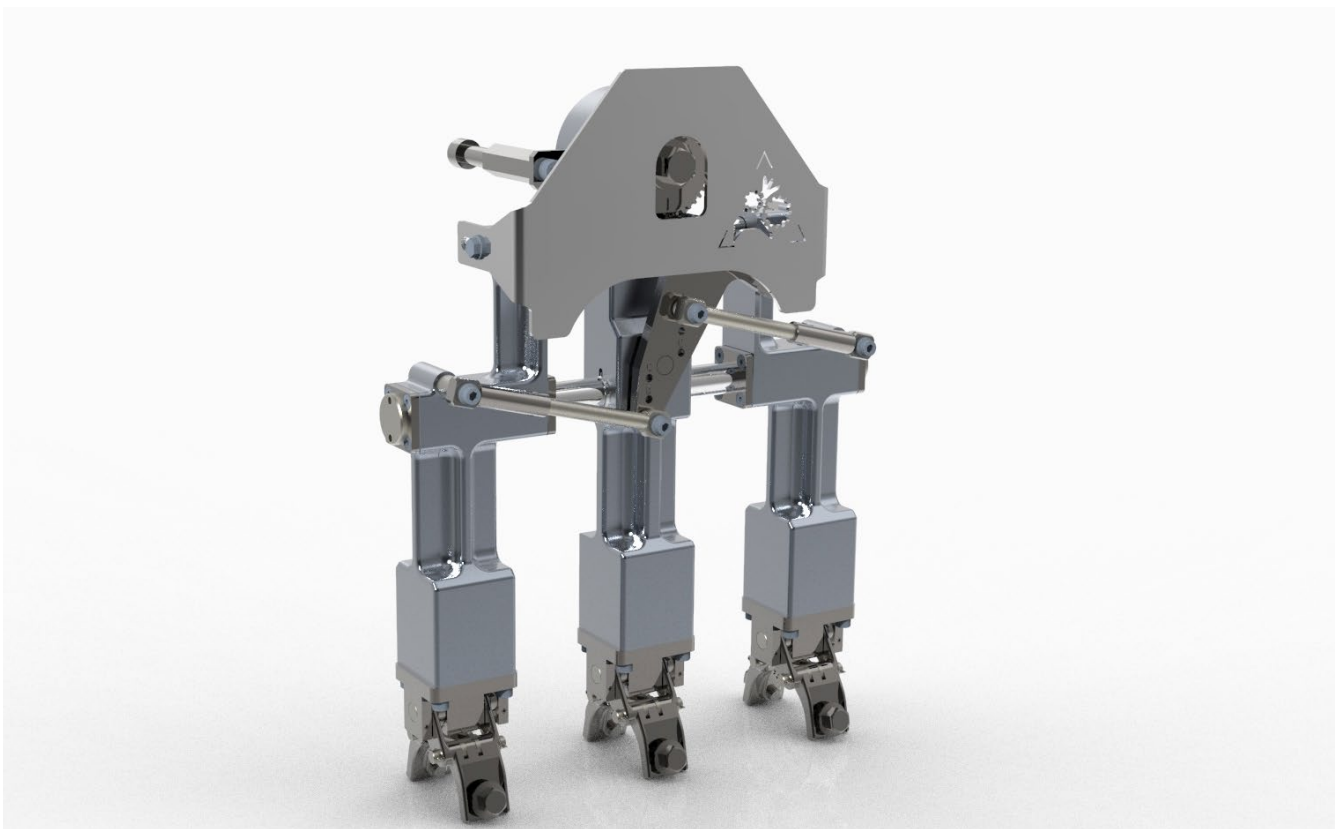


Technical News Bulletin

Steinhausen, January 2024



Variable Center Distance (VCD) Tong Head

- Enhancing ware handling quality
- Modular adjustable bottles spacings
- Available for NIS & AIS/IS forming machines

Introduction

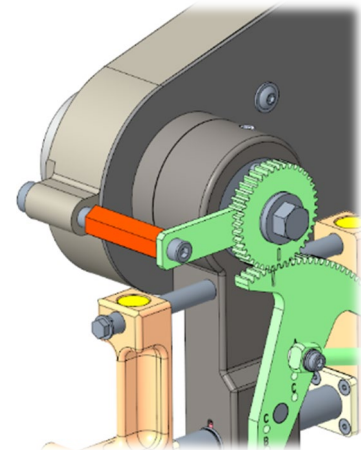
In response to the growing demands of the glass container market for enhanced throughput and capacity, a strategic shift to Triple Gob (TG) and Quad Gob (QG) productions, coupled with an increased number of sections, has become a must. This optimization also makes tandem configurations more attractive for very high volume in productions. Presently, large machine configurations for large volume productions have 12 Triple Gob (TG) or even Quad Gob (QG) sections for a single forming machine and up to 20 sections for a tandem setup.

This ultimately leads to significantly increased ware handling speeds, resulting in higher belt advance. To ensure that pack rates remain optimal throughout the entire ware handling process from the push-out sequence to the ware transfer and stacking into the annealing lehr comprehensive solutions have been elaborated.

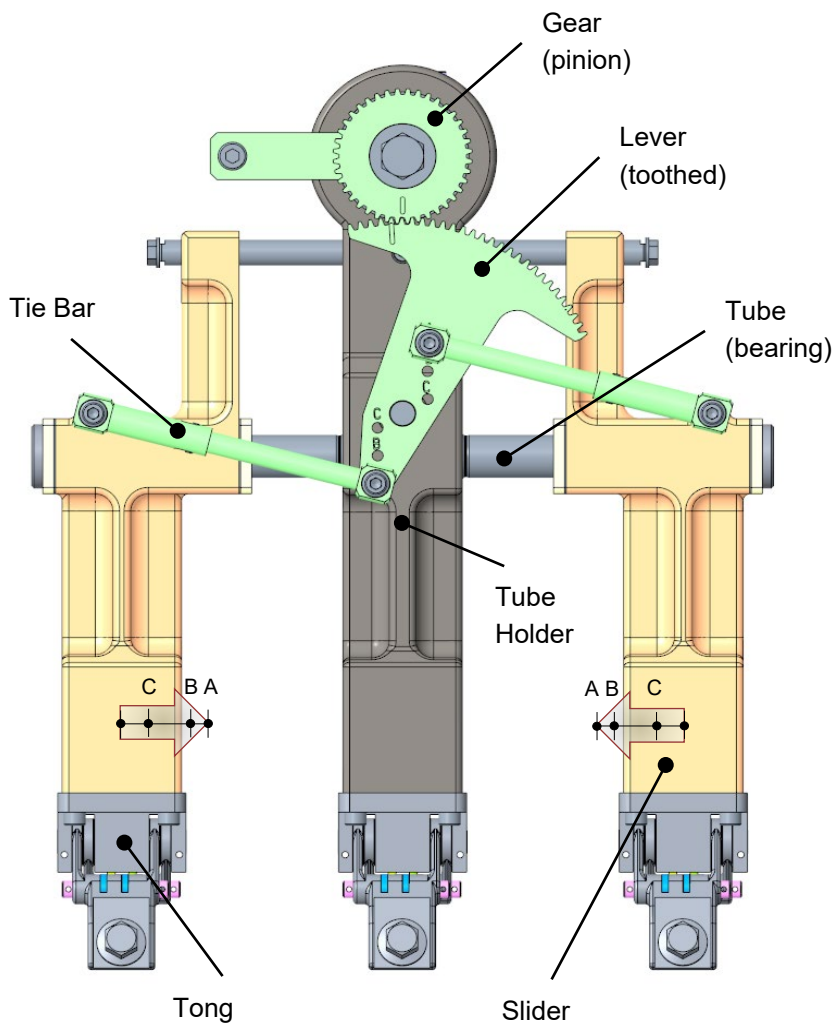
While the dual-row solution imposes constraints on firing order sequences and may increase ware handling complexities downstream, a game-changing **Variable Center Distance (VCD) Tong Head** has emerged as an innovative alternative. This technology effectively reduces spacing between bottles during the take-out sequence, leading to decreased belt advance and an overall improvement in ware handling quality.

System Characteristic

The VCD uses a well-designed pinion and toothed lever system to drive the movable sliders connected via a tie bar. During the takeout rotation, the spacing is dynamically adjusted from the original forming machine cavity center distance to the target value required on the dead plate, aligning seamlessly with the FlexPusher finger design. The customization of the desired ware spacing, dependent on the article diameter is easily configured by manipulating the position of the tie bar on the lever, or by adjusting the length of the tie bar. Comprehensive details on the achievable ware spacing options are provided in the 'Ware Spacing specification' table.



Interface to Take Out Arm



Variable Center Distance
(VCD) Tong Head assembly

Availability

Recognizing the evolving needs of the market, Bucher Emhart Glass identified **the Variable Center Distance (VCD) Tong Head** as a major component for high-speed productions long ago, enabling the provision of advanced solutions. The increasing number of units sold in recent years attests to the growing acknowledgment and successful integration of VCD technology by an expanding customer base.

At Bucher Emhart Glass, we carefully track customer applications and are thoroughly committed to consistently evolve this mechanism to meet the market demands. We are dedicated to expanding our product range as needed to meet and exceed customer's expectations.

Ware Spacing specification

VCD Tong Head	Ware spacing Forming machine	Mounting Position on Lever	Ware Spacing Deadplate	Article Number	Conveyor Belt Speed Reduction	Ware Range
NIS TG	5"	A	3 - 3/4" (95.3 mm)	400-5275-1	25%	61 – 66 mm
		B	4 - 7/32" (101.8 mm)	400-5275-1	20%	66 – 71 mm
		C	4 - 11/16" (119.1 mm)	400-5275-1	6%	71 – 81 mm
NIS QG	95mm	-	2 - 13/16" (71.4 mm)	400-5205-1	25%	36 – 41 mm
		-	3" (76.3 mm)	400-5205-2	20%	41 – 51 mm
		-	2 - 11/32" (59.5 mm)	400-5205-3	37%	31 – 36 mm
AIS TG	4 1/4"	A	2 - 1/3" (59.3 mm)	210-2111-1	45%	31 – 36 mm
		B	2 - 5/8" (66.7 mm)	210-2111-1	38%	36 – 41 mm
		C	2 - 11/12" (74.1 mm)	210-2111-1	31%	41 – 51 mm
		D	3 - 1/2" (88.9 mm)	210-2111-1	18%	51 – 56 mm

Installation Requirements

The VCD Tong Head is fully compatible and interchangeable with the corresponding standard Take-Out Tong Head and the available FlexPusher finger portfolio. Our FlexIS forming control system supports all relevant belt advance configurations. The Belt Advance is the distance that the forming machine conveyor belt travels during a section cycle.

For safe and smooth operation, we recommend using a Servo Electric Take Out SETO and a Servo Electric Invert SEI mechanism in combination with a VCD Tong Head.

Features

Modular adjustable bottles spacing which meets FlexPusher Finger spacings

Slower pushout motion

Precise container release into pusher fingers

Reduced ware spacing results in conveyor belt speed reduction

Long lasting slider bearing design

Modular design, use of identical wearing parts

Benefits

The VCD's offer 3 respectively 4 pre-defined bottle spacing configurations in function of the article diameter and the potential to reduce the spacings

Easier to control push-out motion

Improved ware handling

Increased percent pack (fewer ware handling losses)

Improved slider construction which results in a significantly longer running time and more precise positioning

Easy to maintain and low operating costs
