



Pneumatic IS machines offering total configuration flexibility

## IS pneumatic machines

|                |    |           |           |         |
|----------------|----|-----------|-----------|---------|
| Type IS 4 1/4" | SG | 4 1/4" DG | 3" TG     |         |
| Type IS 5"     | SG | 5" DG     | 85mm TG   | 64mm QG |
| Type IS 5 1/2" | SG | 5 1/2" DG |           |         |
| Type IS 6 1/4" | SG | 6 1/4" DG | 4 1/4" TG |         |

# IS machine specification

## Servo feeder

- 570 Servo feeder plunger
- 555 Revolving tube with servo height and tube drive control
- 565 Parallel servo shear

## Delivery system

- Servo gob distributor, interceptor and center reject position
- Constant cone delivery system
- Trough and deflector suspension system
- Scoops, troughs, and deflectors
- Scoop spray system
- Valve block on beam for retract cylinder, air ride and scoop spray

## Machine

- Machine structure with bed, upright, beam, manifolds and piping, blank side platform with manifolds and piping
- Manifolds and piping for process air in non-corrosive material
- Plunger up with FlexPressure System FPS and quick exhaust, one valve per cavity
- Plunger cooling and counterblow with pressure regulator on the main inlet of the manifold with ISO 3 valve per cavity. Individual cavity adjustment with FlexIS timing system
- Air manifolds on upright and blank side platform
- Manifold for process and forming air of rust-proof material

## Section frame

- 26 line electro-pneumatic valve block with safety flaps for blow mold open/close and blowhead
- Safety interlock switches for blowhead and mold open/close located on the blow side for easy access
- Blank mold holder supporting mechanism
- Blank side cooling LH, RH with stack
- Pantograph baffle mechanism, two-way air operated
- Funnel mechanism, two-way air operated
- Invert mechanism, pneumatic with cushioner cartridges
- Neck ring mechanism
- Blow mold holder supporting mechanism
- Constant Cushion take out mechanism
- Constant Cushion blowhead top mounted
- Blow side cooling with stack
- Blow side bottom plate mechanism with VertiFlow thru bed cooling and blow side vacuum
- One set of accessories for blow & blow or press & blow including Quick Change accessories for funnel, baffle and blowhead

## Feeder options

- Feeder front plate
- Feeder casing
- Feeder refractories
- Feeder tube hoist
- Shear mechanism lube pump
- Shear spray system

## Machine structure options

- Blank side vacuum including related valves
- FPS valves for final blow
- Mold and plunger lifting device integrated in overhead panel
- Auxiliary equipment

## Section frame options

- Blank side cooling with VertiFlow
- FPS for counterblow and plunger cooling, one valve per cavity
- Servo Electric Take Out SETO
- Servo Electric Invert SEI
- Blow side vacuum including related manifolds and valves
- NNPB process and accessories
- VertiFlow cooling system
- Plunger positioner
- Blank side InVertiFlow
- Vacuum blow side

### Control

- FlexIS TS-E expandable control system with cables – incorporates all configuration and setups

### Ware handling

- FlexConveyor with FlexPusher with a silent chain transport belt with matched link belt for precise container spacing, height adjustable
- Integrated conveyor ladder to facilitate blow side maintenance
- Conveyor valve block with integrated blow mold and blowhead mechanism interlock
- Deadplate cooling high/low with dual infeed valves and height adjustable

### Service

- Supervision and installation possibilities

### Control options

- Control for proportional valves
- Servo Electric Invert SEI and Servo Electric Take Out SETO

### Ware handling options

- Ware Reject
- Ware Transfer 478 / 178
- Cross Conveyor
- FlexStacker

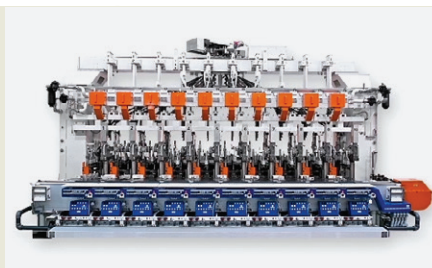
### Service equipment options

- FlexLube lubrication system
- Flexhoses for air supply
- High pressure and low pressure regulators
- Filters and condensation drain
- Utility equipment, lube pump, Constant Cushion pump

### Process control options

- Temperature Control System TCS
- Plunger Process Control PPC
- Closed loop TCS
- Closed loop Flex Pressure System FPS plunger
- Multi Gob Weight

### Fixtures and tools



#### Type 4 1/4" machine

Machine for small ware

SG 4 1/4" DG

#### Type 5" machine

Flagship of IS family

SG 5" DG 85mm TG 64mm QG

#### Type 5 1/2" machine

Solid workhorse machine

SG 5 1/2" DG

#### Type 6 1/4" machine

Available (outperformed by AIS machine)

SG 6 1/4" DG 4 1/4" TG

## IS machine ware range

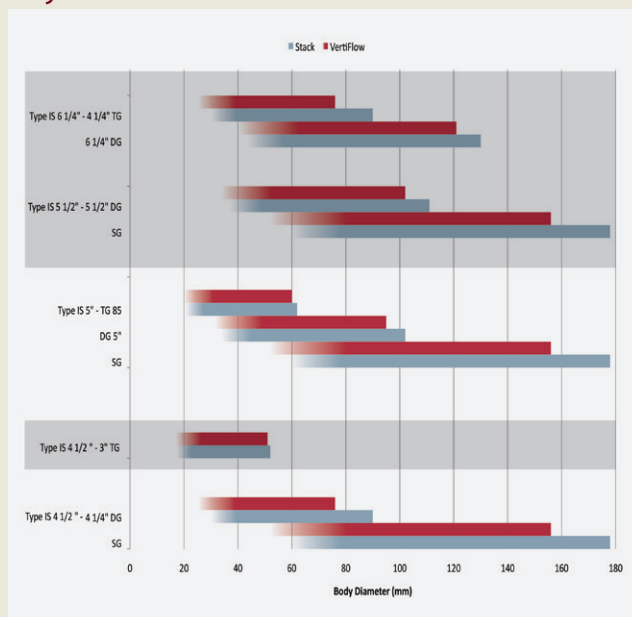
| Ware range                        | *              |           |       |            |       |       |       | **             |           |                |           |
|-----------------------------------|----------------|-----------|-------|------------|-------|-------|-------|----------------|-----------|----------------|-----------|
|                                   | Type IS 4 1/4" |           |       | Type IS 5" |       |       |       | Type IS 5 1/2" |           | Type IS 6 1/4" |           |
|                                   | SG             | DG 4 1/4" | TG 3" | SG         | DG 5" | TG 85 | QG 64 | SG             | DG 5 1/2" | DG 6 1/4"      | TG 4 1/4" |
| <b>Blow and blow</b>              |                |           |       |            |       |       |       |                |           |                |           |
| Max. height under finish          | 341 (358) a)   | 301       | 276   | 341        | 325   | 244   | N.A.  | 380 (352) b)   | 343       | 342            | 287       |
| Min. height under finish          | 61             | 58        | 59    | 74         | 73    | 55    | 37    | 121            | 68        | 115            | 105       |
| Max. body diameter                |                |           |       |            |       |       |       |                |           |                |           |
| * with stack cooling              | 178            | 90        | 52    | 178        | 102   | 62    | 40    | 178            | 111       | 130            | 90        |
| * with VertiFlow cooling          | 156            | 76        | 51    | 156        | 95    | 60    | N.A.  | 156            | 102       | 121            | 76        |
| Max. finish diameter              | 48             | 48        | 30    | 48         | 48    | 30    | N.A.  | 48             | 48        | 48             | 48        |
| <b>Press and blow</b>             |                |           |       |            |       |       |       |                |           |                |           |
| Max. height under finish          | 265 (282) a)   | 282       | 268   | 265        | 290   | 212   | N.A.  | 326 (298) b)   | 302       | 301            | 268       |
| Min. height under finish          | 74             | 40        | 47    | 74         | 55    | 50    | 18    | 121            | 58        | 105            | 86        |
| Max. body diameter                |                |           |       |            |       |       |       |                |           |                |           |
| * with stack cooling              | 178            | 90        | 52    | 178        | 102   | 62    | 40    | 178            | 111       | 130            | 90        |
| * with VertiFlow cooling          | 156            | 76        | 51    | 156        | 95    | 60    | N.A.  | 156            | 102       | 121            | 76        |
| Max. finish diameter              | 120            | 83 c)     | 38    | 120        | 90    | 55    | N.A.  | 120            | 90        | 90             | 70        |
| <b>Narrow neck press and blow</b> |                |           |       |            |       |       |       |                |           |                |           |
| Max. height under finish          | N.A.           | 282       | 268   | N.A.       | 285   | 212   | N.A.  | N.A.           | 296       | 296            | 268       |
| Min. height under finish          | N.A.           | 40        | 47    | N.A.       | 55    | 50    | N.A.  | N.A.           | 57        | 105            | 86        |
| Max. body diameter                |                |           |       |            |       |       |       |                |           |                |           |
| * with stack cooling              | N.A.           | 90        | 52    | N.A.       | 102   | 62    | N.A.  | N.A.           | 111       | 130            | 90        |
| * with VertiFlow cooling          | N.A.           | 76        | 51    | N.A.       | 95    | 60    | N.A.  | N.A.           | 102       | 121            | 76        |
| Max. finish diameter              | N.A.           | 38        | 38    | N.A.       | 38    | 38    | N.A.  | N.A.           | 38        | 38             | 38        |

The specified ware ranges are valid when using standard mold equipment, Q.C. plunger mechanisms, through bed/through frame VertiFlow bottom plate mechanisms and blank mold stack cooling (excluding AIS and NIS which have standard InVertiFlow blank side cooling)

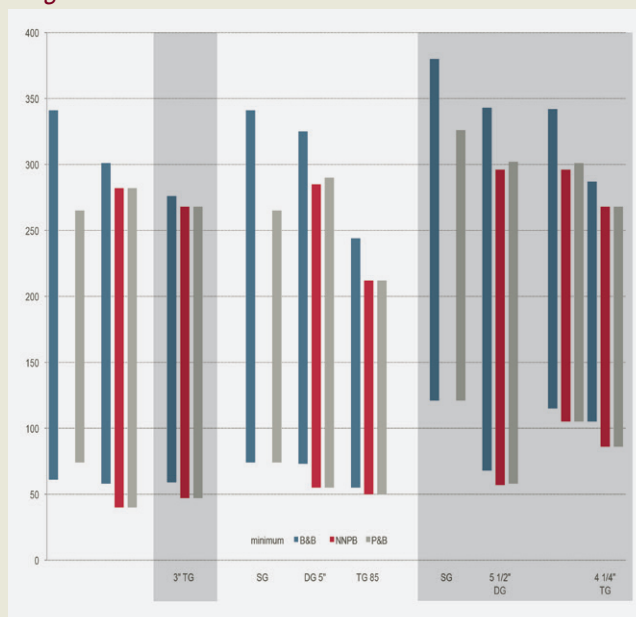
a) with blow mold stack cooling using non VertiFlow adaptor b) with blow mold stack cooling, with or without non VertiFlow adaptor c) 70mm max. finish with VertiFlow blow mold cooling

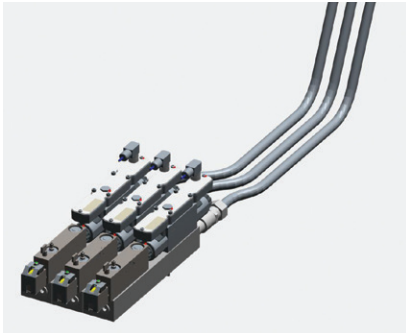
\* IS 4 1/4" - TG 3" is mostly superseded by IS 5" TG 85mm \*\* IS 5 1/2" and IS 6 1/4" are mostly superseded in the market by the AIS machine

### Body diameter



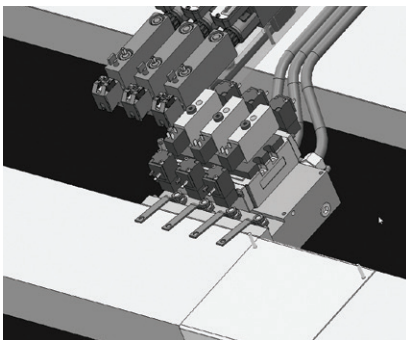
### Height under finish- minimum and maximum





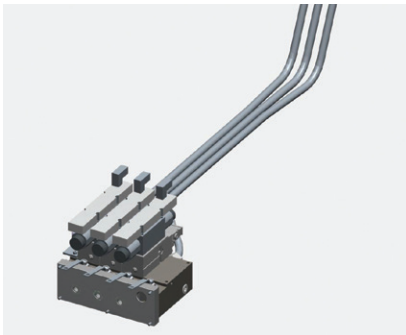
## Plunger up

FlexPressure System FPS standard setting on FlexIS job file



## Counter blow/plunger cooling

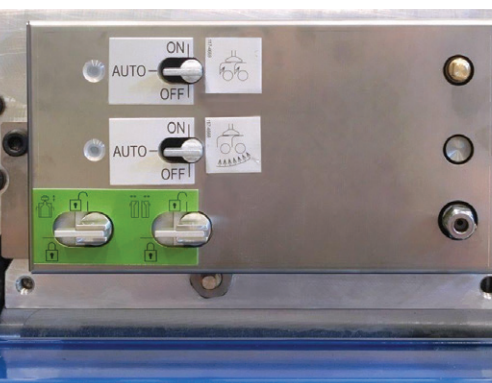
Manually regulated manifold standard with ISO 3 valve/capacity  
Optional vacuum blank side with FPS only



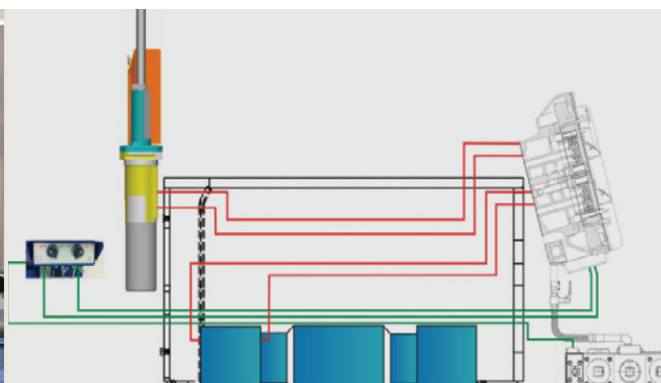
## Counter blow/plunger cooling option

FPS 1 valve per cavity – FlexIS controlled - job file  
(outdated pilot regulators on uprights are obsolete)

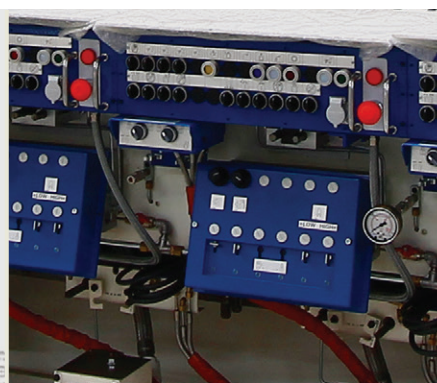
Any other setup will be handled as a special request.



Blow mold and blowhead interlock on FlexConveyor



Section frame with interlock

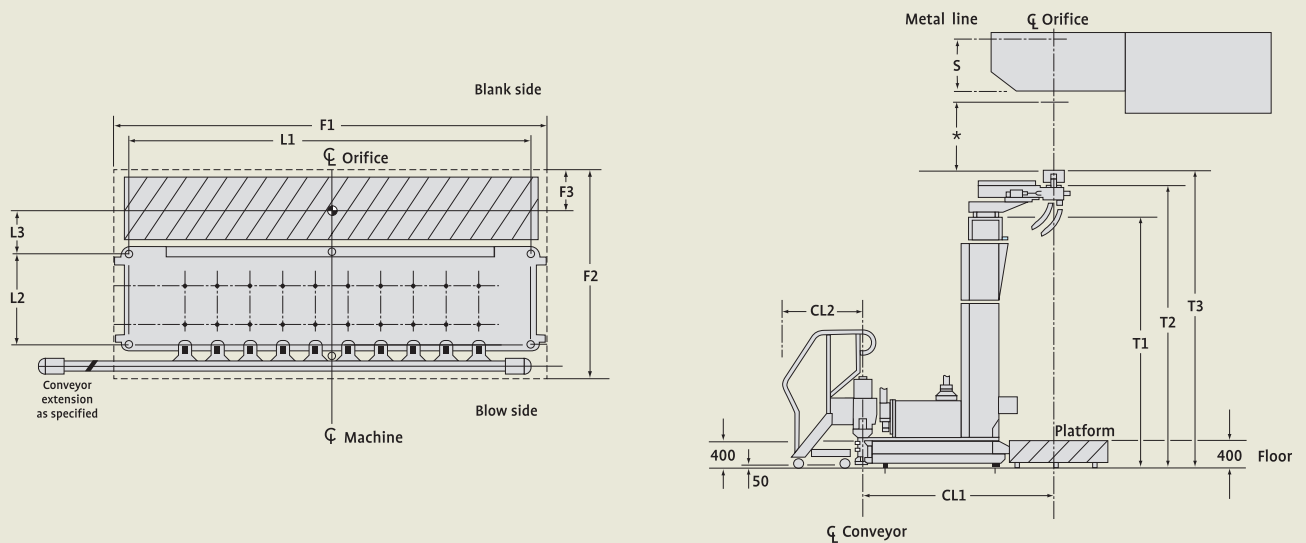


26 line valve block with override flaps

### IS machine- machine height with Constant Cone delivery

|                                                | IS 4 1/4"    |              |              |              | IS 5"        |              |              |              |
|------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                                | 6            | 8            | 10           | 12           | 6            | 8            | 10           | 12           |
|                                                | 200-16000-01 | 200-16000-02 | 200-16000-03 | 200-16000-04 | 200-16000-05 | 200-16000-06 | 200-16000-07 | 200-16000-08 |
| F1 Required space length (floor cutout)        | 5000         | 6000         | 7100         | 8200         | 5000         | 6000         | 7100         | 8200         |
| F2 Required space width (floor cutout)         | 3900         | 3900         | 3900         | 3900         | 3900         | 3900         | 3900         | 3900         |
| F3 Required space to CL orifice (floor cutout) | 920          | 910          | 910          | 660          | 920          | 910          | 910          | 660          |
| L1 Loading points of bed length                | 4476         | 5544         | 6610         | 7678         | 4476         | 5544         | 6610         | 7678         |
| L2 Loading points of bed width                 | 1580         | 1580         | 1580         | 1580         | 1580         | 1580         | 1580         | 1580         |
| L3 Loading points to CL orifice                | 651          | 651          | 652          | 911          | 651          | 651          | 652          | 911          |
| T1 Top of beam                                 | 3338         | 3568         | 3803         | 4115         | 3338         | 3568         | 3803         | 4115         |
| T2 Top of funnel                               | 3708         | 3938         | 4173         | 4485         | 3708         | 3938         | 4173         | 4485         |
| T3 Top of interceptor                          | 3977         | 4207         | 4440         | 4754         | 3977         | 4207         | 4440         | 4754         |
| CL1 CL orifice to CL conveyor                  | 2398         | 2398         | 2398         | 2658         | 2417         | 2417         | 2417         | 2677         |
| CL2 CL conveyor to end of ladder               | 884          | 884          | 884          | 884          | 884          | 884          | 884          | 884          |

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



\* A free gob drop of 900-1200 mm is recommended

#### Dimension specification for feeder & spout

| Feeder & spout          | S Spout depth (mm) |
|-------------------------|--------------------|
| 81 std                  | 324                |
| 81 deep                 | 375                |
| 503                     | 414                |
| 515                     | 477                |
| 555 std with 503 spout  | 414                |
| 555 deep with 515 spout | 477                |

|     |                                             | IS 5 1/2"    |              |              |              | (A) IS 6 1/4" |              |              |              |
|-----|---------------------------------------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|
|     |                                             | 6            | 8            | 10           | 12           | 6             | 8            | 10           | 12           |
|     |                                             | 200-16000-09 | 200-16000-10 | 200-16000-11 | 200-16000-12 | 200-16000-13  | 200-16000-14 | 200-16000-15 | 200-16000-16 |
| F1  | Required space length (floor cutout)        | 5000         | 6000         | 7100         | 8200         | 5000          | 6000         | 7100         | 8200         |
| F2  | Required space width (floor cutout)         | 4100         | 4100         | 4100         | 4100         | 4100          | 4100         | 4100         | 4100         |
| F3  | Required space to CL orifice (floor cutout) | 950          | 940          | 930          | 660          | 920           | 921          | 923          | 660          |
| L1  | Loading points of bed length                | 4476         | 5544         | 6610         | 7678         | 4476          | 5544         | 6610         | 7678         |
| L2  | Loading points of bed width                 | 1580         | 1580         | 1580         | 1580         | 1580          | 1580         | 1580         | 1580         |
| L3  | Loading points to CL orifice                | 620          | 620          | 620          | 878          | 640           | 640          | 639          | 899          |
| T1  | Top of beam                                 | 3411         | 3642         | 3876         | 4188         | 3411          | 3642         | 3876         | 4188         |
| T2  | Top of funnel                               | 3781         | 4012         | 4246         | 4558         | 3781          | 4012         | 4246         | 4558         |
| T3  | Top of interceptor                          | 4050         | 4281         | 4513         | 4827         | 4050          | 4281         | 4513         | 4827         |
| CL1 | CL orifice to CL conveyor                   | 2566         | 2566         | 2526         | 2826         | 2604          | 2604         | 2604         | 2684         |
| CL2 | CL conveyor to end of ladder                | 884          | 884          | 884          | 884          | 884           | 884          | 884          | 884          |

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

#### Utility requirements (ref no. 200-1760)

| Media                               | Pressure bar             | Consumption per section SG/DG NM3/min | Consumption per section TG NM3/min |
|-------------------------------------|--------------------------|---------------------------------------|------------------------------------|
| Low pressure operating air          | 2.1                      | 1.0                                   | 1.0                                |
| High pressure operating air         | 3.1                      | 1.0                                   | 1.0                                |
| Forming air (B&B)                   | 3.1                      | 1.8                                   | 1.8                                |
| Forming air (P&B)                   | 3.1                      | 2.6                                   | 2.6                                |
| Vacuum                              | 85%                      | 0.2-0.3                               | 0.2-0.3                            |
| Cooling air stack only              | 1200 mm H <sub>2</sub> O | 75.0                                  | 60.0                               |
| VertiFlow blow side and blank stack | 1200 mm H <sub>2</sub> O | 50.0                                  | 40.0                               |
| VertiFlow blank and blow side       | 1200 mm H <sub>2</sub> O | 35.0                                  | N/A                                |
| VertiFlow blow side                 | 1200 mm H <sub>2</sub> O | 20.0                                  | 9.0                                |
| Conveyor                            | 600 mm H <sub>2</sub> O  | 10.0                                  | 10.0                               |
| Lubrication oil                     | 80.0                     | 1.3 liter/day                         | 1.3 liter/day                      |
| Cooling water                       | 2.1                      | 15 liter/min                          | 15 liter/min                       |

- Cooling values show highest possible consumption
- Calculate highest-lowest expected heat load = tonnage, cooling system pressures, production, machine type, molds, etc.
- Calculated values allow energy efficient fan selection

*Bucher Emhart Glass makes every effort to provide valid, helpful information to our customers so that our equipment will be best utilized. If you encounter information that is not correct or information which can be misunderstood or not understood, please advise Bucher Emhart Glass so that we can improve this information. All the above figures are typical values and subject to change. For specific project requirements, please contact Bucher Emhart Glass Technical Service.*



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