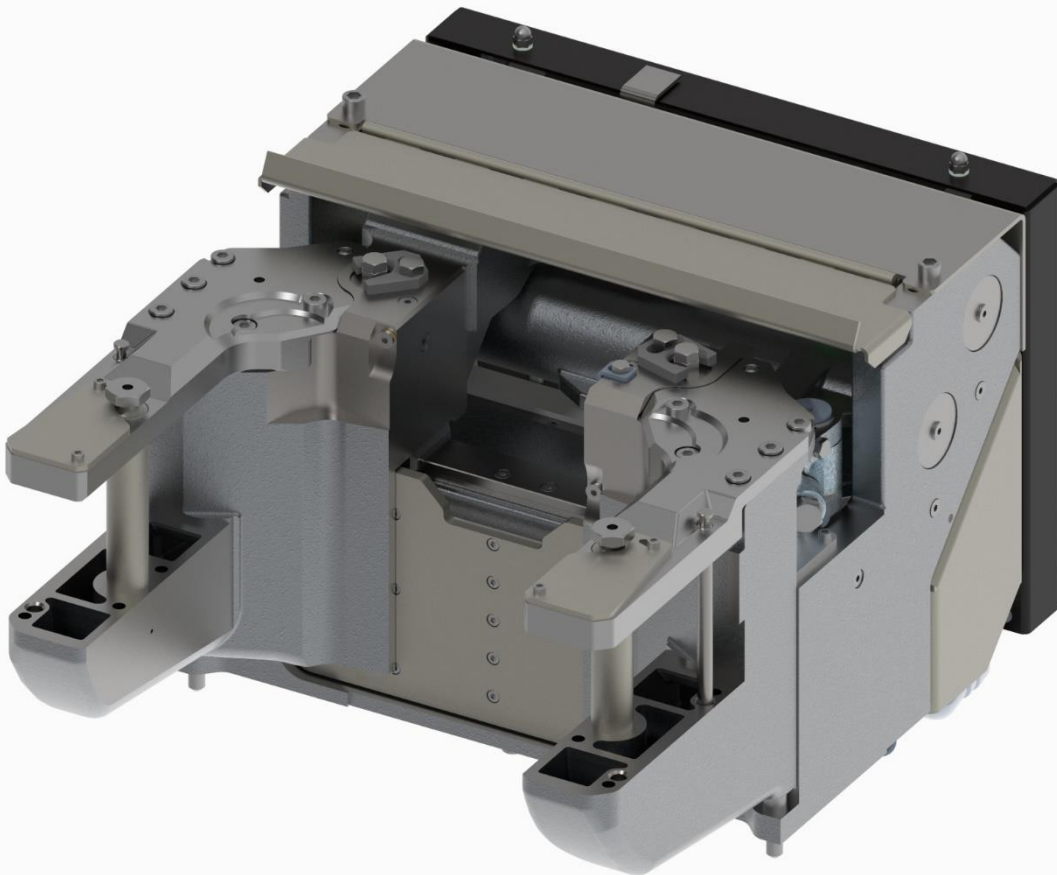


Technical News Bulletin

Steinhausen, July 2024



AIS Modular Blank Mold Support Mechanism

- Extended cooling options with enhanced air flow
- IS molds compatible with AIS machines
- Suitable for small ware production

Introduction

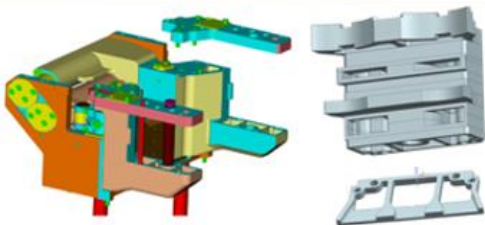
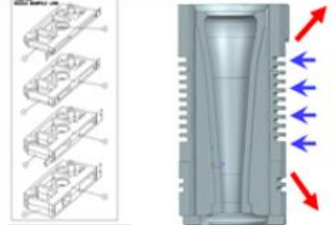
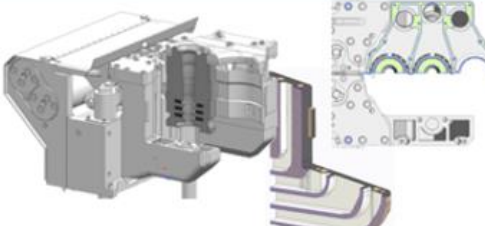
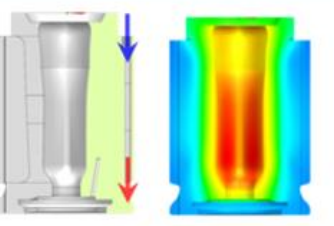
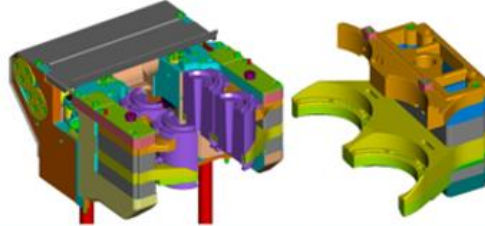
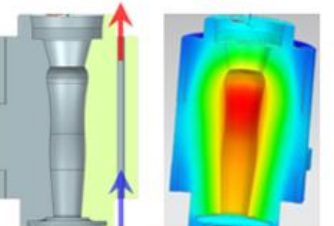
The AIS Modular Blank Mold Support Mechanism 210-2234 is the evolution of the existing 210-2110 mechanism. Its new modular and stiffer design allows:

- extended cooling options for blank molds with enhanced cooling air flow
- existing IS molds to be reused on AIS machine
- extension of the ware range for small ware production: articles manufactured with IS 4¼ DG can be produced on AIS 4¼ TG

Description

The AIS Modular Blank Mold Support Mechanism can accommodate different cooling configurations:

- VertiFlow Blank
- InVertiFlow Blank
- the newly developed Traveling Radial Cooling, enabling the continued use of existing IS molds to ensure cross compatibility

	Principles	Typical Blank T °C distribution
Traveling Radial Cooling • IS to AIS molds reusability • Individual cavity control (Temperature control closed loop) • Small ware applications		
VertiFlow Blank • Ideal for B&B – WMPB • Individual cavity control (Temperature control closed loop) • Increased container quality (improving glass distribution)		
InVertiFlow Blank • Ideal for light weight NNPB • Individual cavity control (Temperature control closed loop) • Enhanced thermal profile		

All these cooling options feature individual cavity control of the blank molds through enhanced design of cooling air channels, with the following advantages:

- | | |
|--|------------------------------------|
| • Higher cooling efficiency | → Improved container quality |
| • Individual cooling of mold halves | → Optimized cooling conditions |
| • Direct portability of IS blank molds on AIS machines | → Easier transition from IS to AIS |
| • Noise reduction | → Improved environment |
| • Reduced cooling air consumption | → Energy saving |

The design of the Traveling Radial Cooling feature permits to reuse:

- blank molds from IS 4-1/4 DG, 3" TG, and 85 mm TG with AIS TG setup.
- blank molds from IS 5" DG, 5-1/2" DG, and 6-1/4" DG with AIS DG setup.

Furthermore, the cooling nozzles can be configured into the nozzles-spacers stack to suit the individual container cooling requirements.

Traveling Radial Cooling setup 210-2273-7
Reusing IS assembly #23 DG 5-1/2 in AIS-M DG



Traveling Radial Cooling setup 210-2274-26
Reusing IS assembly #16 DG 4-1/4 in AIS-M TG



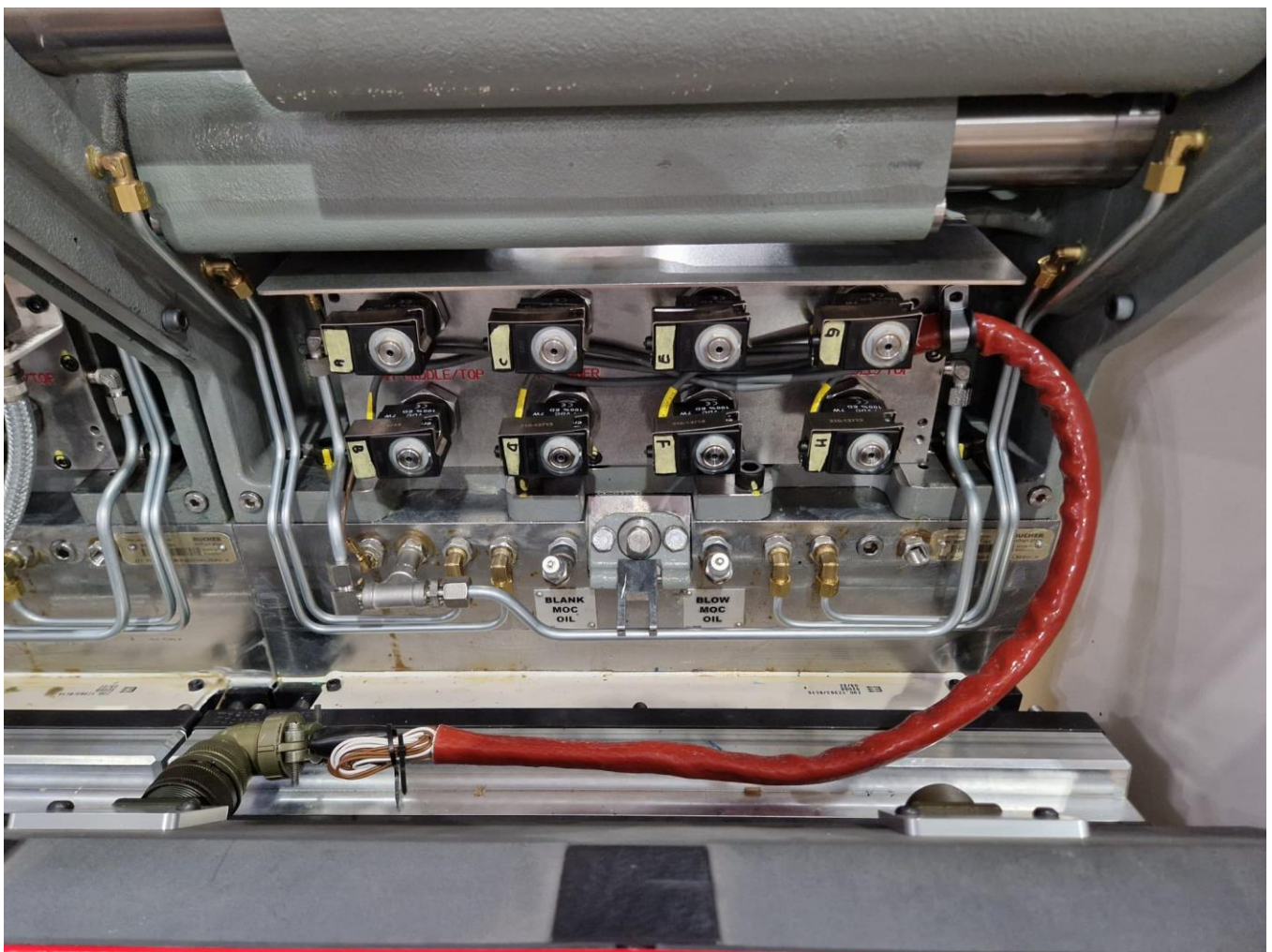
Traveling Radial Cooling setup 210-2276-1
Reusing IS assembly #1 TG 85 in AIS-M TG



Traveling Radial Cooling setup 210-2293-3
Reusing IS assembly #3 DG 4-1/4 in AIS-M DG

Individual Cavity Control for cooling.

The solenoid valves for blank mold cooling control are located on the back of the modular bracket and are directly wired to the 26-lines electro-pneumatic valve block (EPVB). This allows to free up some valves of the EPVB and use them for Plunger Up Exhaust function, thus providing a more efficient plunger motion control.



Mold Design and Ware Range Limits

AIS M - Mold design and Ware Range limits (includes Servo Baffle and Servo Blow head mechanisms)						
Configuration	6 1/4" DG (includes "K" type)	4 1/4" TG	Single Gob "K" type	Single Gob "K" type, "extended"	3" QG (under construction)	
Section frame height	standard	standard	standard	+35mm packer	standard	
Max. Body diameter						
With Vacuum	120	76	178 (Stack) (156 with BW VertiFlow)		45	
Ware range limits: Height under Finish: Blank VertiFlow (VF) / InVertiFlow (/ Travelling Radial Cooling						
Ware range limits: Height under Finish: Blank VertiFlow (VF) / InVertiFlow (IVF) / Travelling Radial Cooling (TRC)	HuF.	VF / IVF / TRC	VF / IVF / TRC	VF / IVF / TRC	VF / IVF / TRC	TRC
Process	B&B - 48mm	Min	120 / 120 / 73 *	110 / 110 / 68 *	125	195
		Max	412	369	466	536
	NNP&B - 38mm	Min	79 / 79 / 67 *	80 / 80 / 66 *	105	175
		Max	380	350	406	441
	WMP&B:					
	70mm	Min	79 / --- / 67 *	80 / --- / 66 *	100	145
		Max	381	350	406	441
	83mm	Min	78 / --- / 78 *	---	---	---
		Max	352	---	No.2	No.2
	90mm	Min	78 / --- / 78	---	100	145
		Max	352	---	406	441
	105mm	Min	78 / --- / 78	---	---	---
		Max	344	---	No.3	No.3
	120mm	Min	---	---	100	145
		Max	---	---	406	441

* With Travelling Radial Cooling and reusing existing IS molds, smaller height-under-finish containers can be produced by extending both bottom plate dovetail and flange heights.

Specification

The AIS Modular Blank Mold Support Mechanism is standard for AIS machine. Its part number is 210-2234-1, which supersedes the 210-2110-00 family.

All AIS machines configured with the Modular Blank Mold Support Mechanism are identified with the name AIS-M.

Since the 210-2234-1 mechanism is designed to be used in combination with the 4000 series plunger mechanism, all AIS-M machines are supplied with 65 mm frame packer.

Installation Requirements

All New AIS-M machines are equipped with the AIS Modular Blank Mold Support Mechanism.

Upgrade to AIS Modular Blank Mold Support Mechanism is possible via section frame exchange.

Features	Benefits
Traveling Radial Cooling	Blank molds from existing IS machines can be reused,
Individual Cavity Control Cooling	Optimized thermal dissipation of the molds by temperature control closed loop
VertiFlow / InVertiFlow	The consolidated VertiFlow / InVertiFlow cooling technology allows enhanced cooling capacity, reducing cooling air consumption and environment noise
Redesigned cooling air channels	Enhanced cooling air distribution between cavities
Ware range and production capacity extension	The AIS Modular Blank Mold Support Mechanism, in combination with the Traveling Radial Cooling configuration, permits small ware production of typical IS DG 4-1/4 articles on the AIS TG 4-1/4 machine, thus increasing production capacity by 50%.