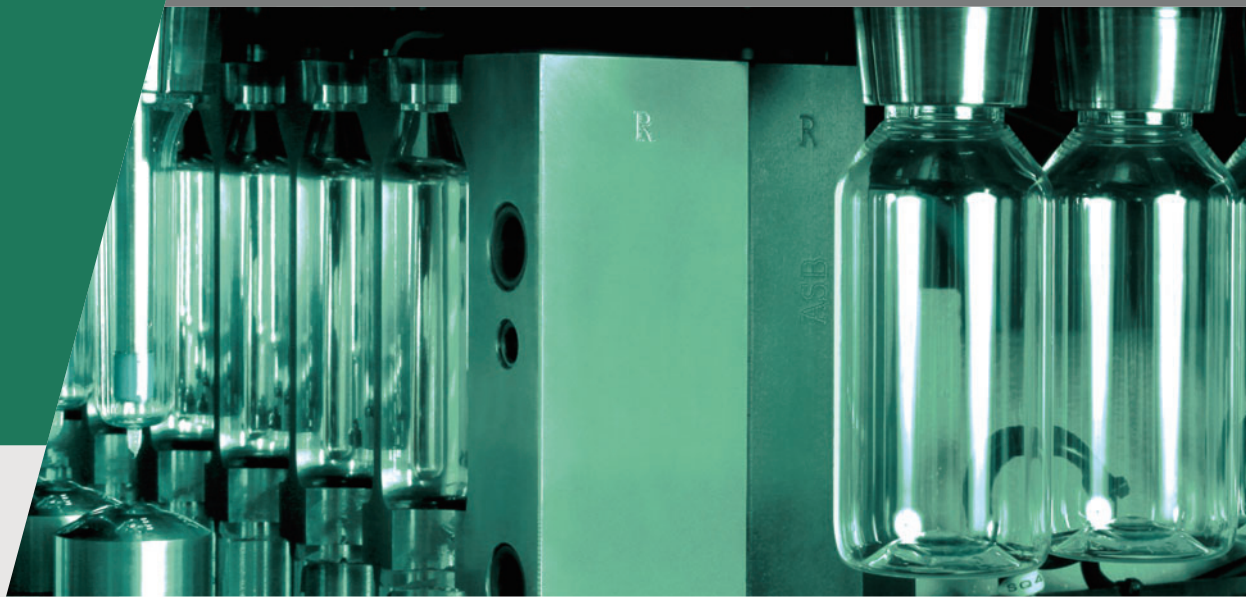




One-Step Injection Stretch Blow
Molding Machine
ASB Series

Compact & Versatile Molding with Advanced Technology

ASB-12M



ASB-12M v2

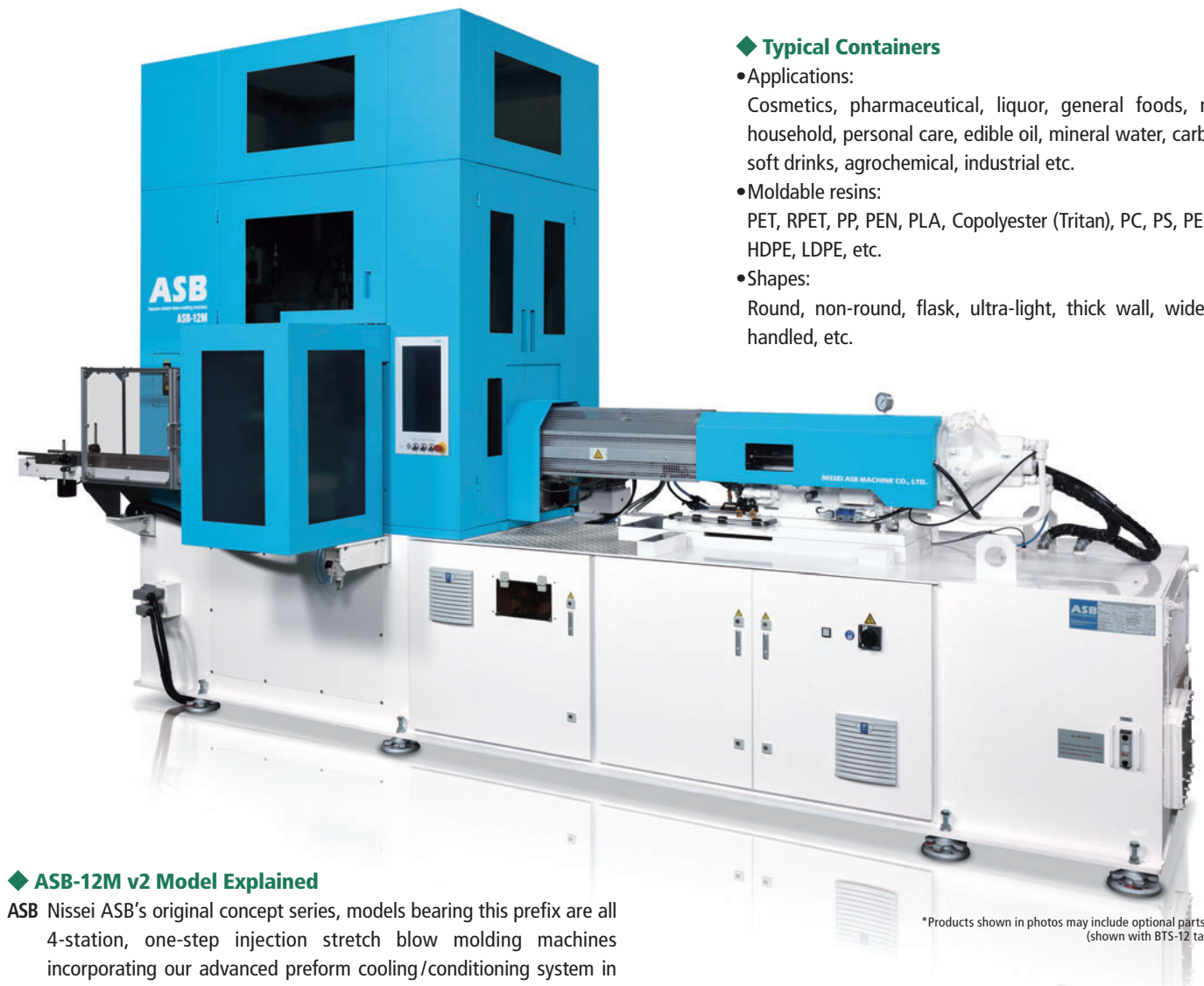
Compact & Versatile Molding with Advanced Technology Enhanced Performance for Improved Profitability

The hugely popular ASB-12M machine has now become even more desirable with the introduction of the second-generation model. While still retaining backward compatibility with existing tooling, the hydraulics, mechanical structure and control systems have all been upgraded to provide higher output with even greater levels of control and user feedback. This fully automatic ISBM machine is a true, high efficiency molding machine in a tiny, versatile package.

With the ability to mold more than 20 different resin types and enough capacity to mold containers from 5ml up to 2.5L, and jars with up to 83mm diameter necks, this model can handle the vast majority of molding projects single-handedly and is especially suited to molding of high value niche products. Its affordability, energy efficiency and small size make it an ideal starter machine to build your business, yet it retains enough capability to make a significant contribution even within the largest molding factory.

◆ Typical Containers

- Applications:
Cosmetics, pharmaceutical, liquor, general foods, medical, household, personal care, edible oil, mineral water, carbonated soft drinks, agrochemical, industrial etc.
- Moldable resins:
PET, RPET, PP, PEN, PLA, Copolyester (Tritan), PC, PS, PES, PPSU, HDPE, LDPE, etc.
- Shapes:
Round, non-round, flask, ultra-light, thick wall, wide-mouth, handled, etc.



◆ ASB-12M v2 Model Explained

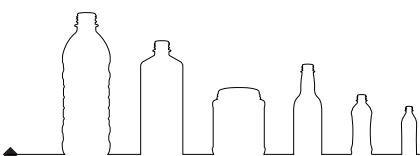
ASB Nissei ASB's original concept series, models bearing this prefix are all 4-station, one-step injection stretch blow molding machines incorporating our advanced preform cooling/conditioning system in the second station.

12 Originally designed with 12 tons clamping force, the machine has been further upgraded to 14 tons (137kN) for stable molding in up to 8 cavity production.

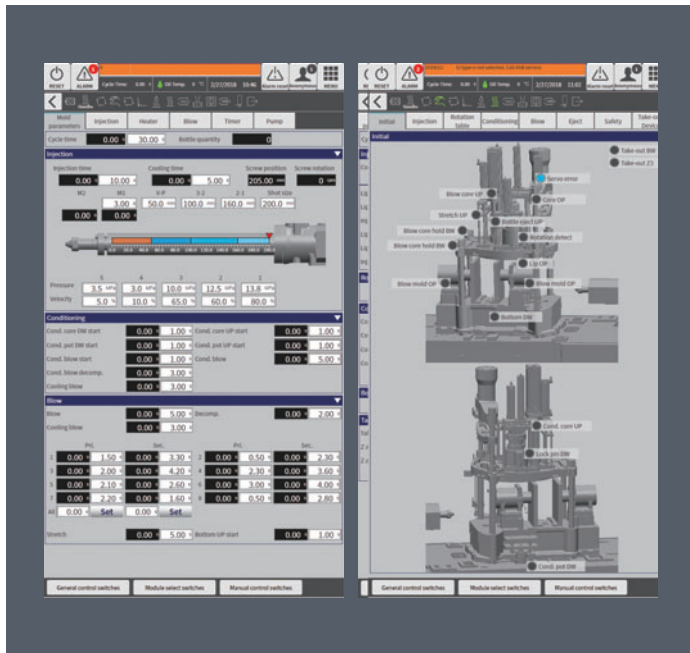
M With class-leading clamping force and mold installation area, this model provides full molding capability of wide mouthed jars as well as every type of bottle.

v2 Now in its 2nd generation of development, with a major upgrade to the control system, user interface and a raft of detail upgrades to enhance efficiency and productivity.

*Products shown in photos may include optional parts and colors.
(shown with BTS-12 take-out unit)



Model Features



Vision1 display panel offers improved operator control and feedback



◆ Vision1™ Control System

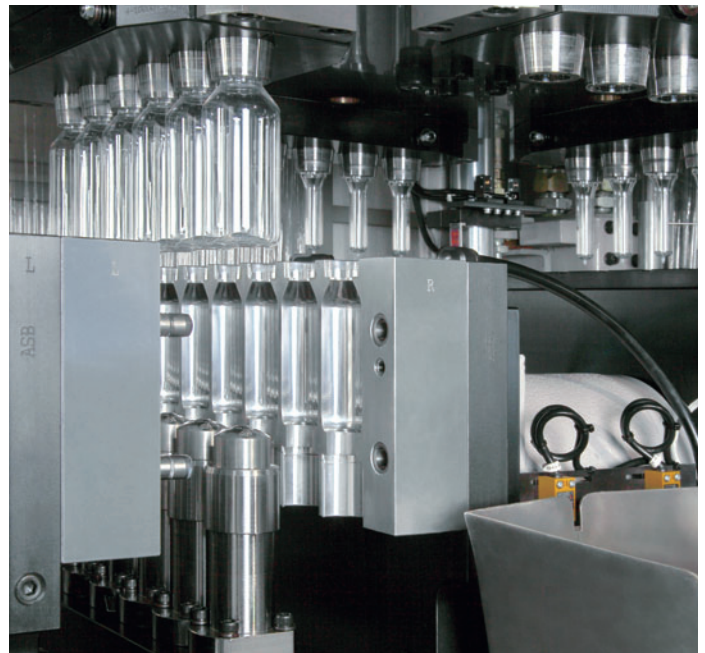
With ASB's Vision1 machine control system, the ASB-12M v2 makes a giant leap in terms of factory integration and ease of use.

The control system is prepared ready for Industry 4.0 compatibility for factory networking allowing enhanced process monitoring and interoperability with factory infrastructure.

The user interface provides the operator with greater levels of control and feedback that makes machine operation and adjustment easier than ever before.

Key features include;

- PC based system is extremely flexible in use and compatible with the Industry 4.0 standard for enhanced factory networking into the IIoT (Industrial Internet of Things).
- Faster response & communication speed than dedicated PLC systems improves precision and efficiency of complex movements.
- Large, 15.6 inch easy to read panel provides easier access to relevant information without changing pages.
- Most manual operation switches are replaced by touchscreen operation.
- Improved operator feedback improves troubleshooting response time and minimizes down-time.
- Standardized interface across the product range aids operator training.
- Internal hard wiring of the machine is drastically reduced.
- Addition of future machine functions is possible just by software updates.
- Easier & faster service support.



Greater molding options from tie-bar-less blow mold structure

◆ Tie-bar-less Blow Mold Structure

Unlike competitor systems, the ASB 4 station design utilizes a tie-bar-less structure that brings many benefits, including;

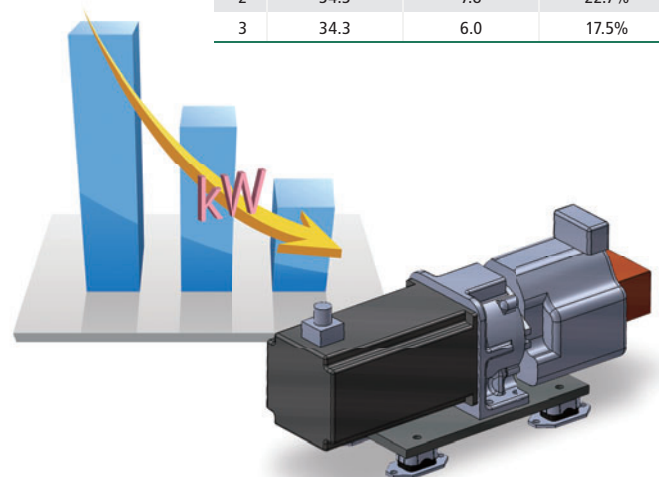
- Faster mold changing – Vastly simplified installation for the blow mold contributes a major saving to the overall mold changeover time.
- Additional Blow Functions – Inserted handles, in-mold labelling, canted neck molding, etc. all become possible in a tie-bar-less mold structure.

◆ Energy Saving Servo Hydraulic Pumps

The ASB-12M is fitted with servo motor driven hydraulic pumps as standard providing unrivalled energy efficiency with the added benefits of reduced noise & smoother operation.

With two independent circuits, each motor's operation can be optimized. In various molding tests, average power consumption of the hydraulic system was measured at only 6~9kW.

Test	Pump - Rated (kW)	Pump - Actual (kW)	Actual Load
1	34.3	8.9	25.9%
2	34.3	7.8	22.7%
3	34.3	6.0	17.5%

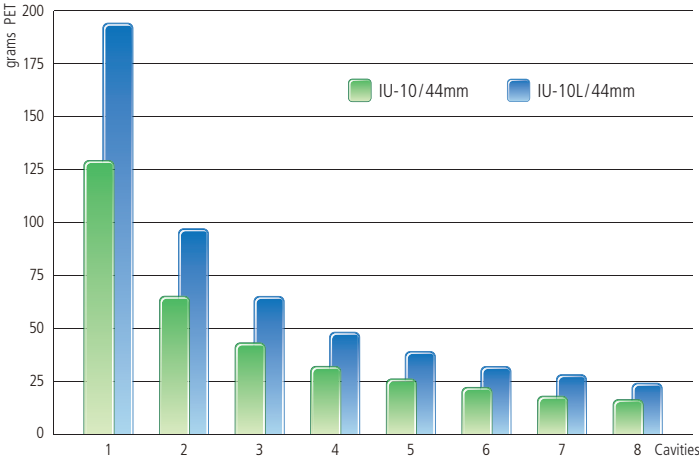


Major Options

◆ Choice of Injection Units

As standard the ASB-12M v2 is fitted with an IU-10 injection unit giving a theoretical injection capacity of 152cm³ with a 44mm injection screw.

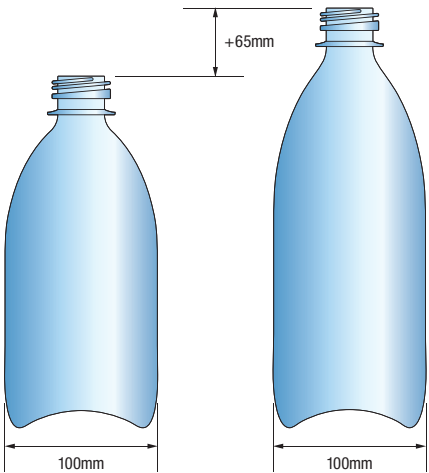
Where heavier weight preforms are required, or when molding lower density materials, an optional IU-10L injection unit having 1.5x the injection stroke can be fitted, increasing the theoretical injection capacity by 66% up to 228cm³.



◆ Extended Daylight

The ASB-12M is already a highly versatile machine but if it is required to achieve increased blow molding capacity, the extended daylight option increases the lip mold opening stroke and potential container height by an additional 65mm.

If this option is selected, the larger IU-10L injection unit is automatically included since it is expected that heavier preforms may also be desired.

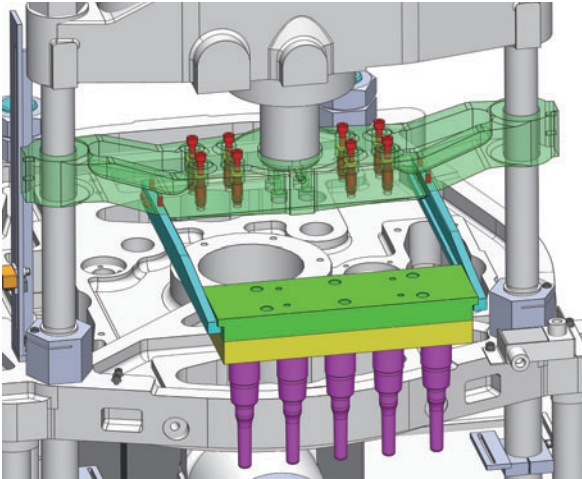
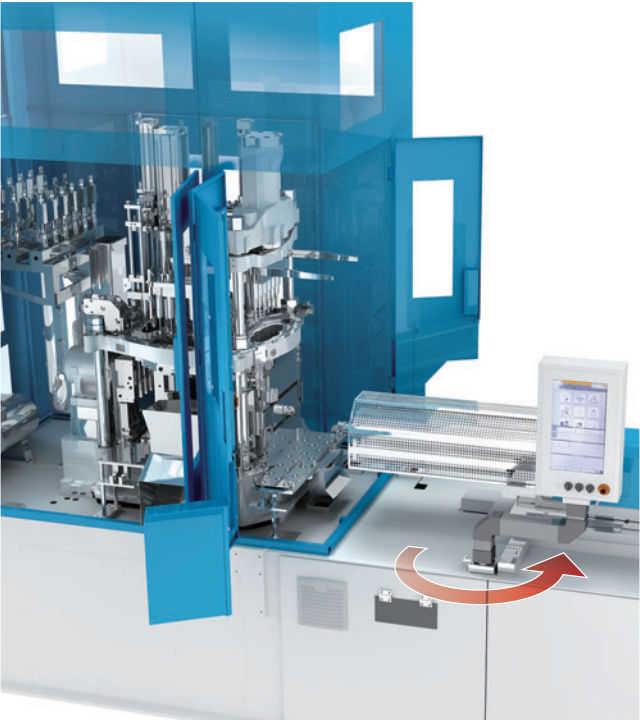


◆ Quick Mold Change (QMC)

QMC specified machines and molds result in more than 70% reduction in typical mold changeover times.

- Revised safety door & control panel design,
- Loading jigs installed in every station,

- Increased productivity & profitability,
- Extensive compatibility with existing machines and molds,
- Reduced mold handling also improves safety for molds and technicians.



Method	Installation	Removal	Total
Standard	130	108	238
QMC	41	26	67
Reduction	89	82	171
Reduction Rate			72%

Mold changeover times in minutes

Molding Case Study – Glass-Like Cosmetic & Zero Cooling



The ASB-12M is an ideally matched molding solution for highly profitable, premium grade cosmetic containers. Even so, under normal molding conditions, this 2.3mm thick, glass-like cosmetic bottle would require a very long 40 second molding cycle and possibly an expensive low-crystallizing grade of PET in order to maintain acceptable clarity. ASB's patented Zero-Cooling molding method uses the machine's 2nd station to apply all necessary cooling to the preform, working at its best for such heavyweight containers.

Together, Zero Cooling and the ASB-12M enable the molding cycle to be reduced to an unbelievable 12.5 seconds that, in this case, increases productivity by more than 3 times. At the same time, this is achieved while using conventional PET grades to maintain perfect, premium grade quality.

End Use	Cosmetic	
Capacity	45ml	
Diameter	37mm	
Cavities	4	
Weight	29.5 grams	
Method	Std.	Zero Cooling
Cycle	40 sec.	12.5 sec.
Daily Output*	8,640	27,648

*gross output

Machine Specs

Ref.:220720REV73

Machine Specification	Unit	ASB-12M v2
Standard Inj. Unit /Screw Diameter	type/mm	IU-10/44
Option Screw Diameter	mm	38
Option IU /Screw Diameter	type/mm	IU-10L/44
Theoretical Injection Capacity	cm ³	152*1 (228)*2
Injection Clamping Force	kN	137
Blow Clamping Force	kN	121
Driving Power - Rated	kW	34.3*4
Heater Capacity - Rated	kW	17.1*3 *5
Oil Tank Capacity	L	220
Machine Dimensions (L×W×H)	mm	refer to drawing
Machine Mass - Approx.	kg	refer to drawing



Notes

*1: Using the standard injection screw & PET resin.

*2: Using optional IU-10L injection unit & PET resin.

*3: Subject to container specification, number of cavities and mold.

*4: Actual driving power consumption is typically 20~25% of rated power.

*5: Actual heating power consumption is typically 30~40% of rated power.

*6: BD data is the maximum diameter a round container can fit into. WD/DD data is applicable to non-round containers. (See illustration)

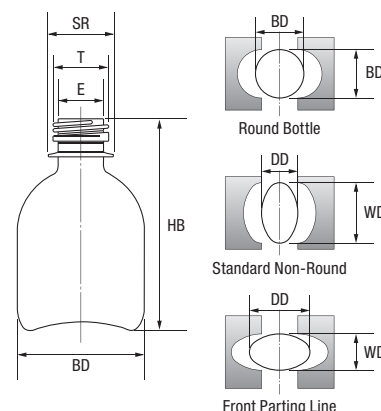
*7: [] applicable where HB <=200mm for standard machine and HB<=265mm for optional extended daylight machine.

Specifications & design are subject to change without any obligation on the part of the manufacturer.

() Optional feature.

Ref.: (20190627)

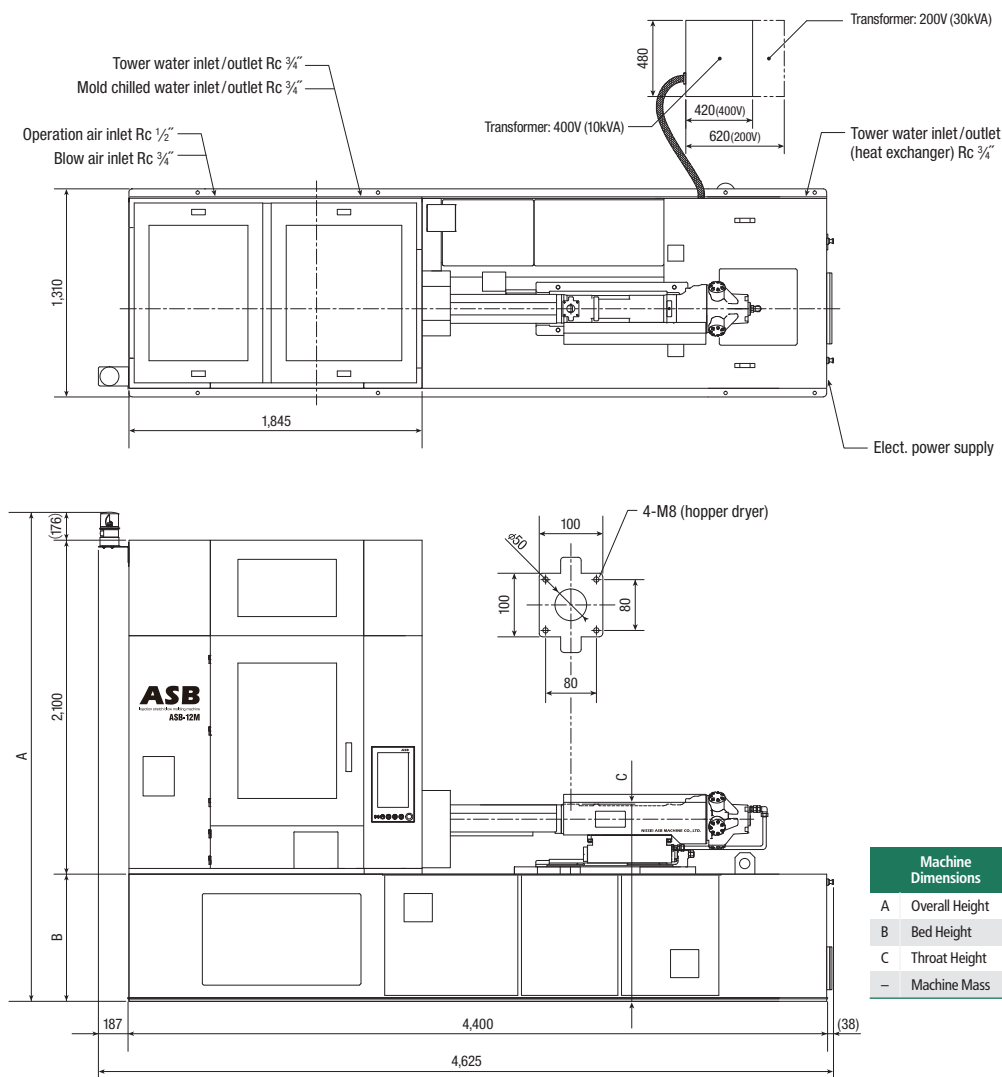
Products Specification		Unit	ASB-12M v2							
Cavity Number		Cavity	1	2	3	4	5	6	(7)	(8)
Max. Capacity		L	2.5	1.5	0.9	0.4	0.25	0.1	0.03	0.02
Max. Thread Diameter	T	mm	83	62	48	38	32	25	17	15
Max. Neck Diameter	E	mm	79	60	43	33	28	23	15	13
Max. Support Ring Diameter	SR	mm	80	62	45	38	32	25	17	15
Max. Body Diameter*6	BD	mm	118	90 [100]*7	66 [84]*7	54 [68]*7	55	44	29	27
Max. Cavity Width*6	WD	mm	145	113	84	68	55	44	29	27
Max. Cavity Depth*6	DD	mm	118	90[118]*7	66[118]*7	54[118]*7	110	88	58	54
Max. Height	HB	mm	300				200		150	
Max. Weight*1		g	129(194)*2	65(97)*2	43(65)*2	32(48)*2	26(39)*2	22(32)*2	18(28)*2	16(24)*2



An assortment of stretch blow molded containers molded by the ASB-12M v2 from 2L down to 7ml. For details please contact your ASB representative quoting the sample reference number.



ASB-12M v2



	Machine Dimensions	Standard	Extended Daylight
A	Overall Height	3,076	3,206
B	Bed Height	800	930
C	Throat Height	1,240	1,370
-	Machine Mass	4,950	5,050

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