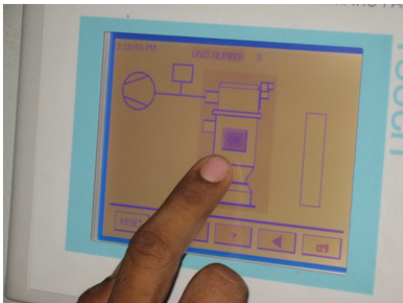
- Greater accuracy with inclined dosing screws
- Choice of Volumetric & Gravimetric units
- Lower materials costs.



DRYING SYSTEM :

Reduce drying costs and improve drying performance

- Energy efficient Drying.
- Modular & flexible



CENTRAL CONTROL PLC

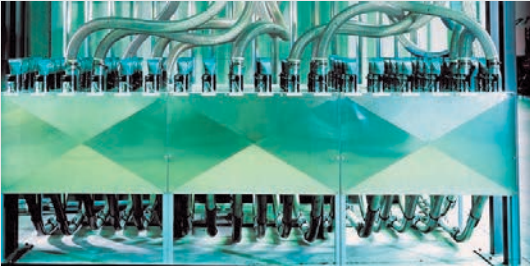
Off the Self Controller controls the conveying operation with a normal display or with a touch panel. Option of Bin Selection, Pre Drying Hours Confirmation, Throughput monitoring and other user required pages can be programmed to suit the needs of the operation.



YING SOLUTIONS

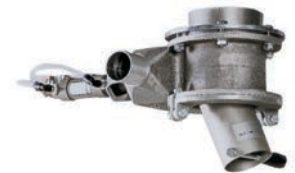
COUPLING STATION:

Flexibility in conveying - any material to any machine, any time



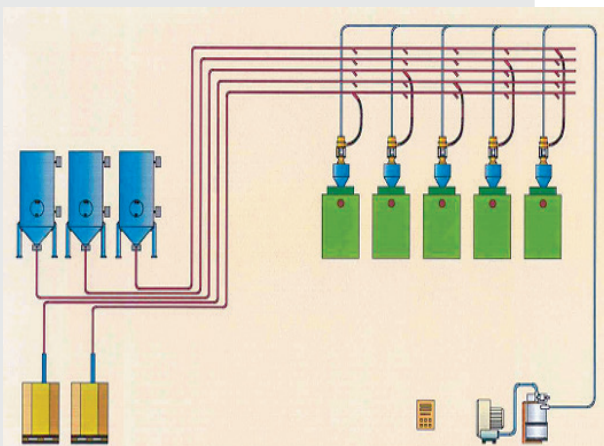
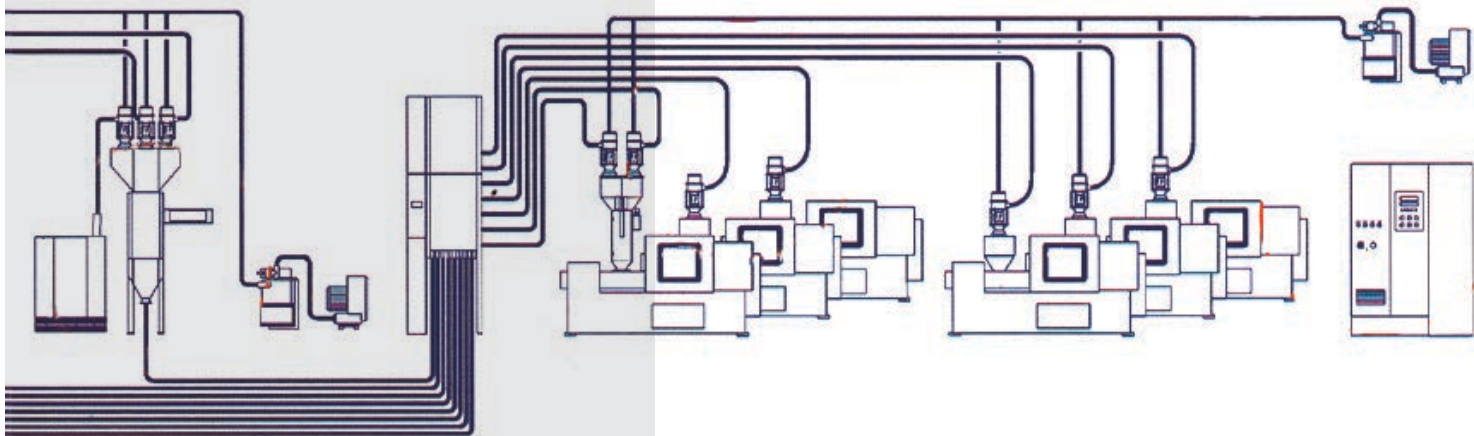
CENTRAL BLOWER STATION:

The Central Blower Station Coupled with Central dust filter does the function of vacuum conveying. The fine dust from the raw material is collected at the dust filter.

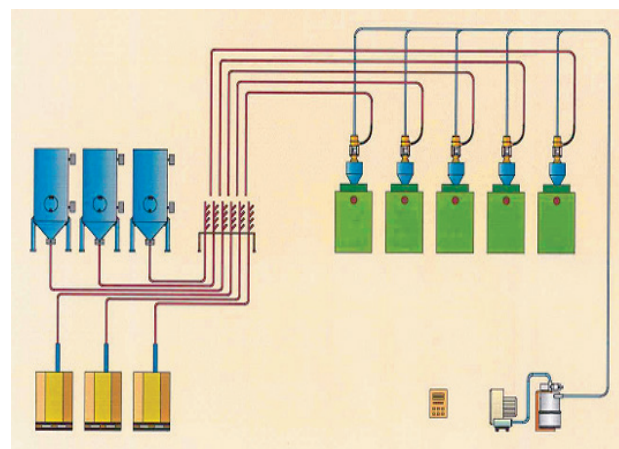


PNEUMATIC DISCHARGE OUTLET:

Precise metering of the dried material into the vacuum stream is done by the pneumatic operated suction box. The purging feature ensures no material is trapped in the pipe lines and hoses after every conveying cycle. Optional : Dry Air Conveying.



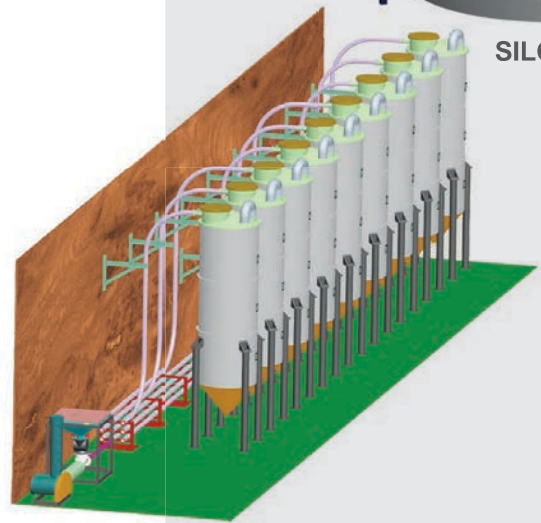
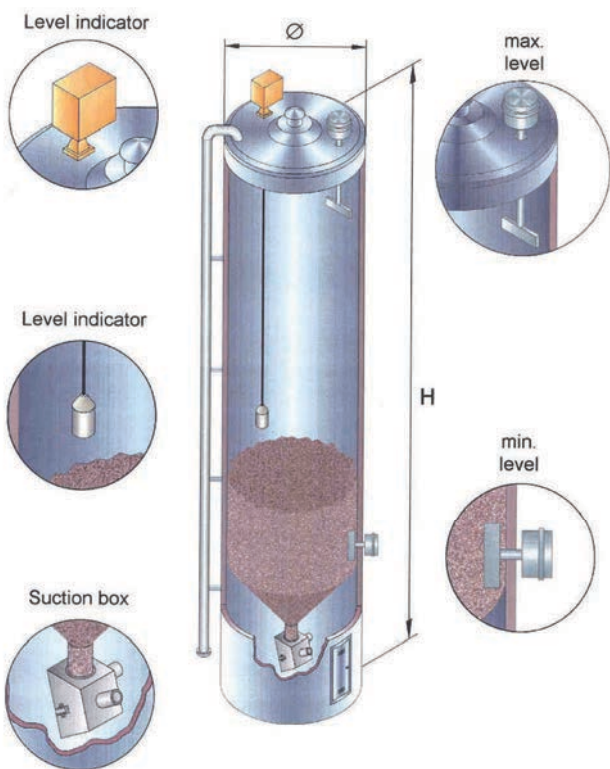
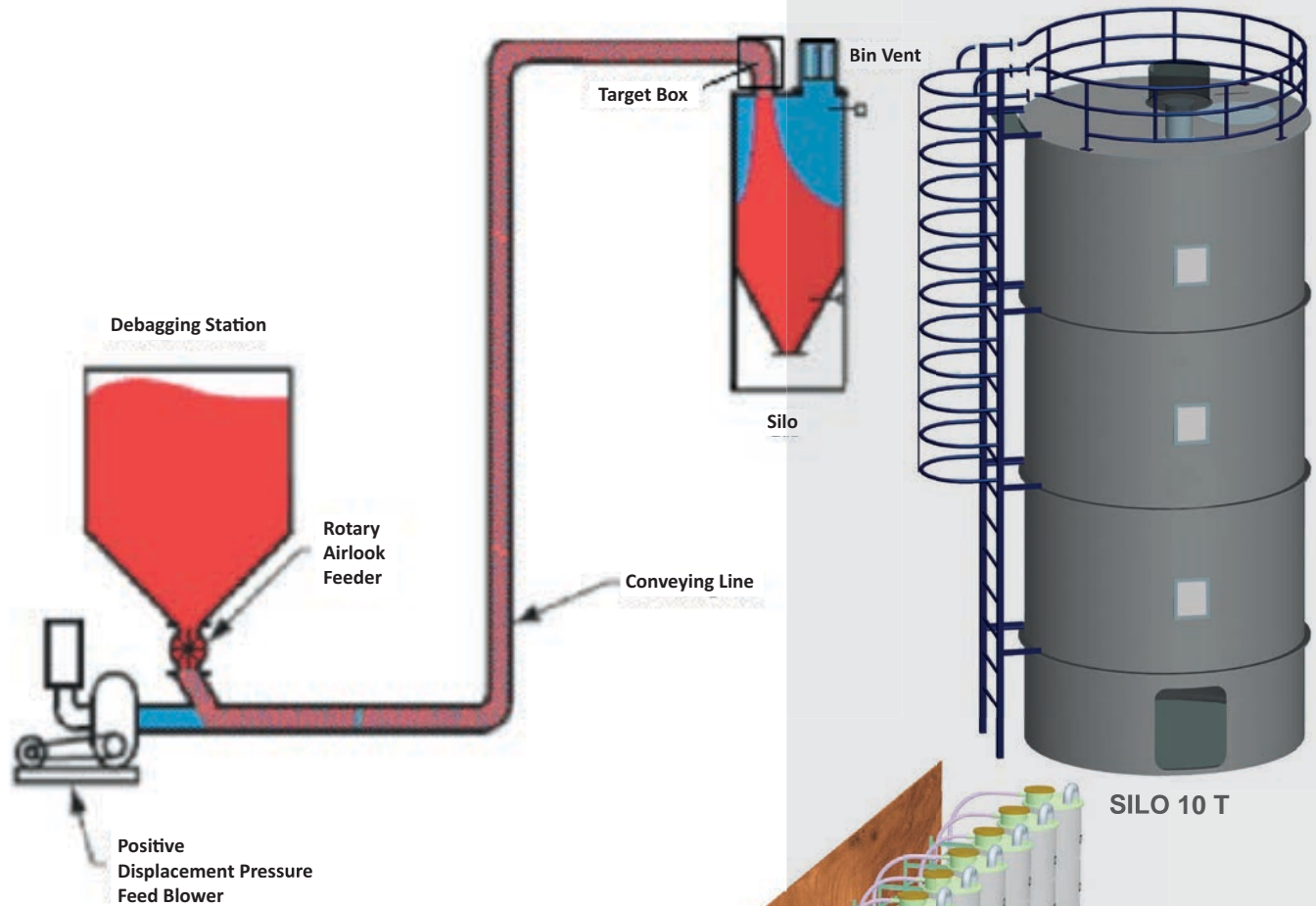
Material dedicated system
Fewer materials feeding large number of machines



Machine dedicated system
Large variety of materials feeding number of machines

BULK MATERIAL

PRESSURE FEED SYSTEMS - 5 & 10 TONS / HOUR

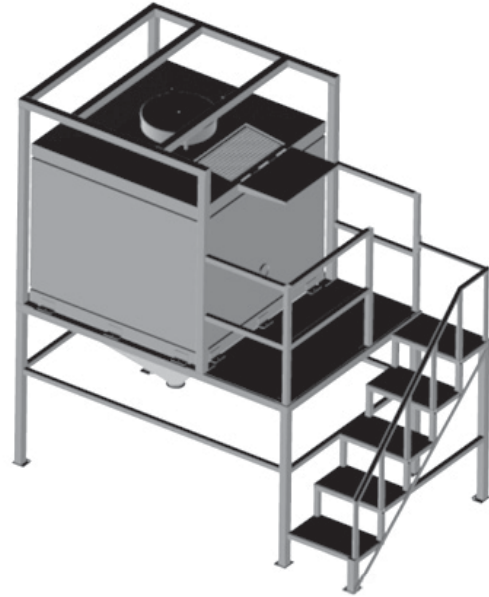
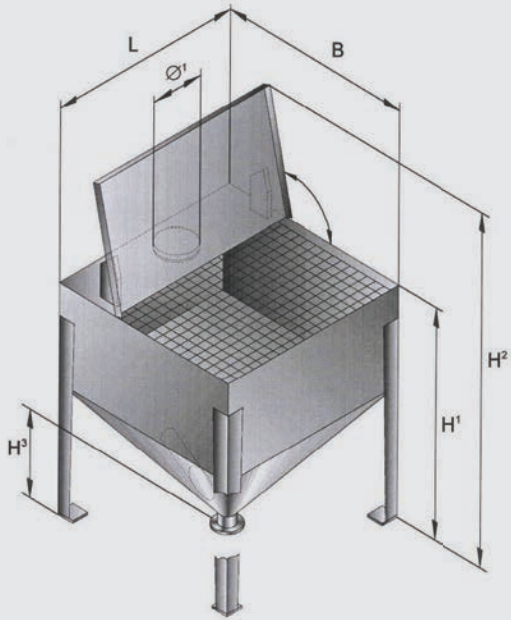


STORAGE SILOS

Volume in Tons	Weight (kg)	Ø (mm)	H (mm)
05	1700	1900	4600
10	3500	2500	7000
15	5000	2800	7500
20	7000	2800	8400

Taylor made sizes on request to suit site conditions

HANDLING SOLUTIONS



DEBAGGING STATION

VOLUME	L	B	H1	H2	D1
500	1390	1700	1090	1900	200
1000	1390	1700	1480	1880	200
1500	1390	1700	1790	2150	200
2500	2800	1600	2790	-	500



DAY BINS

VOLUME	D1	D2	D3	H
120	605	65	100	1300
200	605	65	100	1470
300	900	65	100	1340
400	900	65	100	1470
500	900	100	100	1570

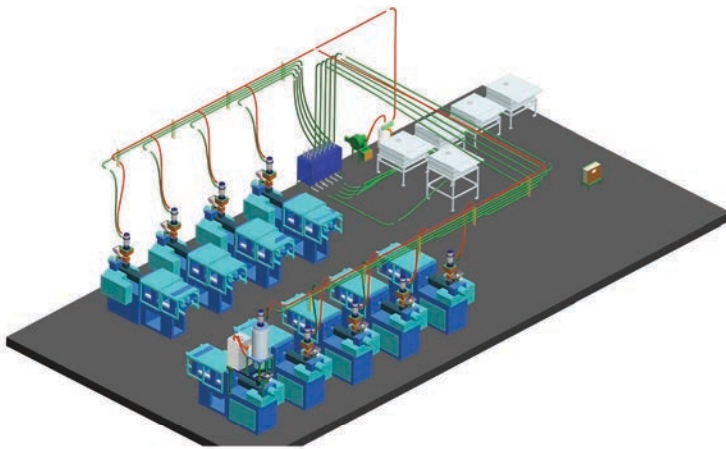
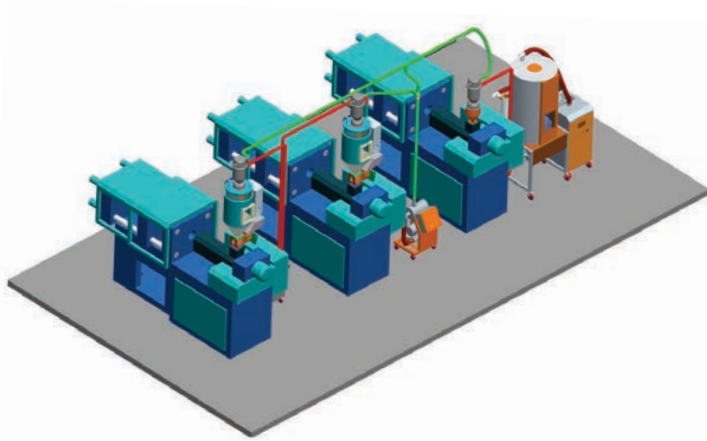
DRYING BIN OUTPUT WITH RESPECT TO PLASTIC PELLET GRADES

Material	Drying Time (Hr)	Drying Temp. In Deg C	Standby Temp. In Deg C	Output in each Bin (Liters)										
				30	60	100	150	250	450	600	900	1200	1800	2400
ABS	3	80	64	7	13	22	33	54	98	130	195	260	390	520
CA	3	75	60	7	13	22	33	54	98	130	195	260	390	520
CAB	3	75	60	7	13	22	33	54	98	130	195	260	390	520
CP	4	75	60	5	10	16	24	41	73	98	146	195	293	390
EPDM	4	75	60	5	10	16	24	41	73	98	146	195	293	390
LCP	4	150	120	5	10	16	24	41	73	98	146	195	293	390
PA 6	5	75	60	4	8	13	20	33	59	78	117	156	234	312
PA 6 40% GF	6	80	64	3	7	11	16	27	49	65	98	130	195	260
PA 6.10 / 66	6	80	64	3	7	11	16	27	49	65	98	130	195	260
PA 6.11	6	80	64	3	7	11	16	27	49	65	98	130	195	260
PAEK	4	160	128	5	10	16	24	41	73	98	146	195	293	390
PBT	3	110	88	7	13	22	33	54	98	130	195	260	390	520
PC	3	105	96	7	13	22	33	54	98	130	195	260	390	520
PE	2	120	96	10	20	33	49	81	146	195	293	390	585	780
PE - BLACK	3	105	84	7	13	22	33	54	98	130	195	260	390	520
PEEK	3	150	72	7	13	22	33	54	98	130	195	260	390	520
PE - I	4	150	72	5	10	16	24	41	73	98	146	195	293	390
PES	4	150	120	5	10	16	24	41	73	98	146	195	293	390
PET - Blow Molding	6	165	120	3	7	11	16	27	49	65	98	130	195	260
PET - Film	6	170	120	3	7	11	16	27	49	65	98	130	195	260
PET - Prefrom	6	170	120	3	7	11	16	27	49	65	98	130	195	260
PET - Inj. Molding	4	175	120	5	10	16	24	41	73	98	146	195	293	390
PET - G	4	66	52	5	10	16	24	41	73	98	146	195	293	390
PI	2	140	112	10	20	33	49	81	146	195	293	390	585	780
PMMA	3	80	64	8	16	22	33	54	98	130	195	260	390	520
POM	3	110	88	5	16	22	33	54	98	130	195	260	390	520
PP	3	110	88	8	16	22	33	54	98	130	195	260	390	520
PP Talc - 40 %	3	110	88	8	13	22	33	54	98	130	195	260	390	520
PPO (PPE)	3	110	88	8	13	22	33	54	98	130	195	260	390	520
PPS	3	150	112	6	13	22	33	54	98	130	195	260	390	520
PC (Optical disk)	3	110	88	8	13	22	33	54	98	130	195	260	390	520
PS	2	80	64	10	20	33	49	81	146	195	293	390	585	780
PSU	4	130	120	6	10	16	24	41	73	98	146	195	293	390
PUR/TPU	3	90	72	8	13	22	33	54	98	130	195	260	390	520
PVC	2	70	56	13	20	33	49	81	146	195	293	390	585	780
SAN	3	80	64	8	13	22	33	54	98	130	195	260	390	520
SB	2	80	64	10	20	33	49	81	146	195	293	390	585	780

The throughput rates indicated in the table are based on approx. values applicable to commercially available materials. Depending on bulk density, initial moisture and chosen drying parameters they can vary.

PARAMETERS

PLASTIC PELLETS & DETAILS							
Material	Starting Moisture %	Max. permissible residual moisture %	Drying Temperature Deg C	Drying Time (Hr)	Bulk Density kg/ cu dm	Density kg/ cu dm	Recommended Standby Temperature Deg C
ABS	max. 0,4	<0,2	80	2,5	0,63	1,05	64
CA	1	<0,2	75	2,5	0,77	1,28	60
CAB	0.9	<0,2	75	3	0,71	1,18	60
CAB	1	<0,2	75	4	0,72	1,2	60
EPDM	0.5	<0,1	75	4	0,65	1,09	60
LCP	0.04	<0,01	150	4	0,97	1,62	120
PA 6	1	<0,1	75	5	0,68	1,13	60
PA 6.10 / 66	1	<0,1	80	5	0,68	1,14	64
PA 6.11	1	<0,1	80	6	0,62	1,04	64
PAEK	0,1	<0,05	160	4	0,78	1,3	128
PBTP	max. 0,5	<0,03	110	3	0,78	1,3	88
PC (Standard)	0,1	<0,02	120	2,5	0,75	1,25	96
PC (Optical disk)	0,1	<0,01	120	2,5	0,75	1,25	96
PC /ABS	0,2	<0,04	105	2,5	0,68	1,12	84
PE *3	0,05	<0,01	90	2	0,56	0,94	72
PE black	0,5	<0,02	90	3	0,57	0,95	72
PEEK	0,5	<0,05	150	3	0,79	1,32	120
PEI	0,25	<0,01	150	4	0,78	1,3	120
PES	0,8	<0,01	150	4	0,82	1,37	120
PET (Blow Mould.)	0,1	<0,02	165	6	0,85	1,34	115
PET (Films)	0,2	<0,02	170	6	0,85	1,34	120
PET (Preforms)	0,2	<0,004	175	6	0,85	1,34	120
PET (Inj. Moulding)	0,1	<0,02	160	4	0,85	1,3	110
PET G	0,3	<0,07	66	6	0,8	1,27	52
PI	0,2	<0,02	140	2	0,84	1,4	112
PMMA	max. 0,3	<0,08	80	2,5	0,71	1,19	64
POM	max. 0,8	<0,1	110	2,5	0,85	1,41	88
PP *3	0,1	<0,01	120	2,5	0,54	0,9	96
PPO (PPE)	0,1	<0,01	110	2,5	0,64	1,06	88
PPS	0,1	<0,01	150	3,5	0,81	1,35	112
PS	0,05	<0,04	80	2	0,63	1,05	64
PSU	0,3	<0,05	130	3	0,75	1,25	104
PUR/TPU	0,4	<0,02	90	3	0,72	1,2	72
PVC	0,3	<0,2	70	2	0,84	1,4	56
SAN	0,3	<0,2	80	2,5	0,65	1,08	64
SB	0,3	<0,05	80	2	0,64	1,06	64



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