

## Portanova

Customer value is always Buhler's top priority

### Investment promising success

The Buhler Portanova is a pneumatic ship unloader designed for efficient unloading of grain and oilseeds. The unloading throughputs vary from 250 to 345 metric tons per hour (t/h) on the basis of grain, depending on the specific ship size. The Portanova is distinguished by its high degree of mobility and availability as well as by its outstanding cost-to-benefit ratio.



Portanova 2500/60T in Saudi Arabia.

### Wide variety of applications

The Portanova offers operators a wide variety of possible applications as an autonomous traveling or stationary ship unloader with its own energy supply as well as electrical power supply. The material unloaded is transferred to fixed conveying systems or directly into rail or road vehicles.

### Buhler – your partner

As a global technology group active in the field of grain handling – supplying everything from individual machines to turnkey grain handling systems – Buhler is always available to its customers:

- as an advisor before investment decisions,
- as a manufacturer of components at its own production sites,
- as an experienced installation and start-up team,
- and as a trainer of customers' personnel.

A reliable, global customer service ensures dependable operation and high availability of the systems supplied.



Telescopic pipe winch with adjustable suction nozzle for material intake.

Cover:  
Portanova 2500/30T in Greece.



Portanova 2500/60T in Oman.

## Portanova

Customer value and features

### Low operating and maintenance costs

- Possibility of lowering the boom to the ground for easy maintenance of the conveying pipes
- Vertically and horizontally telescopic conveying pipes of stainless steel
- Filter with Top-Removal System: fast detection of damaged bags, easy replacement of filter bags
- Direct drive of the rotary blower reduces energy consumption
- Stairs leading up to the machine room, walk-on boom
- Erection rail for fast and easy maintenance of the split special airlock

### High availability and reliability

- Rotary blower with almost constant volumetric flow rate and conveying air velocity ensures uniform material throughput
- Double-jacket suction nozzle, vertically movable and with adjustable air slots, allows high throughputs with various materials
- Programmable logic control system with visualization of operating and fault messages

### Low wear

- Conveying pipes with thick walls and pipe elbows with basalt lining
- Filter inlet without pipe elbow, with impact pot in the bottom filter section
- Split special airlock with enclosed rotor and wear plates

### High mobility

- Can travel on rails or on rubber tires
- Travels easily and quickly around obstacles thanks to selectable steering program



Boom lowered for maintenance.



Rotary piston blower with diesel engine.



Split special airlock.



Steerable rubber-tired traveling gear.



## Portanova

High mobility and operating reliability



Portanova 2500/60T in Oman.

### Technical data

Size	2500/30		2500/60		3000/60	
Throughput max.* (with telescopic pipes retracted)	290 t/h		270 t/h		345 t/h	
Recommended ship size	30,000 DWT		60,000 DWT		60,000 DWT	
Traveling gear	Rails (R)	Tires (T)	Rails (R)	Tires (T)	Rails (R)	Tires (T)
Gantry span (meters)	10	7 or 10	10	7 or 10	10	7 or 10
Telescopic pipe system, vertical	14.8 m to 22.4 m		16.4 m to 25 m		16.4 m to 25 m	
Telescopic pipe system, horizontal	13.5 m to 23 m		16 m to 28 m		16 m to 28 m	
Total weight approx.	84 t		105 t		105 t	
Installed power for blower	220 kW diesel engine				365 kW diesel engine	
Installed power for auxiliary drives	92 kW diesel engine					
Winch for hoisting feeder units	optional					
Control cab for operators	optional					
Loading pipes with dust collection system	optional					

\*Basis: Grain with bulk density 0.75 t/m<sup>3</sup>

**The powerful presence of Buhler in all major global economic regions is supported by an efficient infrastructure.**

Bühler AG  
CH-9240 Uzwil, Switzerland  
Phone +41 71 955 11 11  
Fax +41 71 955 39 49  
www.buhlergroup.com

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## Portanova – Pneumatic ship unloader

RSKP



## Portanova

Dependable and fast unloading of grain

### Introduction

- For over 90 years now, Buhler has been a leading supplier of pneumatic conveying systems for handling bulk materials.
- With its Portanova, Buhler has completed its series of pneumatic ship unloaders. This means that a line of ship unloaders is now available designed to cover the throughput range up to 600 t/h and to serve ship sizes up to 100,000 DWT.

### Application

- The Portanova is a self-propelled or stationary ship unloader powered by a diesel or electric drive. The gantry construction supports the slewable upper section. The Portanova is preferably applied wherever existing quay facilities do not allow any permanent installations and where the available energy supply is inadequate.
- The Portanova is suitable for unloading dry bulk solids such as cereal grains and oilseeds which

are processed in grain mills, feed manufacturing plants, oil mills and breweries.

- Rubber-tired as well as rail-mounted designs are available.

### Mode of operation and main elements

The Portanova is a pneumatic ship unloader which draws in the material by air from the ship's hold. The total separator separates the air from the material, which is transferred via an airlock and a chain conveyor either to the quay conveyor or directly onto road vehicles. A diesel engine powers the direct-coupled rotary piston blower for generating the negative pressure needed for material conveying. A second diesel engine powers the generator, which produces the electric power for all the auxiliary drives and other users.

The centralized hydraulic system supplies the energy for lifting and lowering the boom, for slewing the tower, and for driving the traveling

gear, including steering. The rubber-tired Portanova with three legs has two steerable wheel pairs on the water side. In the case of the version with four legs, all wheel pairs can be steered, providing a high degree of mobility.

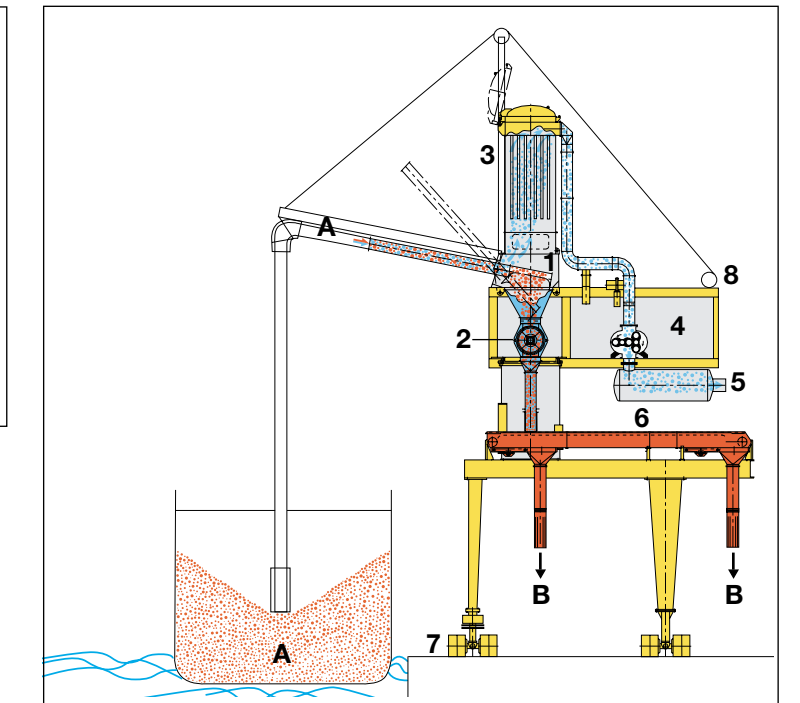
If the material is transferred to a quay conveyor, one person giving commands to the remote radio control system will suffice for operating the Portanova. If road vehicles are loaded, a second operator is needed. The control system is equipped with PLC elements. A display shows the operating conditions, fault messages and the preventive maintenance routine. This data can be printed out whenever required.

For emergency operation, a gasoline fueled engine is available for lifting and slewing the boom. It powers an emergency hydraulic pump, allowing the conveying pipe to be withdrawn from the ship's hold.

### Mode of operation

- A** From the ship's hold
- B** to the truck or quay conveyor

- Impact pot
- Airlock
- Dust collection filter with Top-Removal System
- Rotary piston blower
- Silencer
- Chain conveyor
- Traveling gear
- Boom winch



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