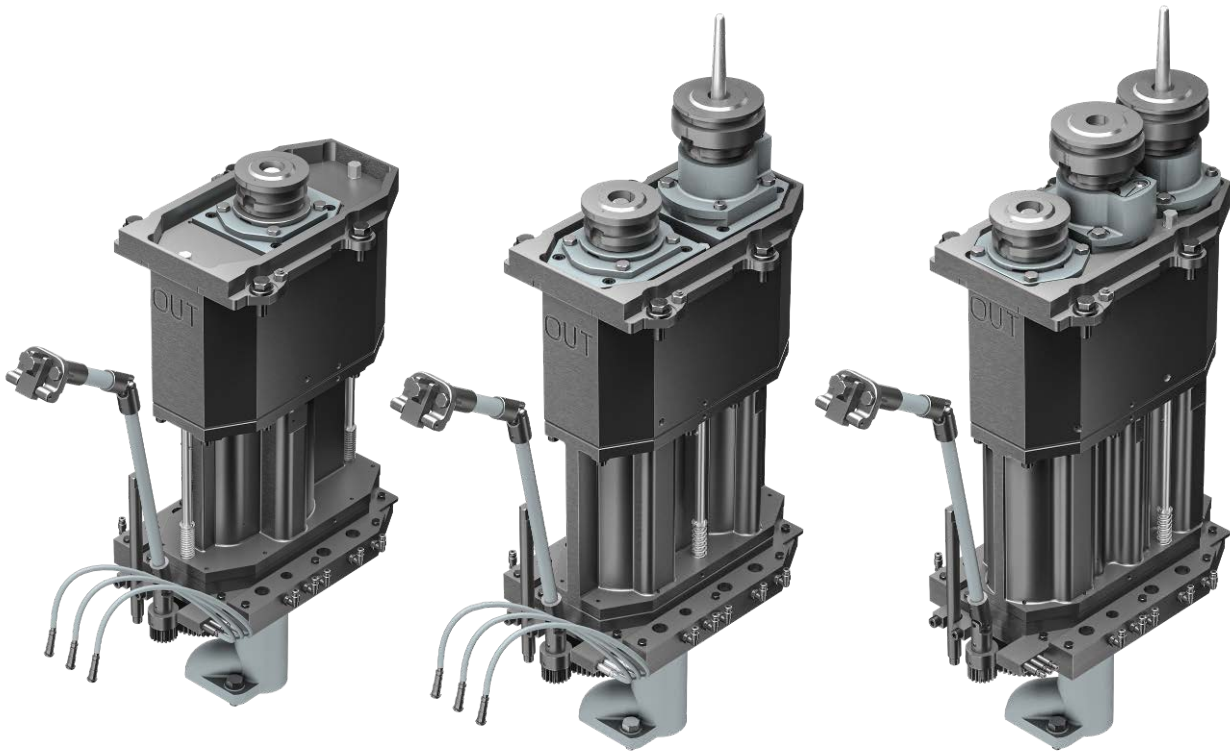


# Technical News Bulletin

Steinhausen, November 2020

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## 4000 Series Plunger Mechanism

- Long stroke plunger cylinder.
- Quick change operations DG to TG and DG to SG.
- Smooth motion with lubricated bearing.

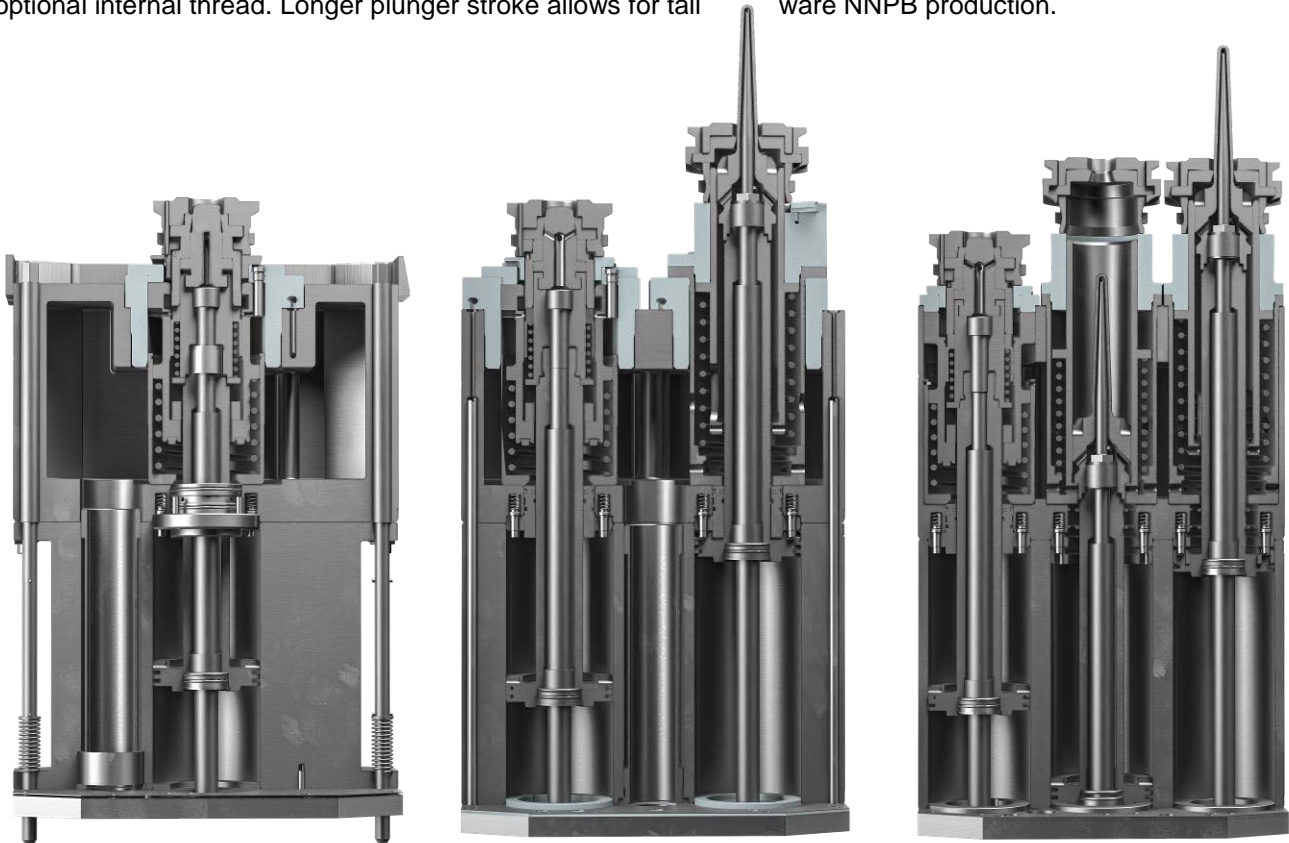
## Introduction

The 4000 Series Plunger Mechanisms for AIS and IS 6-1/4 machines are developed to increase flexibility, allowing for tall ware Narrow Neck Press and Blow (NNPB) production and faster cavity conversions from Double Gob to Triple Gob and to Single Gob.

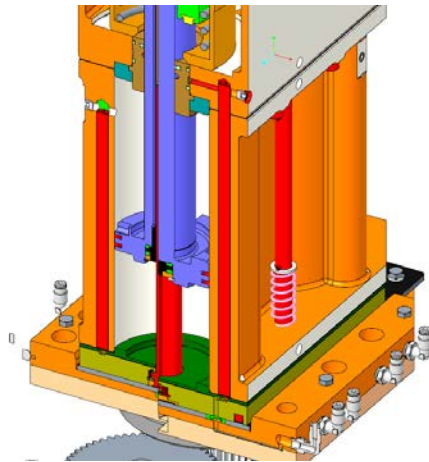
The 4000 Series Plunger Mechanisms replace the previous standard for all new AIS and IS machines equipped with 65 mm frame packer (New AIS standard).

## System Description

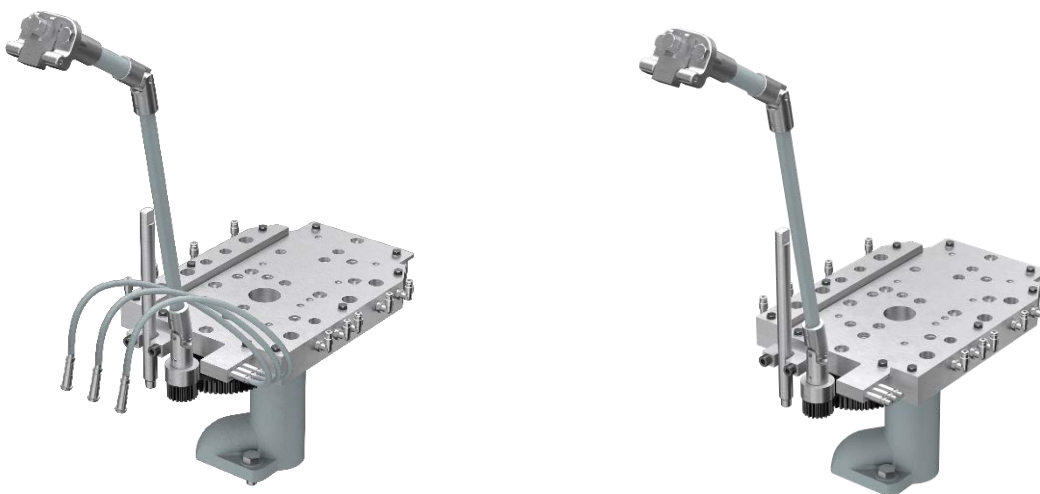
The plunger stroke is increased to 8" for Double Gob (DG) and Triple Gob (TG), and to 7"-1/2 for Single Gob (SG). The mechanisms can be configured with the standard external thread at the piston rod end or with the optional internal thread. Longer plunger stroke allows for tall ware NNPB production.



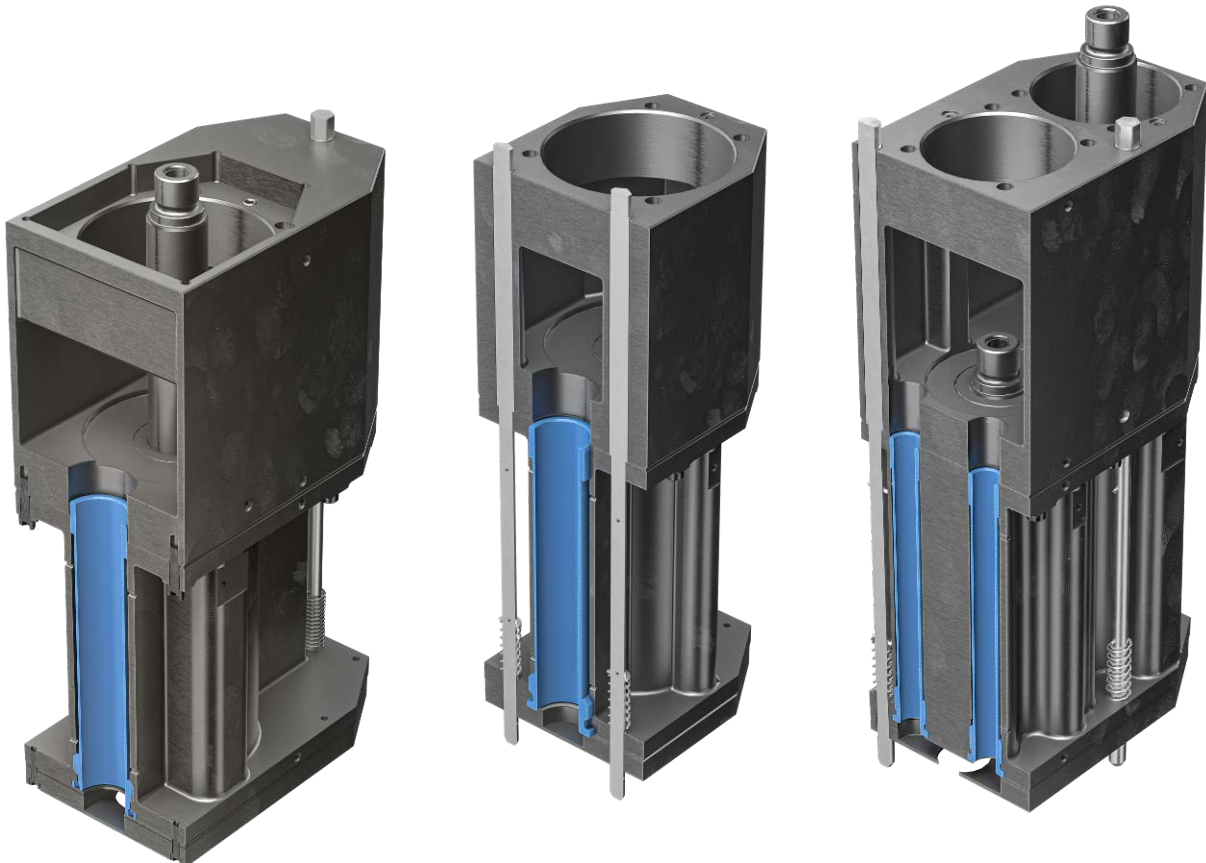
In the 62-4000 Series Plunger Mechanisms the conventional self-lubricated bronze bearings are replaced with aluminum bronze floating bearings, with direct connection to the section frames lubrication system to ensure smoother plunger dynamics at the low pressures required by the NNPB process.



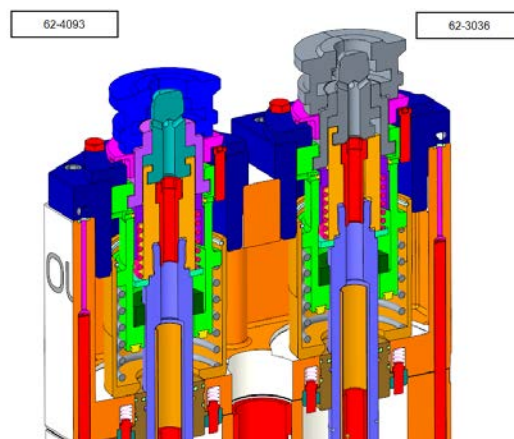
The mechanisms are designed for full Plunger Process Control (PPC) integration. The universal PPC adapter plate includes the seals for plunger operating air and lubrication ensuring a leakage free assembly. Mechanisms without PPC sensors are assembled over a dummy adapter plate acting as a seal holder. The PPC adapter plate and the dummy adapter plate are part of the universal base plate assembly. The base plate assembly is the same for SG, DG, and TG operations, which allows for fast cavity conversion: the plunger mechanism is installed through the universal guide plate mounted on top of the section frame, no need for mechanism alignment.



The design of the 62-4000 Series Plunger Mechanism also includes a restructured architecture of the plunger cooling exhaust with straight isolated exhaust channels (symmetrical in TG) to provide an improved thermal behavior.



Plunger positioners are designed to suit the new plunger stroke. Optimized quick-change cartridges are also available, although the previous TG cartridge (62-3036) can be used as well.



## Specification

<b>SG</b>	Plunger Mechanism	62-4041-1	62-4041-2	62-4041-3	62-4041-4
	Stroke	7-1/2"	7-1/2"	7-1/2"	7-1/2"
	Thread	Internal	Internal	External	External
	PPC	Yes	No	Yes	No
<b>B&amp;B</b>	QC Cartridge	62-4091-1	62-4091-1	62-4093-1	62-4093-1
		62-4096-1	62-4096-1		
	Adapter Type	Snap On	Snap On	Snap On	Snap On
<b>NNPB</b>	38 mm Finish Positioner	62-4092-3	62-4092-3	62-4094-2	62-4094-2
	NNPB Split Ring	Included	Included	62-404-12	62-404-12
<b>WMPB</b>	70 mm Finish Positioner	62-4097-3	62-4097-3	62-4098-2	62-4098-2
	83 mm Finish Positioner	62-4099-3	62-4099-3	62-4100-2	62-4100-2
	90 mm Finish Positioner	62-4101-3	62-4101-3	62-4102-2	62-4102-2
	105 mm Finish Positioner	62-4103-3	62-4103-3	62-4104-2	62-4104-2
	120 mm Finish Positioner With Kick Back	62-4105-1	62-4105-1	62-4106-1	62-4106-1
	120 mm Finish Positioner W/O Kick Back	62-4105-2	62-4105-2	62-4106-2	62-4106-2
	WMPB Split Ring	Included	Included	Included	Included

<b>DG 6-1/4"</b>	Plunger Mechanism	62-4042-1	62-4042-2	62-4042-3	62-4042-4
	Stroke	8"	8"	8"	8"
	Thread	Internal	Internal	External	External
	PPC	Yes	No	Yes	No
<b>B&amp;B</b>	QC Cartridge	62-4091-1	62-4091-1	62-4093-1	62-4093-1
		62-4096-1	62-4096-1		
	Adapter Type	Snap On	Snap On	Snap On	Snap On
<b>NNPB</b>	38 mm Finish Positioner	62-4092-1	62-4092-1	62-4094-1	62-4094-1
	NNPB Split Ring	included	included	62-404-12	62-404-12
<b>WMPB</b>	70 mm Finish Positioner	62-4097-1	62-4097-1	62-4098-1	62-4098-1
	83 mm Finish Positioner	62-4100-1	62-4100-1	62-4099-1	62-4099-1
	90 mm Finish Positioner	62-4101-1	62-4101-1	62-4102-1	62-4102-1
	105 mm Finish Positioner	62-4103-1	62-4103-1	62-4104-1	62-4104-1
	WMPB Split Ring	Included	Included	Included	Included
<b>TG 4-1/4"</b>	Plunger Mechanism	62-4043-1	62-4043-2	62-4043-3	62-4043-4
	Stroke	8"	8"	8"	8"
	Thread	Internal	Internal	External	External
	PPC	Yes	No	Yes	No
<b>B&amp;B</b>	QC Cartridge	62-4091-1	62-4091-1	62-4093-1	62-4093-1
		62-4096-1	62-4096-1		
	Adapter Type	Snap On	Snap On	Snap On	Snap On
<b>NNPB</b>	38 mm Finish Positioner	62-4092-1	62-4092-1	62-4094-1	62-4094-1
	NNPB Split Ring	Included	Included	62-404-12	62-404-12
<b>WMPB</b>	70 mm Finish Positioner	62-4097-1	62-4097-1	62-4098-1	62-4098-1
	WMPB Split Ring	Included	Included	Included	Included

For B&B, NNPB, and WMPB 70 mm finish diameter, DG 6-1/4 and TG 4-1/4 mechanisms use the same plunger equipment as defined as for TG. For Double Gob operation, the adapter 62-4095-1 must be assembled on the top of the upper cylinder.

## Installation Requirements

The 62-4000 Plunger Mechanism fits on all NEW and existing AIS and IS 6-1/4" section frames equipped with 65 mm frame packer.

Retrofit on existing +65mm section frames is possible by replacing mechanisms and mounting parts.

The existing lubrication piping does not need no changes: the six existing lines used for the previous TG plunger mechanism (three for plunger up and three for plunger down) are used for direct cylinder lubrication (three lines) and bearing lubrication (three lines).

## Features / Benefits

Features	Benefits
Plunger stroke increase	Flexibility towards tall ware NNPB jobs
Lubricated bearing	Smooth plunger motion and lower plunger up pressure needed
PPC adapter plate and dummy plate	Improved sealing without air/oil leakage
Improved symmetrical exhaust channel	Improves thermal behavior providing better plunger kinematic
Common base plate and guide plate	Faster cavity conversion
Common DG/TG plunger equipment	Reduces equipment in stock