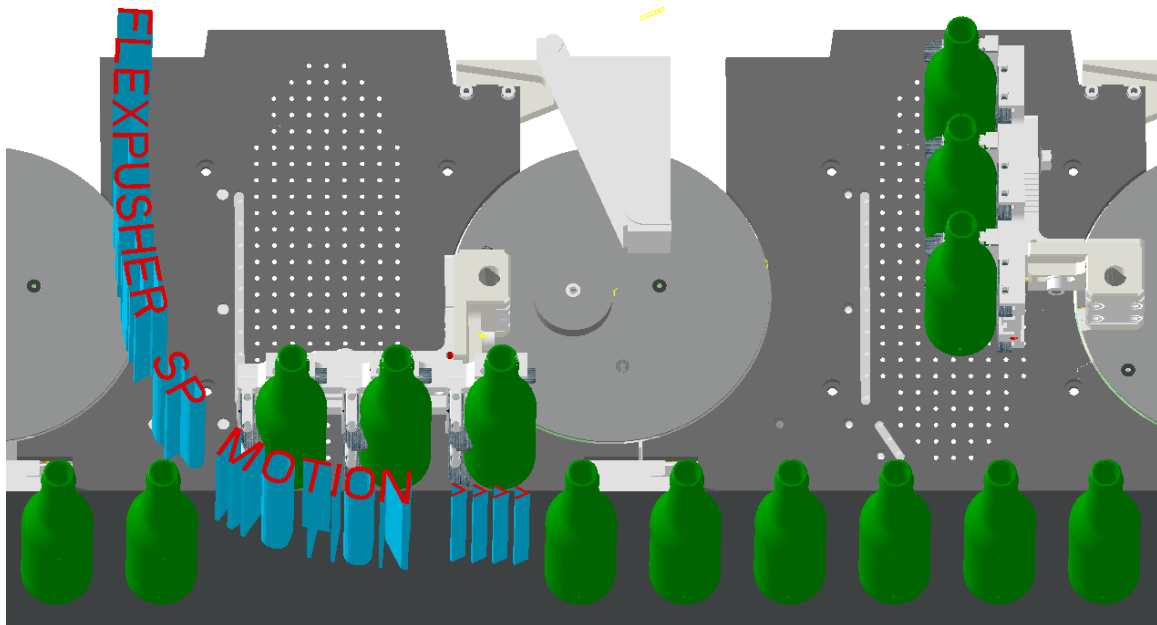


Technical News Bulletin

Steinhausen, November 2011



FlexPusher SP (Special Performance – High Speed / Non-round)

- Precise, full servo push-out motion.
- Simple interface for motion profiles adjustments - optimization made by plant personnel.
- FlexPusher SP with FlexIS standalone available for ware handling upgrades.

Introduction

Emhart Glass introduced 2008 very successfully the full servo FlexPusher system (see **TNB 134**) which became the industry standard. The full Emhart IS machine (SIS, IS, AIS, NIS, BIS) ware range is handled. As a standalone the ware handling performance on existing machines can be considerably improved. The precise and repeatable servo controlled FlexPusher sweep out movement is reducing ware handling losses and gives the opportunity to increasing machine speed. On non-round productions the ware handling is much better.

The **FlexPusher SP** (Special Performance) is a FlexPusher extension, addressing specific high speed triple gob, non-round and unstable productions, restricting the standard FlexPusher ware range.

In case the ware range limitation is not an issue standard FlexPusher installations are upgradable to FlexPusher SP (and vice versa), by changing the upper housing (conversion kit 904-12/16).

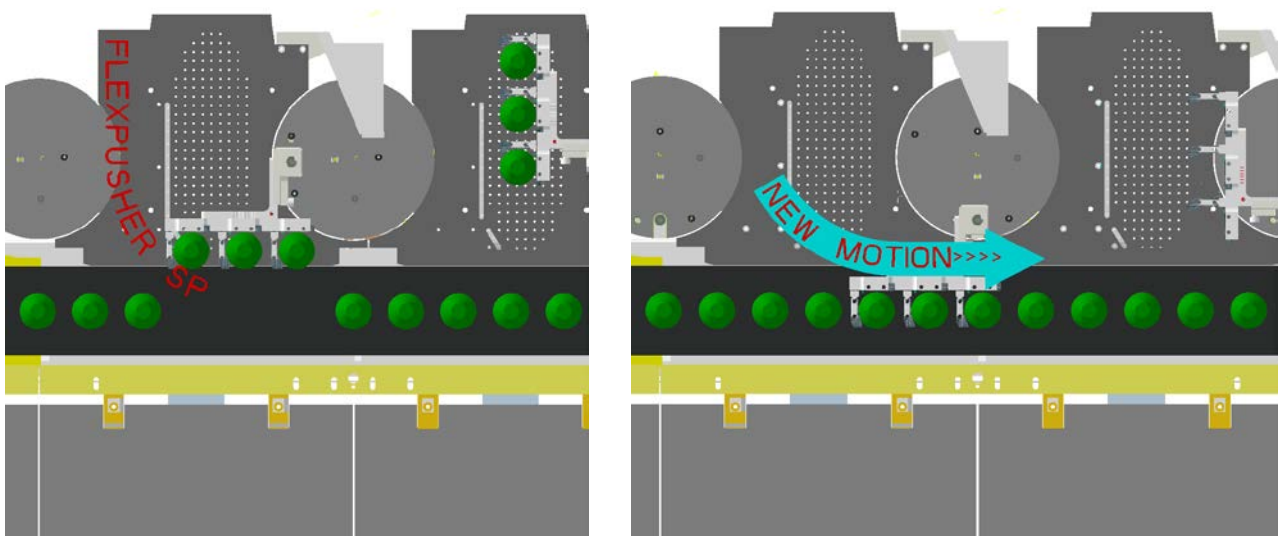
Remark: FlexPusher SP is not applicable on NIS machines due to the 22.5" section width (21")

Specification

The FlexPusher SP, with the new upper housing, is designed and optimized for high conveyor belt speeds. The SP interface and control is the same as the standard FlexPusher, fully integrated into the FlexIS process control system.

The FlexPusher SP is available for DG and TG operations with the Emhart Glass Universal Conveyor. It is also available as a conversion on non Emhart Glass conveyors.

It is the same assembly for LH and RH. A LH mechanism can be converted to RH and vice versa with no additional parts. The basic mechanism is identical for all IS machines. Pusher fingers, pusher mounting brackets,



calibration guards and dead plates are different for each machine configuration and must be selected accordingly.

Documentation:

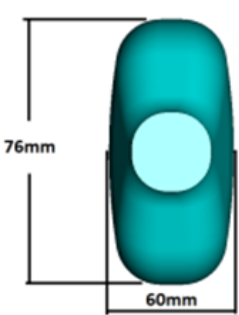
FlexPusher SP mechanism	904-10-02
FlexPusher conversion kit, standard to SP	904-12
FlexPusher conversion kit, SP to standard	904-16
FlexPusher system in general	TNB134
FlexPusher manual	H51002EEN

Layout drawings:

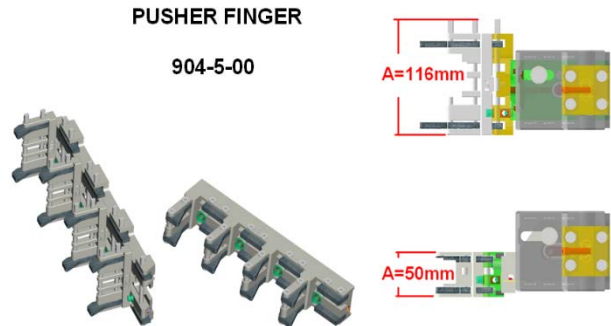
DG 5 ½	904-92
DG 6 ¼	904-90
TG 85	904-91
TG 4 ¼	904-90

Availability

The FlexPusher SP system works with all firing orders provided by the FlexIS Control System.

5 Questions for what type of Flexpusher to use:		
Answers		
1 Number of cavities per section?	DG&TG or TG, next question	if only SG or DG →
2 Is the speed higher than about 400 BPM?	Yes, next question	if NO →
3 Is the max diameter for DG less than ø94mm?	Yes, next question	if NO →
4 Is the max diameter for TG less than ø70mm?	Yes, next question	if NO →
5 Are the non-round containers within the area shown?	Yes	if NO →
		
↓ Flexpusher SP 904-9		

FlexPusher SP Fingers are available in a large variety (DG and TG) of setups in 116mm height and for most of setups in 50mm height. For more detailed information about available pusher fingers, see 904-5-00.



Restrictions

The FlexPusher SP is restricted for IS and AIS machines, and is NOT applicable for NIS-machines.

Ware range restrictions

- Double gob = Maximum diameter 94mm
- Triple gob = Maximum diameter 70mm

MOLD SPACING	BELT ADVANCE	PUSHER FINGER SPACING	FLEXPUSHER SP 904-9 WARE RANGE MAX ø mm	FLEXPUSHER 904-6 WARE RANGE MAX ø mm	ASSEMBLY DRAWING & PART LIST
TG 3" IS	7 7/8 (200)	2 5/8 (66,7)	ø36	ø36	904-53-00 & 904-113-00
	8 3/4 (222,3)	2 59/64 (74,2)	ø50	ø50	
	9" (228,6)	3" (76,2)	ø51	ø51	
	10 1/2 (266,7)	3 1/4 (82,6)	ø45	ø45	
	10 1/2 (266,7)	3 1/2 (88,9)	ø40	ø40	
DG 4 1/4 IS	7 7/8 (200,0)	3 15/16 (100,0)	ø73	ø73	904-52-00 & 904-112-00
	10 1/2 (266,7)	5 1/4 (133,4)	ø83	ø83	
TG 4 1/4 AIS	10 1/2 (266,7)	3 1/2 (88,9)	ø50	ø50	904-53-00 & 904-113-00
	11 13/16 (300,0)	3 7/8 (98,4)	ø67	ø67	
	12" (304,8)	4" (101,6)	ø70	ø70	
	13 1/8 (333,4)	4 3/8 (111,1)	ø70	ø76	
DG 5" IS	7" (177,8)	3 1/2 (88,9)	ø60	ø60	904-52-00 & 904-112-00
	8 3/4 (222,2)	4 3/8 (111,1)	ø83	ø83	
	10 1/2 (266,7)	5 1/4 (133,4)	ø94	ø102	
DG 5 1/2 IS	10 1/2 (266,7)	5 1/4 (133,4)	ø94	ø108	904-52-00 & 904-112-00
DG 6 1/4 AIS	10 1/2 (266,7)	5 1/4 (133,4)	ø94	ø113	904-52-00 & 904-112-00
	13 1/8 (333,4)	6 9/16 (166,7)	ø94	ø127	
TG 85mm IS	10 1/2 (266,7)	3 1/2 (88,9)	ø63	ø63	904-53-00 & 904-113-00

Features and Benefits

- Precise, full servo push-out motion
- Controls fully integrated into FlexIS process control system
- Optimized motion profiles stored at job file
- Simple interface for motion profiles adjustments - optimization made by plant personnel
- Entire pusher motion without pneumatics and Lincoln lubrication
- FlexPusher SP with FlexIS standalone available for ware handling upgrades
- Flexible Pusher Finger concept with exchangeable liners
- Very efficient vertical pocket air available