

Technical News Bulletin

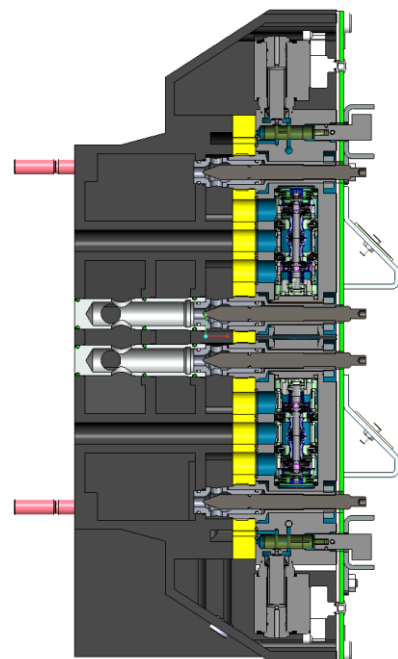
Cham, September 2017

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

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.

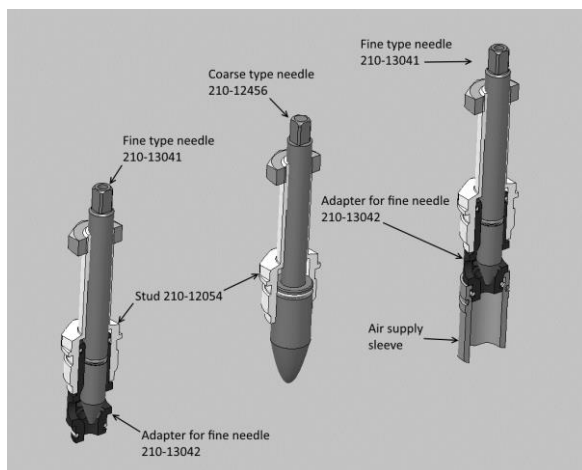
With this arrangement, a proper balance between pneumatic mechanism air inlet and outlet is achievable, providing the operator with an easier and more stable setup, and enhancing the mechanism kinematic.

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.

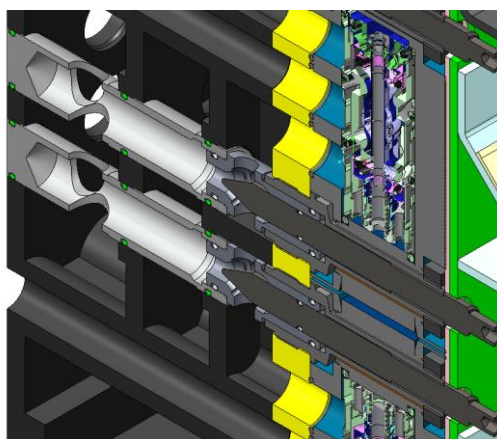
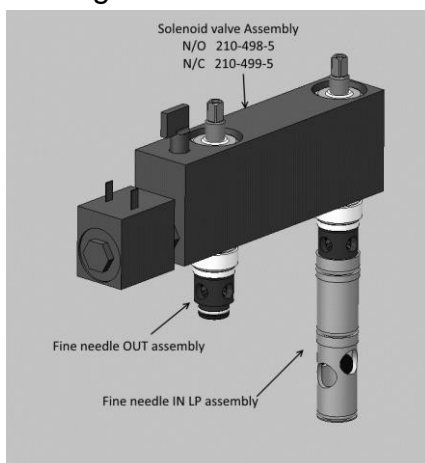
See Line Correlation Data 200-1999-00 or 210-1999-00 for the configuration of the EPVB with these needle valve assemblies.

Line	Function	TYPE OF VALVES			TYPE OF SLEEVES			FINE NEEDLE		COARSE NEEDLE		SYMBOL No. See 191-22112		PIPE SIZE	P.D. 2102 GPN No.	P.D. 2102 GPN No.	NOTES	Symbol Plate Colour
		NO	NC	DY	HP	LP	IP	OUT	IN	OUT	IN	UPPER	LOWER					
	EPVB																	
1	Add Cooling Blow RH	-	1	-	-	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	HR 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	1	-	-	14	10	4	1		RED
15	Revert	-	1	-	-	1	-	-	1	1	-	-	15	16	11	1		RED
16	Invert	-	1	-	-	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	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	1	-	-	19	6	10	3		YELLOW
25	Add Cooling Blow LH	-	1	-	-	1	-	-	-	-	-	-	209	6	10	3		BLUE
26	Cooling Blank Side (LH)	-	1	-	-	1	-	-	-	-	-	-	105	6	10	3		BLUE

Line	Function	TYPE OF VALVES	TYPE OF SLEEVES	FINE NEEDLE	COARSE NEEDLE	SYMBOL No. See 191-22112	PIPE SIZE	P.D. 2102 GPN No.	P.D. 2102 GPN No.	NOTES	Symbol Plate Colour
1										SEE NOTE 1	
20											SYMBOL PLATE SET
19											
18											
17											
16											
26											15 LED
8											14 BLANK STUD HP
11											13 BLANK STUD LP
0											12 COARSE NEEDLE IN IP
0											11 FINE NEEDLE IN IP
0											10 COARSE NEEDLE IN HP
1											9 FINE NEEDLE IN HP
0											8 COARSE NEEDLE IN LP
0											7 FINE NEEDLE IN LP
6											6 BLANK STUD OUT
8											5 COARSE NEEDLE OUT
7											4 FINE NEEDLE OUT
11											
0											3 SOLENOID VALVE DUMMY
17											2 SOLENOID VALVE NC
9											1 SOLENOID VALVE NO
A	CTGY	PART NO	SHEET	NOTES	INDEX	NAME					
3	2	1	GROUP	BUCHER emhart glass En hart Glass SA							
SEE NOTE 1				CORRELATION DATA EPVB 26-LINE DG STANDARD-AIS (BLOW MOC & BH INTERLOCK)							
DESCRIPTION OF REVISION				DATE D 2017-05-02 TWIC C 2013-04-23 SBER B 2013-01-28 SBER A 2012-09-21 SBER			ASSEMBLY NUMBER 210-1999-61				
REVISIONS				APP. ASTE SCALE: NA			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 Higher performance 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