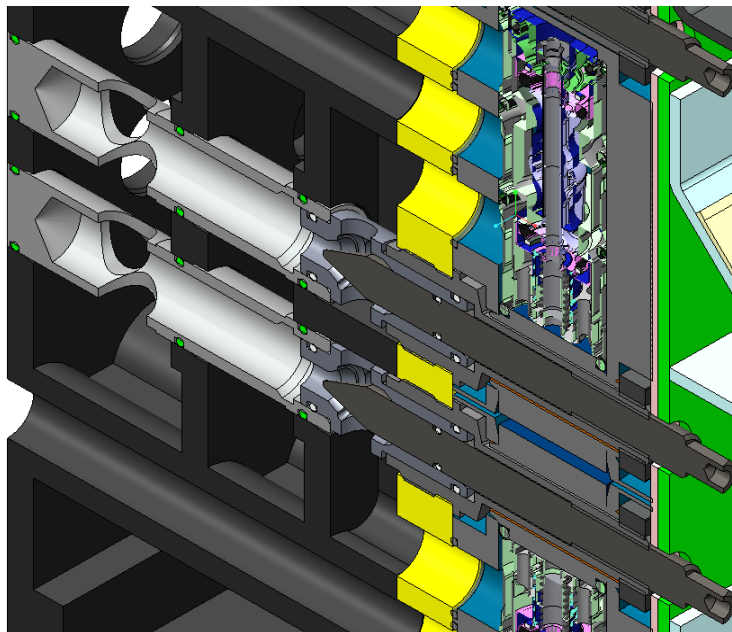


# Technical News Bulletin

Steinhausen, September 2017

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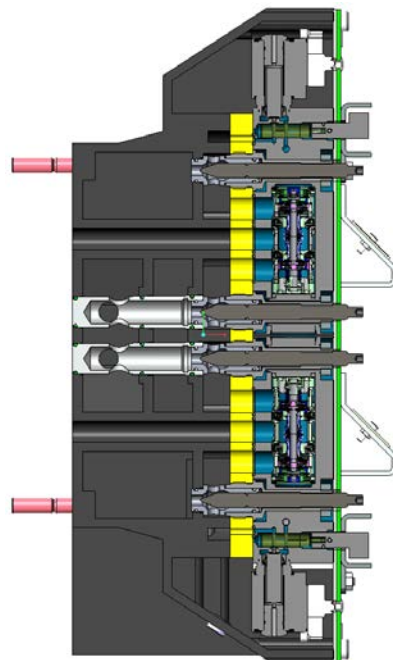


## Advanced Speed Control Needles for 26-Line Electro Pneumatic Valve Block

- Improved mechanism dynamic
- Easier and optimized mechanism setup for longer mechanism lifetime
- New standard Line Correlation Data

## Introduction

The 26-Line Electro Pneumatic Valve Block (EPVB) is the standard for all IS and AIS machines since 1997, when it was designed to maximize the air flow to all pneumatic mechanisms. It is now available with an improved arrangement for mechanism speed control by redesigned needle valves.



To achieve high performance, pneumatic mechanisms must run faster and faster, despite a constant increase in accessory weight.

This results in reaching the limits of the pneumatic technology and in a challenging mechanism setup for the operator.

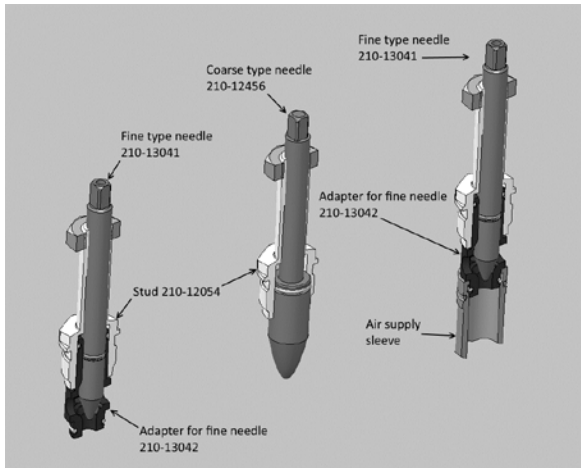
With this arrangement, a proper balance between pneumatic mechanism air inlet and outlet is achievable, providing the operator with an easier and more stable setup, and enhancing the mechanism kinematic.

All actual IS & AIS machines are delivered with the optimized speed control needle arrangement (see attached examples: Line Correlation Data 200-1999-00 and 210-1999-00).

Upgrade is available for machines already in the field.

## Specification

Improved needle valve assembly kits (sleeve, stud, O-ring, nut) are listed on drawing 210-2102-00.



| PART NUMBER | DESCRIPTION         |
|-------------|---------------------|
| 210-2102-01 | Fine needle OUT     |
| 210-2102-02 | Coarse needle OUT   |
| 210-2102-03 | Blank needle OUT    |
| 210-2102-04 | Fine needle IN LP   |
| 210-2102-05 | Coarse needle IN LP |
| 210-2102-06 | Fine needle IN HP   |
| 210-2102-07 | Coarse needle IN HP |
| 210-2102-08 | Fine needle IN IP   |
| 210-2102-09 | Coarse needle IN IP |
| 210-2102-10 | Blank needle IN LP  |
| 210-2102-11 | Blank needle IN HP  |

## Availability / Application

The latest needle valve assembly, as per drawing 210-2102-00, is standard on actual IS and AIS machines. See Line Correlation Data 200-1999-00 or 210-1999-00 for the configuration of the EPVB with these needle valve assemblies.

| Line | Function                  | TYPE OF VALVES |    |    | TYPE OF SLEEVES |    |    | FINE NEEDLE |    | COARSE NEEDLE |    | SYMBOL No. See 191-22112 |       | PIPE SIZE | 210-2102 OR No. | 210-2102 OR No. | NOTES      | Symbol Plate Color |
|------|---------------------------|----------------|----|----|-----------------|----|----|-------------|----|---------------|----|--------------------------|-------|-----------|-----------------|-----------------|------------|--------------------|
|      |                           | NO             | NC | DY | HP              | LP | IP | OUT         | IN | OUT           | IN | UPPER                    | LOWER |           |                 |                 |            |                    |
| 1    | Add Cooling Blow RH       | -              | 1  | -  | -               | -  | -  | -           | -  | -             | -  | -                        | 208   | 6         | 10              | 3               |            | BLUE               |
| 2    | Cooling Blank Side (RH)   | -              | 1  | -  | -               | 1  | -  | -           | -  | -             | -  | -                        | 104   | 6         | 10              | 3               |            | BLUE               |
| 3    | Cooling Blank Top RH & LH | -              | 1  | -  | -               | 1  | -  | -           | -  | -             | -  | -                        | 186   | 6         | 10              | 3               |            | BLUE               |
| 4    | NRI Cooling LH & RH       | -              | 1  | -  | -               | 1  | -  | -           | -  | -             | -  | -                        | 121   | 10        | 10              | 3               |            | BLUE               |
| 5    | Blank Open                | 1              | -  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 11    | 18        | 11              | 2               |            | RED                |
| 6    | Blank Close               | -              | 1  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 1     | 18        | 11              | 2               |            | RED                |
| 7    | Funnel Down               | -              | 1  | -  | -               | 1  | -  | -           | 1  | 1             | -  | -                        | 122   | 12        | 4               | 1               |            | RED                |
| 8    | Funnel Up                 | 1              | -  | -  | -               | 1  | -  | -           | 1  | 1             | -  | -                        | 123   | 12        | 4               | 1               |            | RED                |
| 9    | Plunger Down Inner (TG)   | 1              | -  | -  | -               | 1  | -  | -           | 1  | 1             | -  | -                        | 57    | 1/2"      | 4               | 1               |            | RED                |
| 10   | Baffle Down               | -              | 1  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 152   | 16        | 11              | 2               |            | RED                |
| 11   | Plunger Down 2 (TG)       | 1              | -  | -  | -               | 1  | -  | -           | 1  | 1             | -  | -                        | 58    | 1/2"      | 4               | 1               |            | RED                |
| 12   | Baffle Up                 | 1              | -  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 151   | 16        | 11              | 2               |            | RED                |
| 13   | Plunger Down 3 (TG)       | 1              | -  | -  | -               | 1  | -  | -           | 1  | 1             | -  | -                        | 59    | 1/2"      | 4               | 1               |            | RED                |
| 14   | Necking Open              | 1              | -  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 14    | 10        | 4               | 1               |            | RED                |
| 15   | Revert                    | -              | 1  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 15    | 16        | 11              | 1               |            |                    |
| 16   | Invert                    | -              | 1  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 13    | 16        | 11              | 2               |            | RED/ YELLOW        |
| 17   | Blow Mold Open            | 1              | -  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 39    | 18        | 11              | 2               | SEE NOTE 2 | YELLOW             |
| 18   | Blow Mold Close           | -              | 1  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 40    | 18        | 11              | 2               | SEE NOTE 2 | YELLOW             |
| 19   | Blow Head Up              | 1              | -  | -  | -               | 1  | -  | -           | 1  | 1             | -  | -                        | 125   | 16        | 10              | 1               |            | YELLOW             |
| 20   | Blow Head Down            | -              | 1  | -  | -               | 1  | -  | -           | 1  | 1             | -  | -                        | 124   | 16        | 10              | 1               |            | YELLOW             |
| 21   | Take-out Out              | -              | 1  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 21    | 10        | 10              | 1               |            | YELLOW             |
| 22   | Take-out In               | -              | 1  | -  | -               | 1  | -  | -           | 1  | 1             | -  | -                        | 20    | 10        | 10              | 1               |            | YELLOW             |
| 23   | Tong Close                | -              | 1  | -  | -               | 1  | -  | -           | 1  | 1             | -  | -                        | 109   | 10        | 6               | 3               |            | YELLOW             |
| 24   | Vacuum Blowside           | -              | 1  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 19    | 6         | 10              | 3               |            | YELLOW             |
| 25   | Add Cooling Blow LH       | -              | 1  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 209   | 6         | 10              | 3               |            | BLUE               |
| 26   | Cooling Blank Side (LH)   | -              | 1  | -  | -               | 1  | -  | -           | -  | 1             | -  | -                        | 106   | 6         | 10              | 3               |            | BLUE               |

| Line | Function             | Symbol Plate Color |
|------|----------------------|--------------------|
| 1    | 210-1999-161         | SEE NOTE 1         |
| 20   | SYMBOL PLATE SET     |                    |
| 19   |                      |                    |
| 18   |                      |                    |
| 17   |                      |                    |
| 16   |                      |                    |
| 15   | LED                  |                    |
| 14   | BLANK STUD HP        |                    |
| 13   | BLANK STUD LP        |                    |
| 12   | COARSE NEEDLE IN IP  |                    |
| 11   | FINE NEEDLE IN IP    |                    |
| 10   | COARSE NEEDLE IN HP  |                    |
| 9    | FINE NEEDLE IN HP    |                    |
| 8    | COARSE NEEDLE IN LP  |                    |
| 7    | FINE NEEDLE IN LP    |                    |
| 6    | BLANK STUD OUT       |                    |
| 5    | COARSE NEEDLE OUT    |                    |
| 4    | FINE NEEDLE OUT      |                    |
| 3    | SOLENOID VALVE DUMMY |                    |
| 2    | SOLENOID VALVE NC    |                    |
| 1    | SOLENOID VALVE NO    |                    |

| CTD# | PART NO | SHEET | NOTES | INDEX | NAME |
|------|---------|-------|-------|-------|------|
| 3    | 2       | 1     |       |       |      |

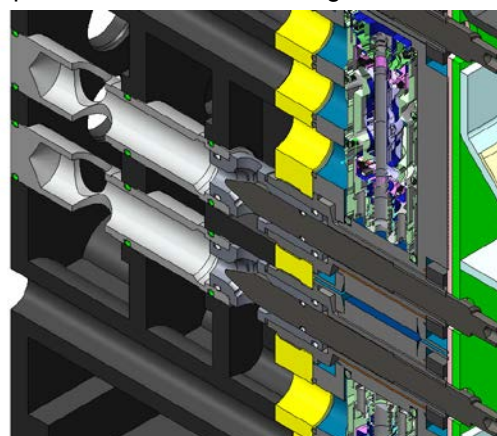
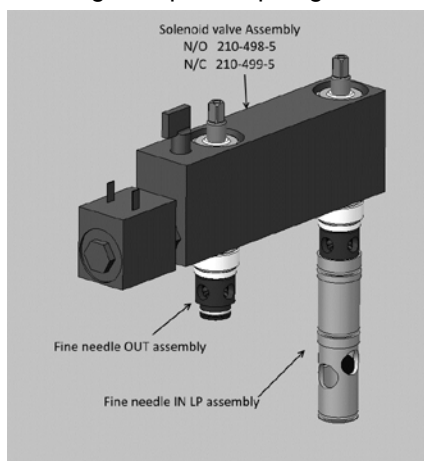
| DATE | DESCRIPTION OF GROUP | APP. ASTE | SCALE |
|------|----------------------|-----------|-------|
|      | SEE NOTE 1           |           |       |
|      | D 2017-05-02         | TWIC      |       |
|      | C 2013-04-23         | SBER      |       |
|      | B 2012-01-28         | SBER      |       |
|      | A 2012-09-21         | SBER      |       |

| BUCHER emhart glass                    | Emhart Glass SA |
|--|-----------------|
| <b>CORRELATION DATA</b>                |                 |
| EPVB 26-LINE DG                        |                 |
| STANDARD-AIS (BLOW MOC & BH INTERLOCK) |                 |
| ASSEMBLY NUMBER                        |                 |
| <b>210-1999-61</b>                     |                 |
| SHEET 1 OF 1 SHEETS                    |                 |

## Recommendation

- Funnel mechanism (two-air operated): two fine needle valves (on air inlet and outlet) for both funnel up/funnel down motions.
- Blowhead mechanism: one fine needle for speed control on the outlet (exhaust) for both blowhead up/blowhead down motions.
- Plunger down motion (with FPS plunger up valve in the blankside platform): one fine needle valve on the outlet (exhaust) and one fine needle valve on the inlet (Low Pressure), resulting in improved plunger motion setup and extended QC cartridges lifetime.



## Installation Requirement

The upgrade of existing EPVB only requires the replacement of the needle valve assemblies with kits selected from drawing 210-2102-00.

## Features / Benefits

| Features                             | Benefits   |
|--------------------------------------|--|
| Fine needle adjustment               | Improved mechanism dynamic<br>Higher performance<br>Higher machine speed => potential for increased production |
| Easier and optimized mechanism setup | Longer mechanism lifetime  |
| New standard Line Correlation Data   | Improved performance of 26-line EPVB => potential for increased production                                     |