

## Post Hoists



*Buck Systems Technologies*

GEA Pharma Systems is world leader in providing advanced processing solutions for solid dosage forms to the pharmaceutical industry. Based on a dedication to research and durable quality, GEA Pharma Systems offers a wide range of solutions, from individual pieces of equipment to complete integrated plants, by uniting the state-of-the-art technologies of Aeromatic, Buck, Collette, Courtoy, Fielder, Lyophil, Nica and Niro.

# IBC Post Hoists

The Buck Systems' range of Post Hoists offers a versatile application approach, with robust construction and clean GMP designs. The modular design of the columns and the lifting carriages allow for an extensive range of handling solutions.

## Safety First

Safety is critical to any lifting equipment, and the Buck Systems' Post Hoist has been designed for paramount safety of the operator.

The larger post hoists use a twin chain lifting system; each of the chains is rated to the safe working load of the hoist. So, in the unlikely event that one chain should fail, the second chain maintains the lifting position.

The lifting drive is via an electric 'braked' motor. In the event of loss of utilities to the hoist, the load will remain in the same position; any risk of the carriage slipping is prevented, a risk associated with hydraulics lifting systems.

The operator interface panel is mounted on the rear of the column and operated on a 'hold-to-run' principle, ensuring the operator is in a safe position.

## GMP Design

The electric motor lift drive removes the need for hydraulic lifts, and with it all the non-GMP issues associated with hydraulic devices.

A unique stainless steel dust tight front cover that fully encloses the working parts of the column is available as an option, to further improve the GMP design of the post hoist.



## Controls

The control system is simple and user friendly. For the basic units, simple push buttons control the raise and lowering operations. For more sophisticated requirements, a PLC control is utilised with user friendly HMI. The PLC control system is available in either Siemens or Allen Bradley versions.

For high lift applications or where a slow speed is required for IBC docking operations, an inverter can be added to provide a variable speed drive. This allows for fast lifting operations, and allows the carriage to stop at a slow controlled speed.

## Modular Design

Ranges of lifting carriages are available for the Buck Systems' Post Hoist. For the IBC lifting operations, Standard Forks allow the IBC to be securely lifted and accurately aligned. For drum handling operations, the Drum Inverting Carriage is available for the PH150 and PH300 models. Where the IBC needs to be inverted for filling through its outlet valve, the IBC Inverting Carriage can be fitted. By fitting the IBC Blending Carriage, the Post Hoist becomes a Blender, offering the same blending efficiency as the Pedestal range of blenders. The IBC Weighing Carriage allows the IBC to be lifted to a filling point, accurately aligns the IBC with the Buck® Filling Active Valve, and allows dynamic weighing of the IBC as it is filled.

The base of the column allows the column to be either Static Mounted or mounted on a Slewing Base to allow the carriage to be swivelled over the inlet of a downstream process. Slewing can be either manual or electrically driven.

# Reaching New Heights in Design & Application

## Applications

IBC Post Hoists are used for many handling applications within the pharmaceutical manufacturing process. Common applications include lifting IBCs over the inlet of processing equipment, lifting IBCs up to dock with filling equipment, and as IBC blenders.

### IBC Discharge

The most common use for the Post Hoist is lifting an IBC for discharge over the inlet of a down stream process, i.e. a granulator or a tablet press. The Forks on the standard lifting carriage accurately aligns the IBC to ensure a positive docking operation. The variable speed lifting motor allows for a fast lifting operation, with a slow docking speed.



### Milling and Blending

By carry out blending functions on the Post Hoist, the blender has the versatility to carry out discharge operations directly after blending. A common application is to allow blended material to be discharged through a mill or sieve into a receiving IBC. The IBC is aligned and clamped on the IBC Blending Carriage, before being docked with the Buck® Active Valve on the inlet of the Mill. Controls and interlocks for the Buck® Valve are managed through the Post Hoist control system.



### IBC Filling

For filling applications - from a dispensary or granulation equipment on the floor above, the Post Hoist is used to lift the receiving IBC up to dock with the Buck® Active Filling Valve. Where different heights of IBCs need to be handled, the Post Hoist is ideal for lifting the smaller IBCs to dock with the Buck® Active Filling Valve. The IBC Weighing Carriage allows the weight of the IBC to be measured as it is filled. Controls and interlocks for the Buck® Valve are managed through the Post Hoist control system.



### Small Container Handling

The Post Hoist fitted with the Drum Inversion Carriage is ideal for manipulating small drums or charge pots over the inlet of process equipment or IBCs. For High Containment applications, small Charge Pots with highly potent API can be lifted, inverted and docked with a Buck® Valve on the inlet of the granulator or IBC.



## Technical details

Features	PH150	PH300	PH600	PH1000	PH1500	PH2000
Power Lift	•	•	•	•	•	•
IBC Size	Size 1	Size 2	Size 3/4	Size 3/4	Size 4	Size 4
Maximum IBC Size (Litres)	150	300	600	1000	1500	2000
Maximum Weight IBC + Product (Kg)	150	300	600	900	1250	1600
Lift Speed	2 metres per minute					
Column Height	Upto 4 metres					
Reach	1450mm from centre of column to centre of IBC					
Lifting Limit Switches	Upper Overtravel / 2 Load Position / 3 Process Position					
Fixing	Floor		Floor and Ceiling			
Cable Connection Point	Base of Column					
Control System	Column Mounted Controls with Push Buttons and Pilot Lamps					
Optional Features						
Additional Height upto 7 metres	o	o	o	o	o	o
Ceiling Fixing	Compulsary upgrade for any column over 4 metres					
Manual Slew with pneumatic lock and position sensors plus additional lift limit switch for slew position	o	o	o	o	-	-
Powered Slew and position sensors plus additional lift limit switch for slew position	o	o	o	o	o	o
Variable Speed Lift 1-7 metres per minute with additional lift limit switch for pre-stop position	o	o	o	o	o	o
Inverting Carriage - fixed speed at 2 RPM	o	o	o	o	o	o
Blending Carriage - variable speed at 2 - 15 RPM	o	o	o	o	o	o
Drum Inverting Carriage – fixed speed at 2 RPM	o	o	-	-	-	-
Portable Base	o	o	o	-	-	-
Integral Weighing System	o	o	o	o	o	o
External Vibration	o	o	o	o	o	o
Butterfly Valve Actuation	o	o	o	o	o	o
Buck Valve Controls	o	o	o	o	o	o
Siemens S7 300 PLC with TP177B HMI	o	o	o	o	o	o
Allen Bradley Micrologix 1200 PLC with Panelview 300 Micro HMI	o	o	o	o	o	o
Utility Data						
Electrical Power	220-240V 3 Ph 60 Hz or 380-415V 3 Ph 50 Hz supplied to base of column					
Lift Motor Power (fixed/variable)	0.18/0.37kW	0.25/0.55 kW	0.75/1.5 kW	0.75/2.2 kW	1.1/3 kW	1.1/3 kW
Slew Motor (fixed)	0.12	0.12	0.18	0.18	0.18	0.18
Inversion Motor (fixed)	0.25	0.25	0.75	1.5	1.5	3.0
Blending Motor	1.5 kW	1.5 kW	3.0 kW	4.0 kW	5.5 kW	7.5 kW
<b>Pneumatics</b>	6 Barg supply pressure with a 12mm BSP Connection supplied to base of column					
Pneumatics for Slewing Position Lock	3L/Sec	3L/Sec	3L/Sec	3L/Sec	3L/Sec	3L/Sec
Pneumatics for External Vibration	10L/Sec	10L/Sec	10L/Sec	10L/Sec	10L/Sec	10L/Sec
Pneumatics for Butterfly Valve Actuation	3L/Sec	3L/Sec	3L/Sec	3L/Sec	3L/Sec	3L/Sec

• standard o optional - not available

Features and Benefits checklist		Features and Benefits checklist	
Allows gravity discharge from an IBC to a downstream process – removes need for vacuum conveying	•	FBD Bowl Module	o
Lifts and holds IBC directly above process machine – no need for discharge stations	•	Failsafe and Stress Free Clamping System (for Inversion and Blending Modules)	o
Twin Chain Lifting Carriage*	•	Positive IBC Detection	o
Electrical braked motor	•	Pallet Truck Loading	•
No Hydraulics	•	Manual Slewing	o
St/St Front Dust Cover	o	Powered Slewing	o
Fully enclosed column and drive motors	•	Through the Wall design	o
Robust Mechanical Construction	•	User Friendly Control System	•
IBC Forks for secure and accurate lifting and docking	•	'Hold to Run' Controls	•
Drum Module Handling	o	Siemens PLC and HMI	o
IBC Inverting Module	o	Allen Bradley PLC and HMI	o
IBC Blending Module	o	Variable Speed Lifting Drive	o
IBC Weighing Module	o	CFR 21 Part 11 compliant	o
		ATEX Compliance	o
		Validation Documentation in accordance to GAMP	•

• standard o optional



### Central Know-How on a Global Scale

Based on a strong commitment to research and development, pharmaceutical technology centres in Belgium, Denmark, Switzerland, the UK, Singapore, and USA provide global technical support and know-how to the pharmaceutical industry. These centres

of excellence give customers access to a range of test facilities and expert teams with technical and process know-how. Our teams work closely with our customers to optimise processes and evaluate their products, enabling them to achieve their process and production goals.



### Contracting Profitable Experience

A world leader in supplying pharmaceutical equipment, GEA Pharma Systems offers manufacturers all over the world the opportunity to enter into a profitable partnership for development and contract. GPS combine advanced in-house technology with a thorough

understanding of the pharmaceutical industry to help customers maximize their development results.



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GEA Pharma Systems

**Buck Systems**

**GEA Pharma Systems Ltd**

Wharfdale House, 257 Wharfdale Road

Tyseley, Birmingham, B11 2DP, United Kingdom

Tel: +44 121 765 5800, Fax: +44 870 622 0923

[buck.systems@geapharmasystems.com](mailto:buck.systems@geapharmasystems.com)