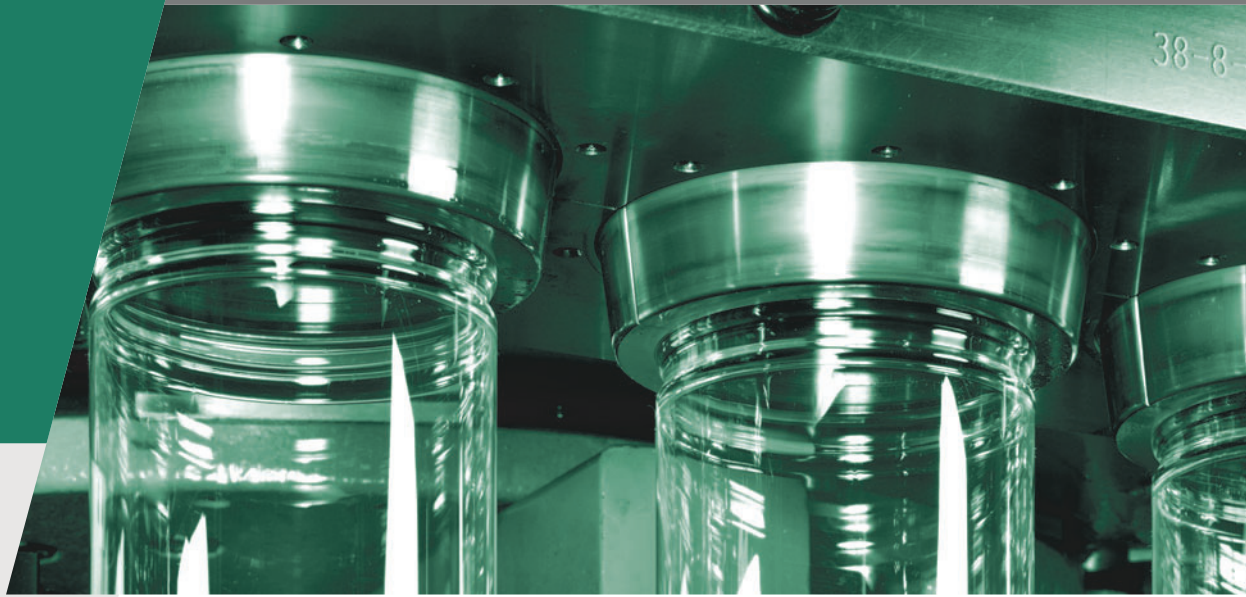


1
-Step

One-Step Injection Stretch Blow
Molding Machine
ASB Series

Ultimate Versatility for General Container Production

ASB-70DPH



ASB-70DPH v4

Single Solution to Diverse Molding Needs

Compact – Versatile – Efficient

The ASB-70DP Series are mid-sized one-step injection stretch blow molding machines offering a perfect balance of productivity & flexibility that are available in two main variants, the “H” and the “W” model.

Both models share a common overall size and structure, that contributes to simplified factory layout, faster operator training and reduced cost of maintenance. Whereas the “W” model provides high output of smaller sizes bottles up to 24 cavities, the “H” variant utilizes the same space to mold up to 12 cavities in a single row molding layout enabling a vast range of containers sizes and shapes including very large jars up to 10 liters capacity with thread diameters up to 149mm (158mm*).

In combination with the ability to mold up to 20 different resin types, the ASB-70DPH provides superb versatility enabling users to continually adapt their production to meet changing market needs – all with a single production platform in an extremely compact floor area of just 10.7m².

*with option



◆ Typical Containers

- Applications:
Personal care, liquor, general foods, cosmetics, pharmaceutical, medical, household, edible oil, mineral water, PET Can, industrial, etc.
- Moldable resins:
PET, RPET, PLA, PP, Copolyester (Tritan), PS, PC, PETG, COC, COP, PES, PPSU, PMMA, SAN & PEN etc.
- Shapes:
Round, non-round, flask, ultra-light, thick wall etc.

◆ ASB-70DPH v4 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 conditioning system in the second station.

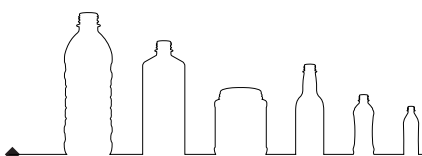
70 70 tons (687kN) clamping force in the injection station provides stable molding for very large necked jars or up to 12 cavity production of smaller containers.

DP All “DP” models feature a segmented rotary table so that the mass of movable parts is minimized, reducing energy consumption and decreasing dry cycle time.

H Daylight of machine is high enough to manufacture any regular bottle height in addition to wide mouthed jar molding capability.

v4 Now in its 4th generation of development, constantly incorporating new technologies as they become available.

*Products shown in photos may include optional parts and colors.



Model Features



ASB's signature conditioning station expands product design opportunities

◆ 4-Station Process for Superior Molding

As with all our ASB Series models, the ASB-70DPH utilizes preform conditioning in the second station, between the preform injection molding and stretch-blow molding processes.

This system allows far greater molding stability and versatility for a wide range of container shapes and molding resins than the more limited 3-station process with the result of higher productivity and more consistent quality over a range of molding conditions.



◆ Extreme Wide Mouth Molding

The ASB-70DPH is a very compact machine, yet with 687kN (70 tons) of injection clamping force as standard, it is easily capable of molding jars up to 10 liters capacity with thread diameters up to 149mm (158mm with an optional clamping upgrade).

In more conventional molding, 2 liter jars can be molded in four cavities with thread diameter up to 94mm, or up to 12 cavities of 100ml containers in the same machine.



Easy access to blow station enables additional functionality and fast mold change

◆ Designed for Quick Mold Change



In line with this model's extreme versatility for diverse container designs and molding resins, special attention has been applied to minimizing the time required to changeover the mold.

Major changes were made in machine elements, a range of key mold fitting fixtures are now included as standard, and together with improved accessibility of the revised safety doors offer 25% reduction in mold changeover time over the previous model. In addition, by selecting the optional full clamp system including specially designed mold, an improvement of 65% can be achieved.

◆ Tie-Bar-Less, Wide Opening Blow Mold

When fully open, the blow mold daylight of 300mm gives plenty of capacity to de-mold large diameter containers and with tie-bar-less construction, allows easy installation of optional inserter robots for increased functionality such as in-mold handle insertion or in-mold labelling.

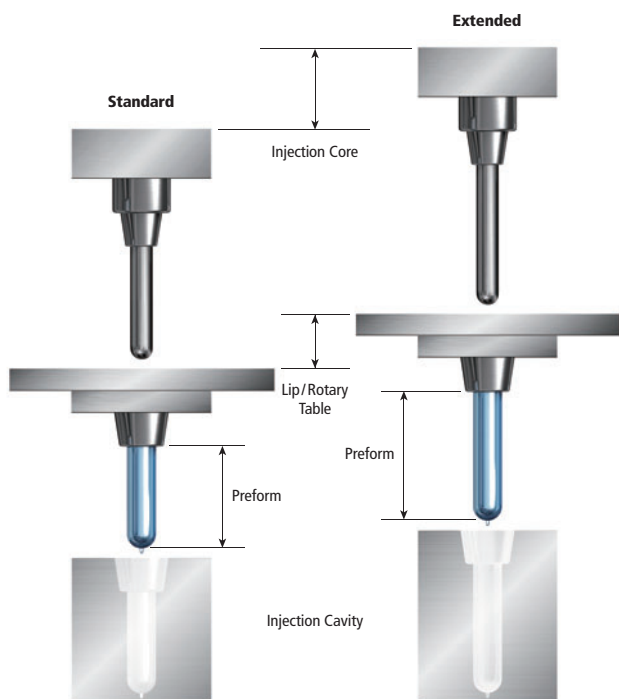


Major Options

◆ Extended Injection Clamp Daylight

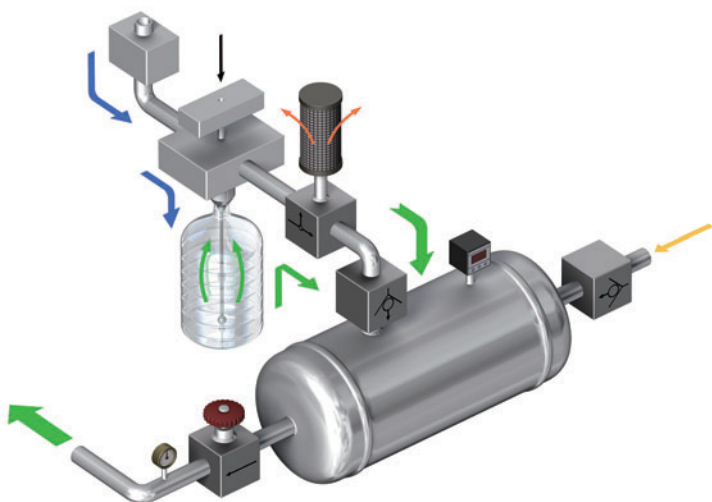
By opting for a longer opening stroke of the injection core and rotary table, longer preforms can be molded resulting in multiple benefits;

- Wider range of moldable PET containers,
- For high weight PET containers, preforms can be made longer with thinner wall section for faster cycle times,
- Non-PET resins requiring lower axial stretch ratios can be molded with optimized preform design into a wider range of container sizes and designs.



◆ Blow Air Recovery System

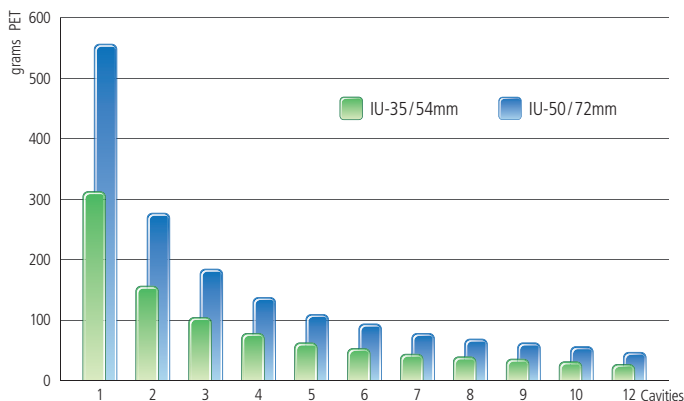
After bottles are blown, instead of exhausting the air to atmosphere, it can be re-directed into the machine's operating air system by this option. Recovery rates will vary according to blown container size and specification, however for a standard ASB-70DPH machine this option can provide savings of at least 40-60% on operation air consumption.



◆ Choice of Injection Units

As standard the ASB-70DPH is fitted with an IU-35 injection unit giving a theoretical injection capacity of 366cm³ from a 54mm injection screw.

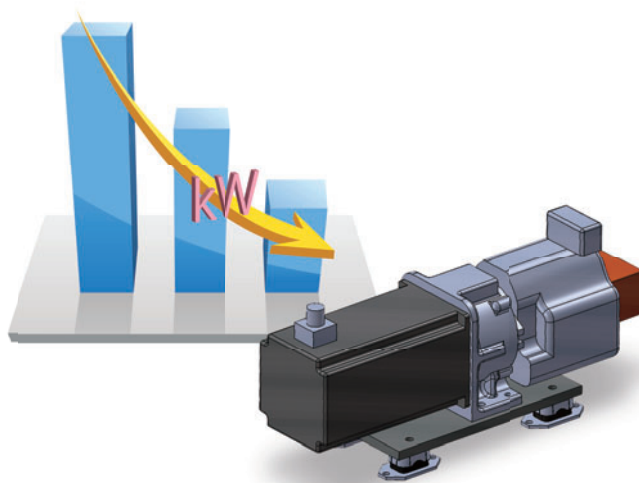
Where heavier weight preforms are required, or when molding lower density materials, an optional IU-50 injection unit with a 72mm injection screw can be fitted, increasing the theoretical injection capacity by 78% up to 651cm³.



◆ Energy Saving Servo Hydraulic Pumps

By varying the rotation speed of the motor, a servo driven pump can be controlled to give precisely the correct amount of oil required at any point in the machine cycle.

In the servo driven model, each of the three major functions of the machine; plasticizing, injection molding and blow molding has its own independent servo hydraulic pump resulting in an overall energy reduction of around 40%*³ over the standard model.



◆ Semi-Auto/Full-Auto Lubrication System

As a major aid to reduced downtime and increased productivity, the ASB-70DPH can be fitted with the choice of either a semi-automatic lubrication system that the operator can use while the machine is running to apply grease and oil to critical sliding machine parts on a routine basis, or a full-automatic system that injects lubrication on a pre-programmed basis.

In the case of the automated type, a warning will be displayed on the operator panel if oil & grease levels are becoming low.

Molding Case Study – Co-Polyester Sports Bottle



Co-Polyester resin, with one of the most well-known brands being Tritan™*, is chemically very similar to PET sharing all the same health approvals and global acceptance within the food and medical industries, yet its physical properties such as high heat resistance, excellent impact, scratch and chemical resistance enable molded containers to be repeatedly washed at sterilizing temperatures, making it perfect for reusable containers such as sports drinks, baby feeding, or general kitchen utility.

Although copolyester is still relatively new to the industry, its molding characteristics being very similar to the previously used polycarbonate resin means that ASB's machine & mold design are fully optimized for molding perfect quality containers in this high performance resin.

Since these containers are sold as finished products for long term use, output rates tend to be much lower than for lightweight one-trip packaging but selling price and profit margins will naturally be significantly higher.

End Use	Sports Drink Bottle
Capacity	700ml
Diameter	70mm
Cavities	4
Weight	90 grams
Cycle	14.4 sec.
Daily Output**	24,000

**gross output

Machine Specs

Ref.:190607REV64

Machine Specification	Unit	ASB-70DPH v4
Standard Inj. Unit / Screw Diameter	type/mm	IU-35 / 54
Option Screw Diameter	mm	44 / 64
Option IU / Screw Diameter	type/mm	IU-50 / 72
Theoretical Injection Capacity	cm ³	366* ¹ (651)* ²
Injection Clamping Force	kN	687
Blow Clamping Force	kN	242
Driving Power - Rated	kW	33* ⁴ (63)* ⁵
Heater Power - Rated	kW	38.5* ³ * ⁶
Oil Tank Capacity	L	600
Machine Dimensions (L×W×H)	mm	Refer to foundation drawing
Machine Mass - Approx.	kg	11,200

*Tritan is a registered trademark of the Eastman Chemical Company

Notes

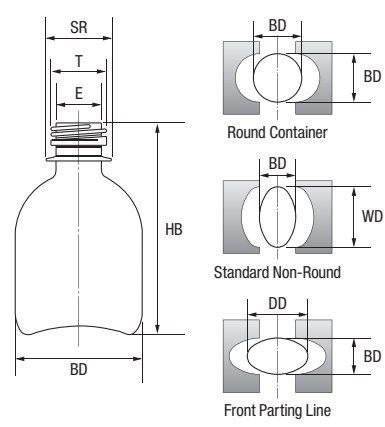
- *1: Using the standard injection screw & PET resin.
- *2: Using optional IU-50 injection unit & PET resin.
- *3: Subject to container specification, number of cavities and mold.
- *4 *5: Actual driving power consumption is typically 60% of rated (standard pump) or 20% of rated (servo pump)
- *6: Actual heating power consumption is typically 30~40% of rated power.
- *7: BD data is the maximum diameter a round container can fit into. WD/DD data is applicable to non-round containers. (See illustration)
- *8: Based on standard mold design & materials, may be possible to exceed with special design study.



Container dimensions shown in tables are maximum and subject to actual container design. Specifications & design are subject to change without any obligation on the part of the manufacturer. () Optional feature.

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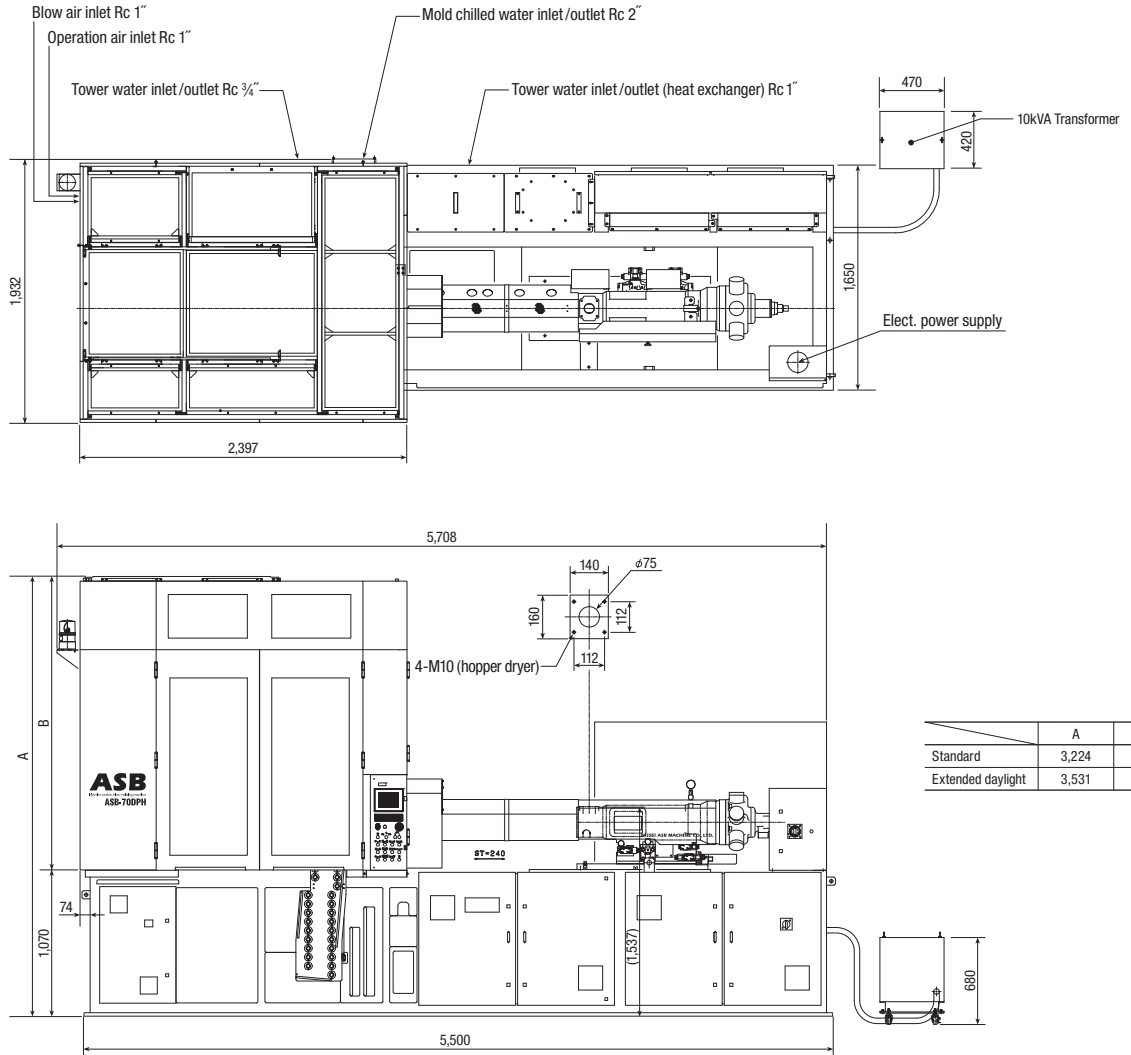
Products Specification	Unit	ASB-70DPH v4											
Cavity Number	cavity	1	2	3	4	5	6	7	8	(9)	10	(12)	
Max. Capacity* ⁸	L	10.0	4.5	3.5(4.5)	3.0	1.8	1.0	0.60	0.40	0.35	0.25	0.10	
Max. Thread Diameter	T mm	149(158)	120	99(111)	95	73(77)	57(60)	42	36	34	27	18	
Max. Neck Diameter	E mm	145(154)	118	96(108)	93	70(74)	55(57)	40	34	32	25	16	
Max. Support Ring Diameter	SR mm	149(158)	120	99(111)	94	73(77)	58(60)	42	36	36	27	18	
Max. Body Diameter* ⁷	BD mm	204	153	130	120	99	79	66(68)	54	53	45(47)	37	
Max. Cavity Width* ⁷	WD mm	204	153	130(147)	123	99(101)	79	66(68)	54	53	45(47)	37	
Max. Height	HB mm	350											
Max. Weight* ¹ () ²	g	311(552)	156(276)	104(184)	78(138)	62(110)	52(92)	44(78)	39(69)	35(61)	31(55)	26(46)	



An assortment of stretch blow molded containers molded by the ASB-70DPH from 9.5L down to 50ml. For details please contact your ASB representative quoting the sample reference number.



ASB-70DPH v4



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