

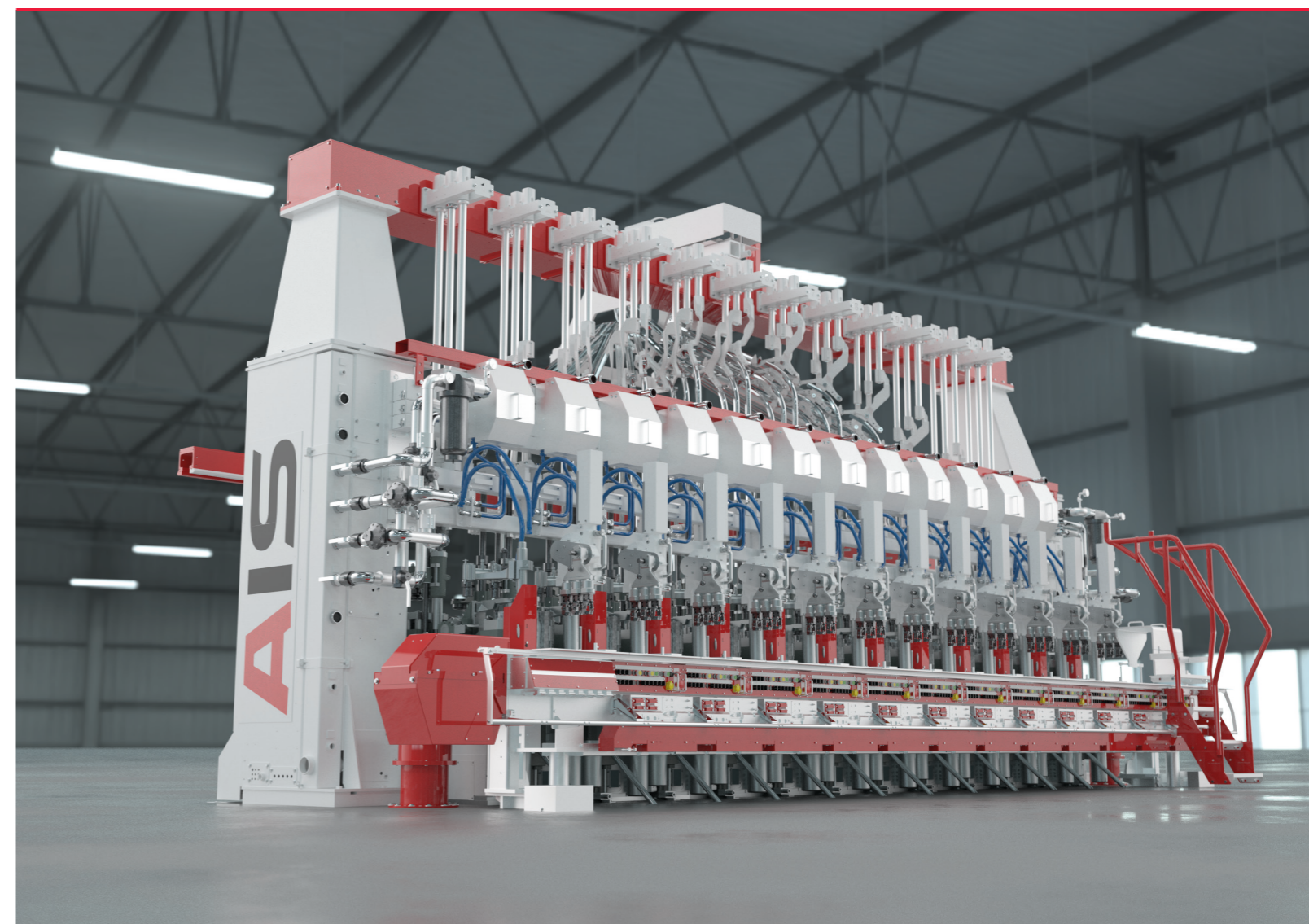
## AIS machines

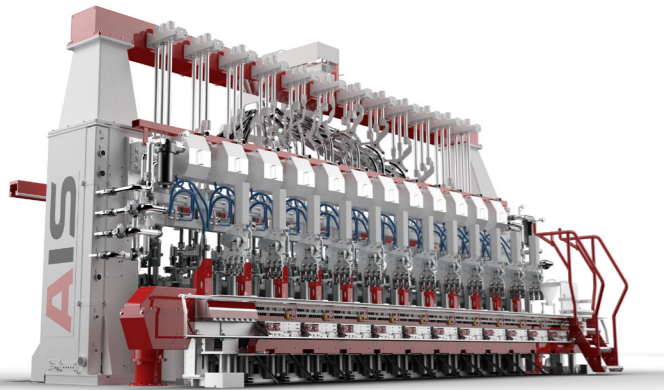
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The next generation of pneumatic  
glass container forming machines

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## AIS machine overview

The AIS machine is recognized by the industry as the superior performer among pneumatically driven glass container forming machines. A combination of valued features, including parallel Mold Open and Close MOC mechanism, pneumatic operation, high efficiency VertiFlow cooling, and built-in flexibility, make the AIS machine top of its class.

The next generation AIS is built to give glassmakers even more, with many new features designed to deliver enhanced performance, better production, and reduced maintenance on the forming line.

Machine function	New features	Benefits
Delivery	<ul style="list-style-type: none"> <li>Constant Cone Bézier Deflectors</li> </ul>	<ul style="list-style-type: none"> <li>More consistent loading</li> </ul>
Blank side individual cavity control	<ul style="list-style-type: none"> <li>Cooling of each cavity half can be controlled individually</li> </ul>	<ul style="list-style-type: none"> <li>Improved controllability of blank side cooling (in combination with closed loop)</li> </ul>
Valve block improvements	<ul style="list-style-type: none"> <li>Blank side cooling valves directly piloted (not through valve block)</li> <li>Move plunger speed controls from underneath platform to into valve block</li> </ul>	<ul style="list-style-type: none"> <li>Ease of use: Speed control valves</li> </ul>
Twist mechanism: improved speed control	<ul style="list-style-type: none"> <li>Spherical outboard bearing funnel</li> <li>Improved speed needle configuration in valve block</li> </ul>	<ul style="list-style-type: none"> <li>Twist mechanism speed control at fast cycle rates as increasing challenge - New solution: Improve speed setting</li> </ul>
Vertiflow mechanism	<ul style="list-style-type: none"> <li>Removable vacuum tubes</li> </ul>	<ul style="list-style-type: none"> <li>Easier cleaning</li> <li>Improved serviceability</li> </ul>
Wide cullet chute	<ul style="list-style-type: none"> <li>Cullet chute with wide exit area</li> </ul>	<ul style="list-style-type: none"> <li>Improved cullet chute performance</li> <li>without blocking</li> </ul>
MOC with external check valve	<ul style="list-style-type: none"> <li>Check valve of MOC moved to outside of cylinder</li> </ul>	<ul style="list-style-type: none"> <li>Improved serviceability</li> </ul>
Plunger mechanism	<ul style="list-style-type: none"> <li>8" plunger stroke</li> <li>Standardize on +65 mm frame</li> <li>Quick change DG 6-1/4 - TG 4-1/4 (SG)</li> <li>Standardized positioners and QC cartridges</li> <li>Optimized base plate with enhanced PPC integration</li> </ul>	<ul style="list-style-type: none"> <li>More flexibility for tall containers</li> </ul>

### Features

- FlexIS 3 Control System
- Servo electric gob distributor
- Constant Cone delivery
- Bézier deflectors
- Full Parallel Blank and Blow mold opening
- Quick Change Plunger Mechanism 8" stroke DG/TG
- Enhanced 26 Lines Valve Block
- Servo Electric Invert SEI
- Servo Electric Takeout SETO
- FlexPusher
- FPS Valve Technology for plunger up and counter blow
- VertiFlow Blank Mold Cooling with Individual cavity control
- Neck ring cooling
- Vertiflow blow mold cooling
- High Low deadplate cooling
- Vacuum assist blow side
- Blank side Barrier
- Plunger Process Control PPC (enabling closed loop control)

### Optional features

- Blank Side Invertiflow with individual cavity control
- FPS Valve technology for final blow (enabling closed loop control)
- Vertiflow assist
- Lifting Device

### AIS machine ware range

Ware Range	6 1/4" Double Gob			4 1/4" Triple Gob		
	B&B	P&B	NNPB	B&B	P&B	NNPB
<b>Height under finish</b>						
Minimum	120	80	80	110	80	80
Maximum	347	300	300	304	285	285
<b>Body diameter</b>						
Maximum	120	120	120	76	76	76
<b>Finish diameter</b>						
Maximum	48	105	38	48	70	38

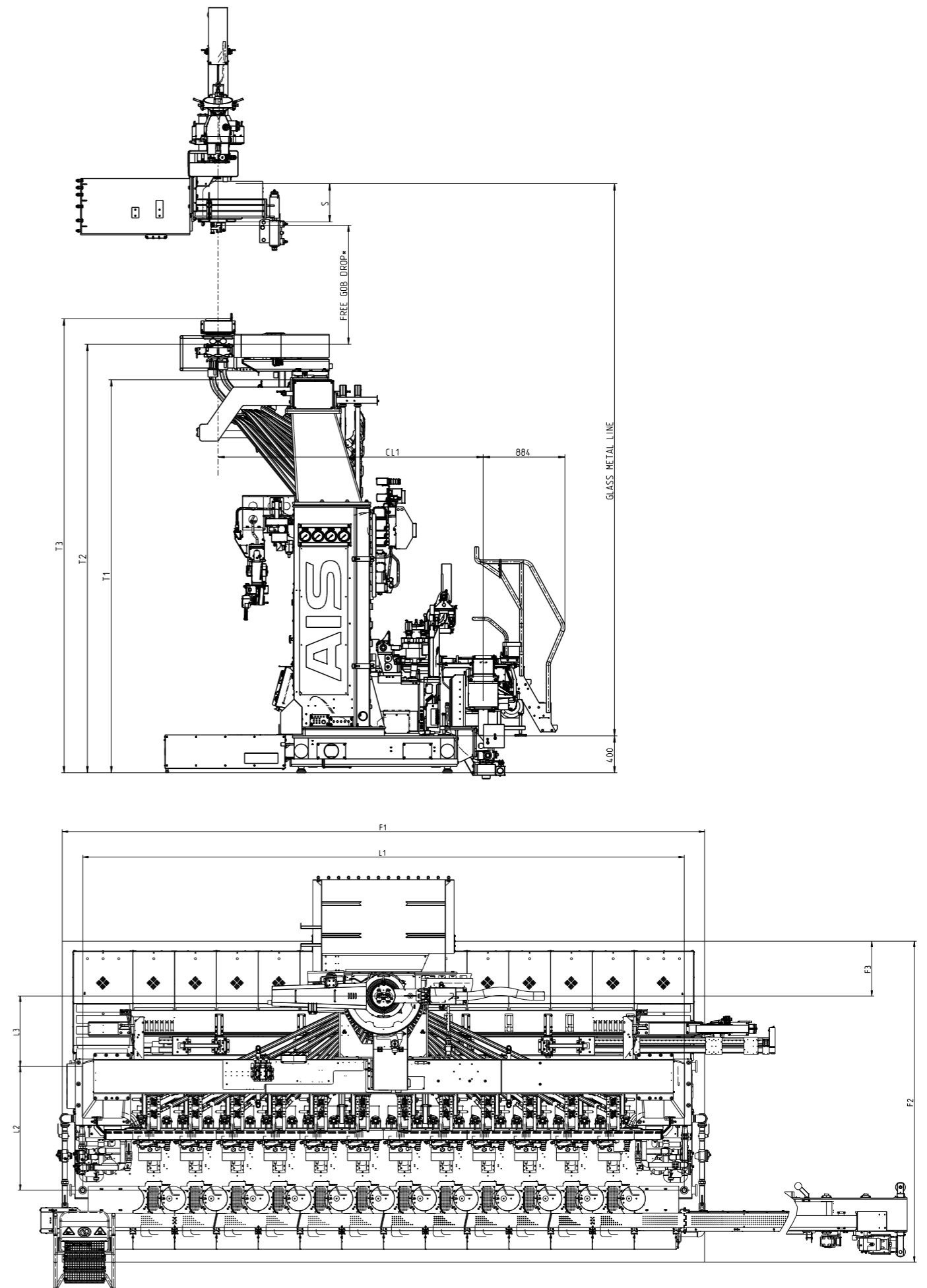
**AIS machine installation layout with Constant Cone delivery**

		6	8	10	12
F1	Required space length (floor cutout)	5000	6000	7100	8200
F2	Required space width (floor cutout)	4100	4100	4100	4100
F3	Required space to CL orifice (floor cutout)	930	930	930	700
L1	Loading points of bed length	4476	5544	6610	7678
L2	Loading points of bed width	1580	1580	1580	1580
L3	Loading points to CL orifice	640	640	640	899
T1	Top of beam	3476	3707	3941	4253
T2	Top of funnel	3846	4087	4311	4623
T3	Top of interceptor	4134	4365	4578	4895
CL1	CL orifice to CL conveyor	2604	2604	2604	2864

Note: For machine height with non-Constant Cone delivery, please contact Bucher Emhart Glass.

**Selection criteria for feeder and spout**

Feeder & spout	TPD	S Spout depth (mm)
555 std with 503 spout	40 to 125 TPD	414
555 deep with 515 spout	85 to 150 TPD	477



Utility requirements - Compressed air and vacuum supply

Air type	Pressure	Receiver size	Consumption per section	
Vacuum	0.15 bar absolute	min 0.15 m <sup>3</sup> /section	0.3-0.5 Nm <sup>3</sup> /min	
Air supply feeder & shear	3.1 to 4 bar		1.0 Nm <sup>3</sup> /min/machine	
Compressed air pilot	4.0 bar	min 0.05 m <sup>3</sup> /section	0.003 Nm <sup>3</sup> /min	
Compressed air Low pressure	2.1 bar ±0.1 bar	min 0.3 m <sup>3</sup> /section	1.0 Nm <sup>3</sup> /min	
			<b>FPS Pl. up:</b>	<b>FPS Pl. up &amp; C'Bl./Pl. cooling:</b>
Compressed air High pressure	3.1 bar ±0.1 bar	min 0.3 m <sup>3</sup> /section	5.2 Nm <sup>3</sup> /min	3.5 Nm <sup>3</sup> /min
Compressed air FPS	max 5 bar	min 0.3 m <sup>3</sup> /section	0.4 Nm <sup>3</sup> /min	2.5 Nm <sup>3</sup> /min

Note: Refers to drawing 200-1760

Compressed air requirements

Properties	Classification
Foreign particles	ISO Class 4 (ISO 8573-1)
Dew point	ISO Class 4 (ISO 8573-1)
Oil content	ISO Class 4 (ISO 8573-1)
Temperature	10° C to 55° C

Blank mold - Neck ring, blow mold, and conveyor cooling

Mechanism cooling	Pressure	Consumption
BK & NR cooling & Vertiflow Assist (AIS)	1200 to 1600 mm H <sub>2</sub> O	Refer to 200-15864
BW Vertiflow	1200 to 1600 mm H <sub>2</sub> O	Refer to 200-15864
	Max 1200 H <sub>2</sub> O Δp inlet deadplate <250 mm H <sub>2</sub> O	12 Nm <sup>3</sup> /min/IS section Note: Consumption based on 1200 mm H <sub>2</sub> O. For other pressure values interpolate the consumption
Conveyor		10 Nm <sup>3</sup> /min for every 0.5m ext. length
Conveyor extension Ware handling - optional (conveyor drive end, cross conveyor, stacker)	Recommended 400 mm H <sub>2</sub> O	4 Nm <sup>3</sup> /min

Feeder cooling

Mechanism cooling	Pressure	Consumption
Gob distributor	Recommended 400 mm H <sub>2</sub> O	2 Nm <sup>3</sup> /min
Shear mechanism	Recommended 400 mm H <sub>2</sub> O	7 Nm <sup>3</sup> /min
Feeder mechanism	Recommended 400 mm H <sub>2</sub> O	7 Nm <sup>3</sup> /min
Revolving tube	Recommended 400 mm H <sub>2</sub> O	2 Nm <sup>3</sup> /min

Cooling air requirements

Properties	Classification
Foreign particles	ISO Class 5 (ISO 8573-1)
Dew point	ISO Class 5 (ISO 8573-1)
Temperature	10° C to 55° C

Remarks:

- For detailed information about machine connections refer to Installation Layout documents 200-16000-XX as well as to Pneumatic Connection Schematic 200-A6005.
- Vacuum forming needs depend on mold design, wear and timing
- Air consumption values above are stated in Normal cubic meters