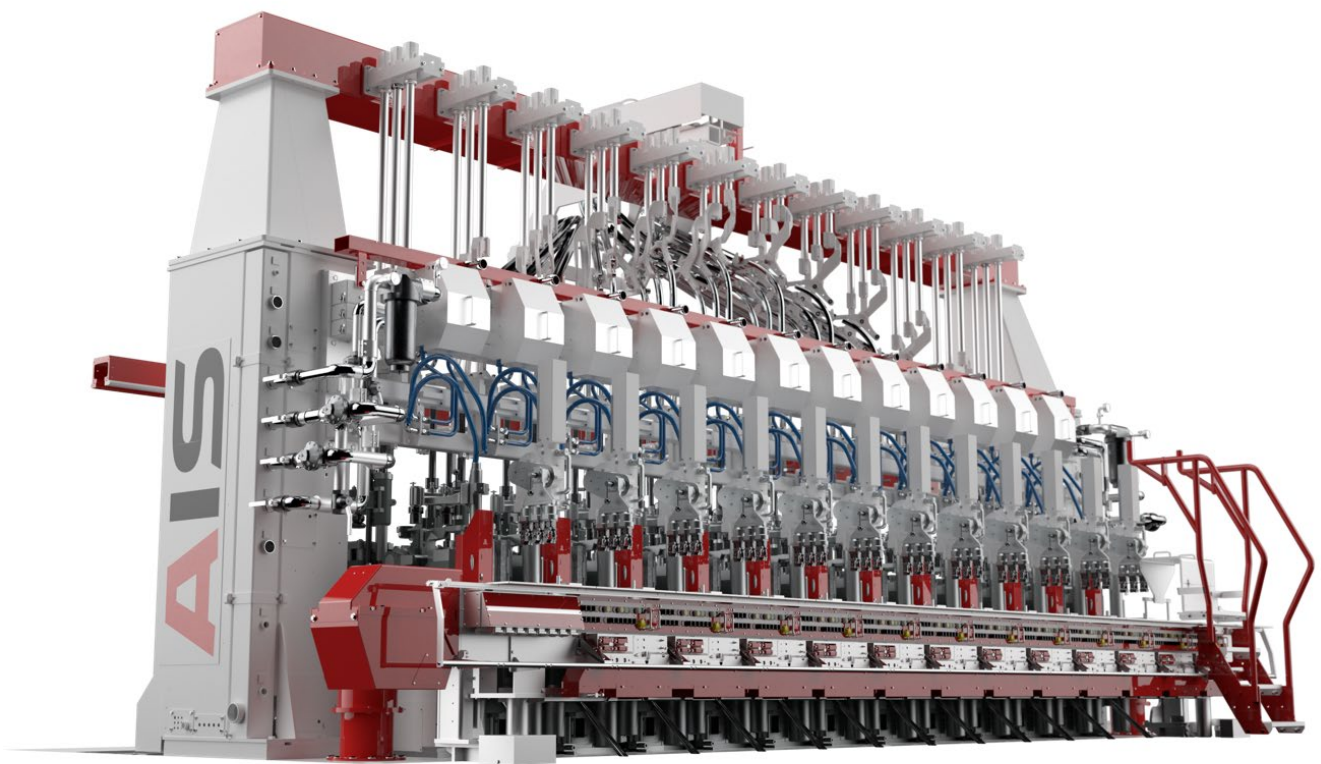


Technical News Bulletin

Steinhausen, April 2023



Modular machine structure

- Modular design
- Enhanced ergonomics
- Lean specification

Introduction

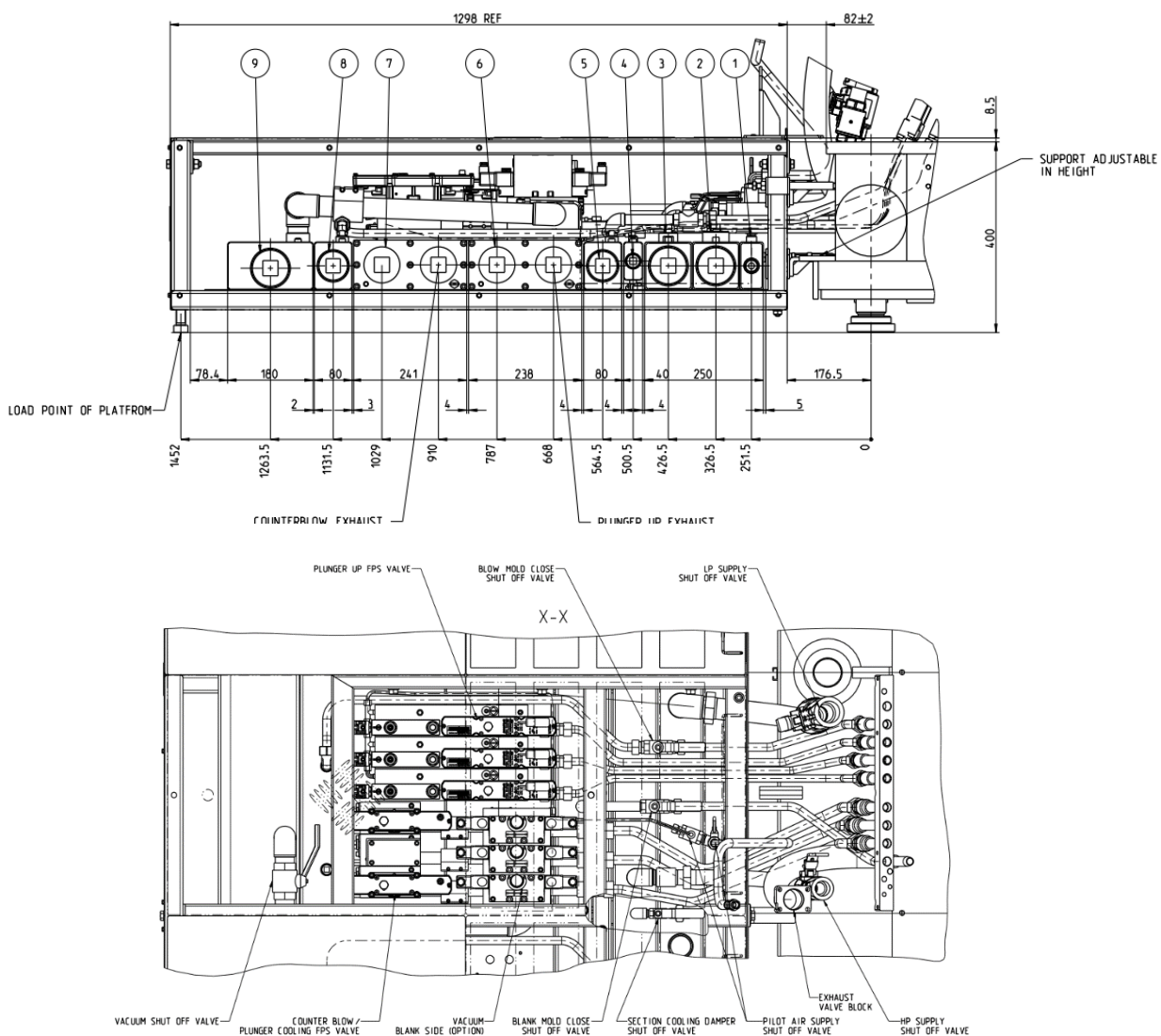
The modular machine structure of IS and AIS machines is the result of an optimization process leading to a better and enhanced distribution of pneumatic components to provide IS and AIS users with improved usability and maintainability. This reworked design also allows an easier and more flexible machine specification.

The modular machine structure results from the redesign of three main areas:

- Blank side platform
- Uprights
- Overhead manifolds

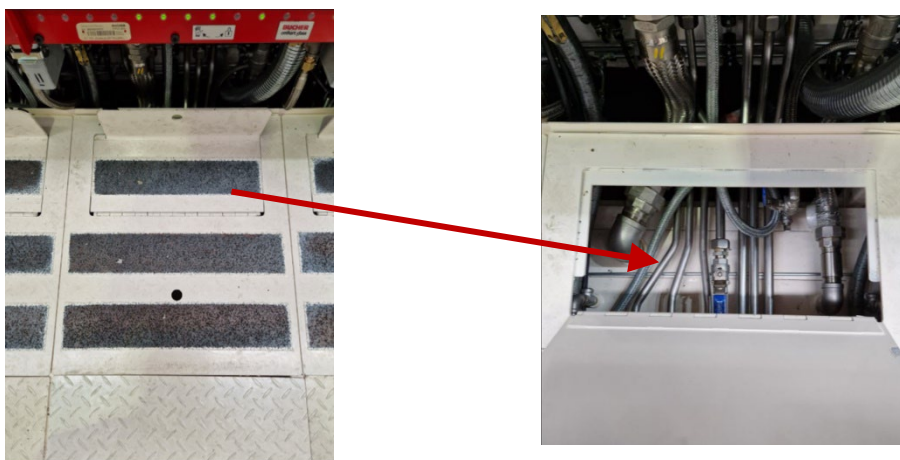
Blank side platform

The standard pneumatic functions of the IS and AIS blank side platform are rearranged with the possibility to install additional air manifolds by using pre-configured items for potential customers' requests.



BLANKSIDE PLATFORM STANDARDIZED CONFIGURATION						
Manifold N°	Function	Size	Supply port	Outlet port	Material	
1	Pilot Air	50x100	3/4"	3/8"	Stainless Steel	Standard
2	Low Pressure	100x100	2-1/2"	1-1/2"	Stainless Steel	Standard
3	High Pressure Section Cooling	100x100	2-1/2"	1"	Stainless Steel	Standard
4	Spare (VertiFlow)	40x80	3/4"	1/4"	Stainless Steel	Optional
5	Blank Mold Close	80x100	2"	1/2"	Stainless Steel	Standard
6	Plunger Up	238x104	2-1/2"	3/4"	Aluminum	Standard
7	Counterblow Plunger Cooling	238x104	2-1/2"	3/4"	Aluminum	Standard
8	Spare (Blow Mold Close)	80x100	2"	1/2"	Stainless Steel	Optional
9	Vacuum Blank	180x100	2-1/2"	1-1/4"	Black Steel	Optional
10	Cable track	200x100				Optional
11	PPC cable tray	50x50				Optional

Floor plates are made of steel and include anti-slippery inserts located close to the section frames and hinged covers giving direct access to the shut-off valves.



The modular platform is suitable for future upgrades, such as adding blank side vacuum without alteration to existing piping.

Uprights

The modular design of IS and AIS machine uprights increases the flexibility of the machine specification by selecting pre-configured options for pressure controls to match the production needs.

Three options for pressure control are available:

- Machine Control Unit (MCU): the servo control of forming air and constant monitoring of high pressure, low pressure, and pilot air.
- Manual pressure controls: a panel with configurable pilot pressure regulators driving the R18 regulators of the machine.
- Pressure supervision: used in combination with manual pressure controls to monitor the operating and forming air.

With MCU and pressure supervision, you can monitor from the FlexIS 3 User Console the air channels and trigger a dedicated action. (See TNB290 for further details)

Typical air pressure supervision control	Possible actions triggered by FlexIS 3
High Pressure	- Warning - Stop The Gob Distributor and Sections in Normal Stop - Stop The Gob Distributor and Sections in Maintenance Stop - Stop the Gob Distributor - Stop Shear - No action
Low Pressure	
Pilot Air	
Settle Blow	
Final Blow	
Finish Cooling	
Blank Close	
Spare	

The modular upright assembly comprises:

- All injectors previously installed on the overhead manifold, relocated on a lubrication panel. They are easily accessible and with no risk of dripping oil into the sections in case of injector leakage.
- 1-inch pressure regulator providing pilot air to the forming machine (replacing the previous vitalizer unit), installed in the cold-side upright
- The optional constant cushioning pump installed in the hot-side upright.
- All the electrical connections for the overhead functions, routed through a cable tray installed in each upright, and connected to the overhead manifold through a flexible housing protecting all cables. This arrangement simplifies the machine cleaning.

Overhead
lubrication
panel

Lubrication
piping
housing

Integrated
cable tray

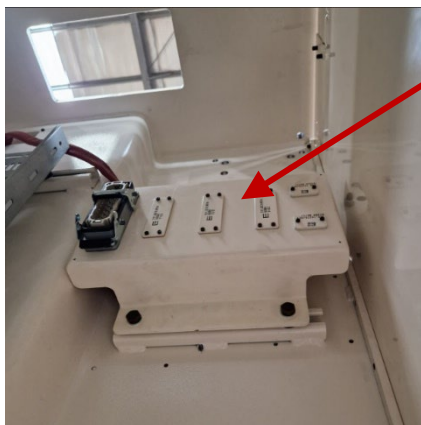
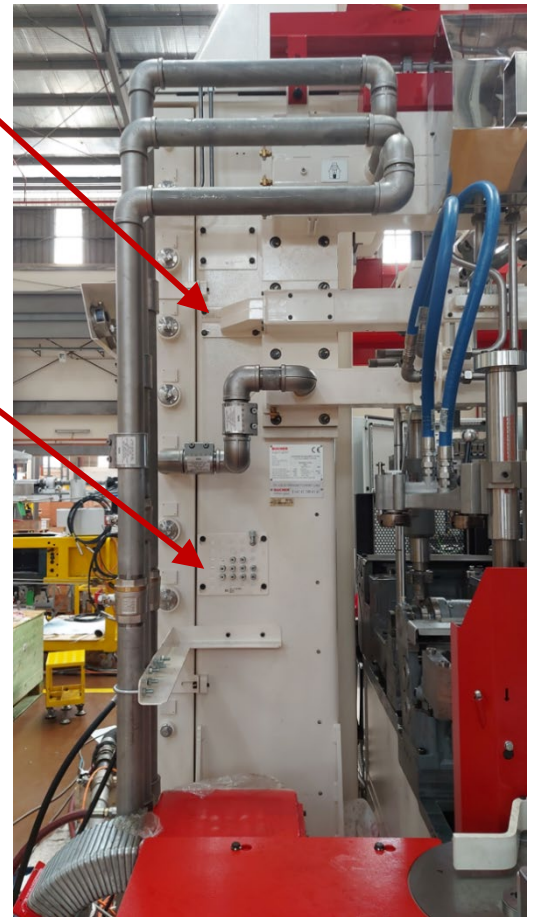
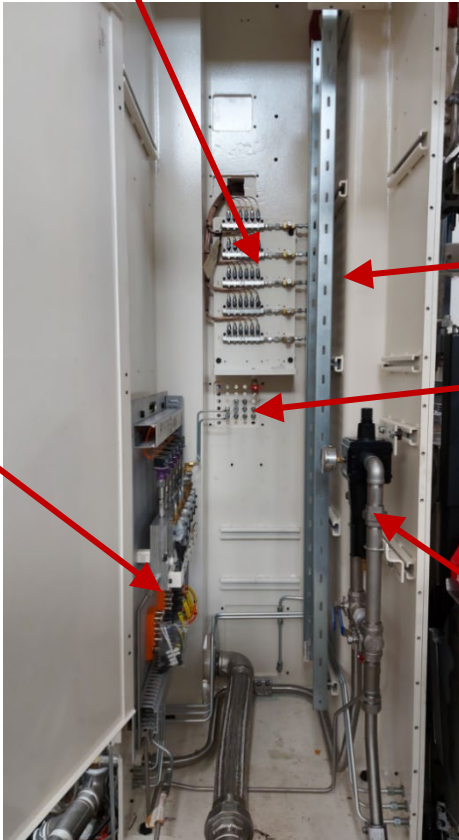
MCU connections
to overhead
functions

1" pressure
regulator
with filter
for pilot air

Internal wiring
connection for
overhead
functions

Flexible
housing
for overhead
cables

MCU



Each upright is closed by a door to protect and facilitate access to the internal components. This door is configurable depending on machine layout and internal equipment.

The design of the modular uprights allows the full operability of the blank side lifting device with an appropriate location for the parking position.

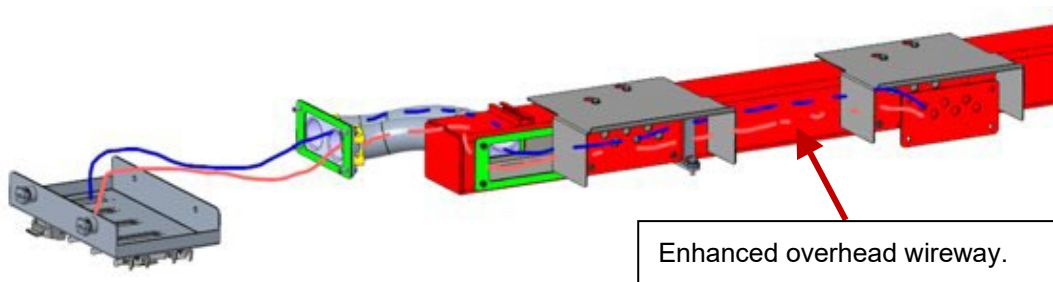


Lifting device retainer

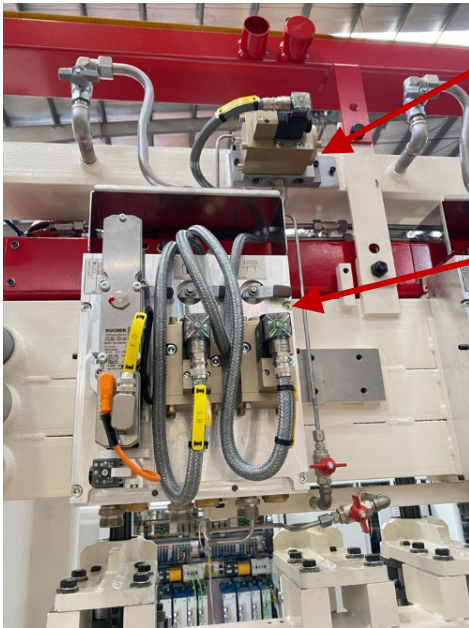
Overhead manifold

The IS and AIS overhead manifold arrangement is designed to match the modular uprights. It also includes additional features for improved serviceability:

1. The wireway for the overhead valves is installed on the top of the overhead manifold for a better thermal protection of the cables and a cleaner appearance of the overhead arrangement.
2. The overhead valve block design allows for all types of valve configuration (FPS, ISO3, ROSS).
3. With the new manifold arrangement, an additional air manifold can be easily added to meet customers' requirements. This manifold can be specified with direct air or timed air. With timed air, up to three ISO3 valves can be installed.
4. The channel, previously used for the wiring of the overhead valves, protects the lubrication piping coming from the injector panel and other pipes, such as the pilot piping for master/slave pressure arrangement.
5. The valve block outlets are rotated by 180° for a better rigid piping distribution and reduced stress to the flexhoses.



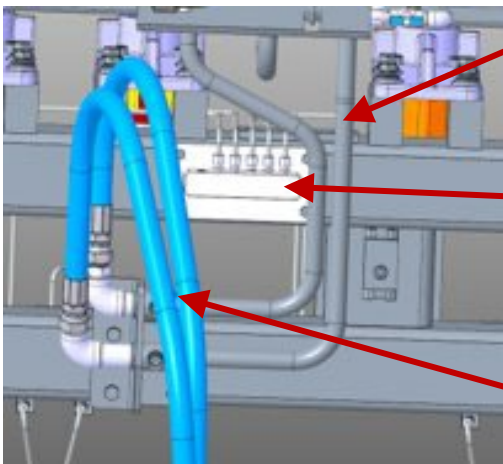
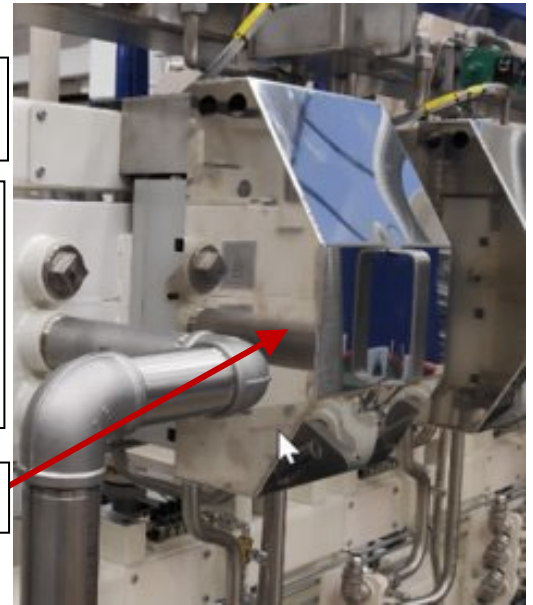
Enhanced overhead wireway.



Optional manifold.
Timed air, 1 valve shown.

Next generation valve block
for:
Settle Blow
Final Blow
Finish Cooling

Enhanced valve block cover.



Redesigned rigid piping for
overhead functions.

Overhead lubrication output
including neckring bearing
lubrication

Flexhoses for Final Blow &
Finish Cooling

Features

Blank side platform

Modular uprights

Pressure controls

Integrated cable tray in uprights

Lubrication panel in upright

Doors on uprights

Constant-cushioning pump in upright

Enhanced overhead arrangement

Benefits

Increased accessibility for maintenance operation.

Blank side shut-off valves accessible below the hinged cover.

Suitable for future upgrades with additional functions.

Increased ergonomics for safer and faster maintenance activities.

Universal design meeting all specifications.

Increased flexibility during project execution.

Full control of forming and operating air for stable and safe machine operation.

Easier cable installation.

Enhanced cable protection.

Increased serviceability.

Prevention of oil leakages into section frames.

Reduced risk of fire.

Increased accessibility for maintenance operation.

Easier machine cleaning.

Protection from harsh environment.

Improved thermal protection for overhead valves.

Overhead valve covers are easier to clean.

Optimized arrangement of Settle Blow, Final Blow and Finish Cooling piping for an extended service life.