

## Loading spouts

*Stanelle - solutions for solid bulk handling*



## Stanelle loading spouts –

for bulk handling, dust-free loading of silo vehicles, open-top vehicles, rail cars, containers, stockpiles, mixers, and ships

**Applications:** Stanelle loading spouts are at the forefront everywhere where dust-like and granular bulk goods are loaded quickly and without detriment to the environment. If cement, lime, plaster, premix plaster, FGD products, pellets, grain, or other extreme bulk goods – our loading spouts operate reliably and trouble-free thanks to the careful selection of materials and their design optimised for the production processes.

### Advantages:

**High operating reliability:** The general arrangement of the two hoisting lines outside the material stream effectively minimises wear to zero and eliminates an otherwise frequent source of malfunctions and accidents.

**Protected outside bellows:** The interior buckets are each suspended from strong belts and so limit the loader's stroke. The outside bellows cannot therefore suffer damage from overload.

**Protected drive:** All drive and switching elements are placed inside the loader head. There they are as well protected as they are accessible.



**Compact design:** Even in cramped conditions the loader can operate without problems: there are no hoisting lines and no external winches to get in the way. The drive elements of the Stanelle loading spout are integrated in the loader head for ease of access.

**Simplified installation:** Screw on and connect the electrical supply: your loading spout is now ready for action!

### Precisely centred material stream

**Short loading times:** Fast up and down strokes, gentle contact and sensitive corrections lead to extremely short loading times.

**Tight seat:** The rubber-lined discharge cone always mates with the loading hatch without gaps.

**Serviceable:**

The hoisting lines, linkages, and drive components are easily accessible.

**Configurable:**

The material and quality of the buckets can be configured precisely to the characteristics of the material stream.

**Extensive accessories:**

Every silo type and every loading site can be fitted with the Stanelle loading spout. The system is flexible and its operation and economic efficiency can be adapted with an extensive range of accessories.



## Optimized equipment

### Level indicators

The level indicators are essential building blocks for the automation of the material flow. Different level indicators are required depending on the physical properties of the medium. E.g. rotary paddle detectors, vibration probes, capacitive detectors, ultrasonic detectors, pneumatic detectors, bulk solids motion detectors.

### Attached filter

As an alternative to the customary dedusting systems Stanelle offers the pneumatically cleaned loader filter. Owing to its direct attachment to the loader head this filter cleans the mixture of dust and air within the smallest of spaces. The cleaned filter cake is introduced directly into the silo vehicle. The flexible attachment does not require any additional installation headroom.



## *Solutions made to measure*

### **Pneumatic cleaning**

Although their elasticity is otherwise useful the rubber-lined discharge cone, the interior buckets on their moving suspensions, and the flexible bellows are a problem when the loader is cleaned with unbalanced shakers. Stanelle has therefore developed a pneumatic cleaning system specifically for this loading technology. The interior buckets and outside bellows are alternately blasted and cleaned with jets of compressed air. The same procedure is applied in the discharge cone's exhaust air chamber.



Complete solution with pneumatic cleaning and loader filter



mechanical cleaning and loader filter

### **Mechanical cleaning**

Alternatively, Stanelle also supplies mechanical Cleaning systems for cone, transition part and loader head.

Various user requirements led to the development of two different geometries:

- the QUADRO type with square buckets
- the RONDO type with round buckets
- the TELE-RONDO type with telescoping pipes

## QUADRO 220

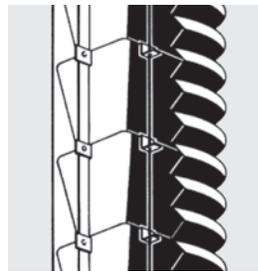
### JET loader TYPE QUADRO 220

- for loading silo vehicles and containers
- nominal width 220 mm
- number of buckets 2 -12
- max stroke 2900 mm
- various bucket materials: steel sheet, stainless steel, plastic-lined with closure cone
- with closure cone
- optional closure cone heating

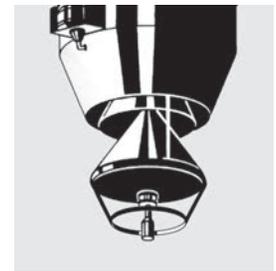
Internal hoisting lines between the outside bellows and interior buckets; felt gasket to the gear chamber; square buckets suspended from two strong belts arranged opposite each other and guided over hoisting lines for greater stability.

### The closure cone

Every practitioner knows that the closure cones on loaders are problem components: fast wearing on the hoisting lines and the closure cone itself causes malfunctions and considerable repair costs. The primary objective in the development of the QUADRO with its square buckets was to relocate the hoisting lines and the power supply cables for the level indicators outside of the abrasive material stream. For this purpose new space had to be created for connecting the hoisting lines. The solution Stanelle found is depicted on the adjacent schematic.



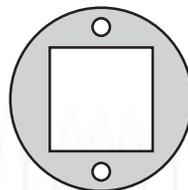
square interior buckets



closure cone



**QUADRO 220**  
square interior buckets

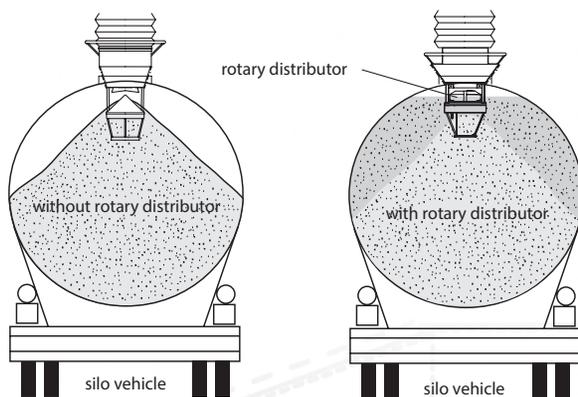


*our industry standard*

In the material flow area, only the much more resistant rods. As spare part it is also easily exchangeable. The hoisting ropes themselves are now mounted outside the dangerous zone. The wear of the locking cone is considerably reduced by the choice of material and stable design. At Stanelle it is made of highly wear-resistant cast steel with solid wall thicknesses between 15 and 25 mm. The QUADRO TYPE was mainly developed to optimise the locking cone system.

### The rotary distributor

All closed Stanelle loading systems can be equipped with rotary distributors. Empty spaces, which normally have to be filled during the loading and unloading process. The product is optimally filled with the product through the rotary distributor. This increases the filling level by up to 30%. This enables enormous cost savings to be achieved during transport, which in turn makes the use of the product much easier. The cost of a rotary distributor is amortized after only a short time.



rotary distributor

## RONDO 250

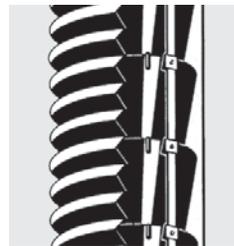
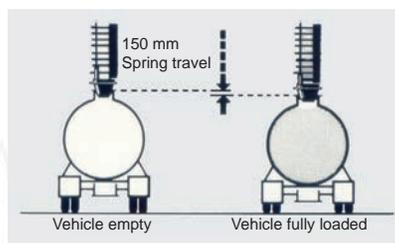
### JET loader TYPE RONDO 250

- for loading silo vehicles, open-topped transport, containers, stockpiles, and ships with dustlike and granular bulk goods
- nominal widths 250 mm
- number of buckets 3 - 20
- stroke up to 3800 mm
- special sizes on request
- ariant bucket materials: cast steel, steel sheet, stainless steel
- mechanical level compensation
- without closure cone

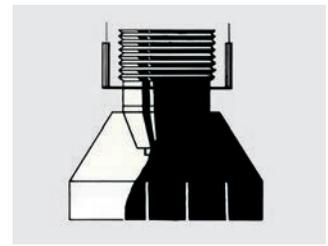
Because the hoisting lines are now attached on the outside the bellows and interior buckets can now be replaced more easily without additional hoisting gear. The interior buckets are suspended from four supporting belts.

### RONDO type: level compensation

The more a silo vehicle is loaded, the more the level drops under the greater weight on the suspension. There is then a gap between the discharge cone and the silo dome. If loading is to be free of dust the falling level must be compensated. For this purpose Stanelle loading spouts feature an innovative mechanical facility with a discharge cone suspended from flexible pressure springs.



round interior buckets



optional: dust dome



**RONDO 250**  
round interior buckets

*high operational safety*

**Combined loading with Stanelle JET-Loader TYPE RONDO 250 and variable dust loader-  
pron**

Optimal and effective use of a driveway / loading station for silo vehicles and open vehicles or containers.

**Silo vehicles**

If a silo vehicle is to be loaded, the dust bell remains automatically locked in the loader head.

**Open vehicles / containers**

For the loading of open vehicles, the dust cover is

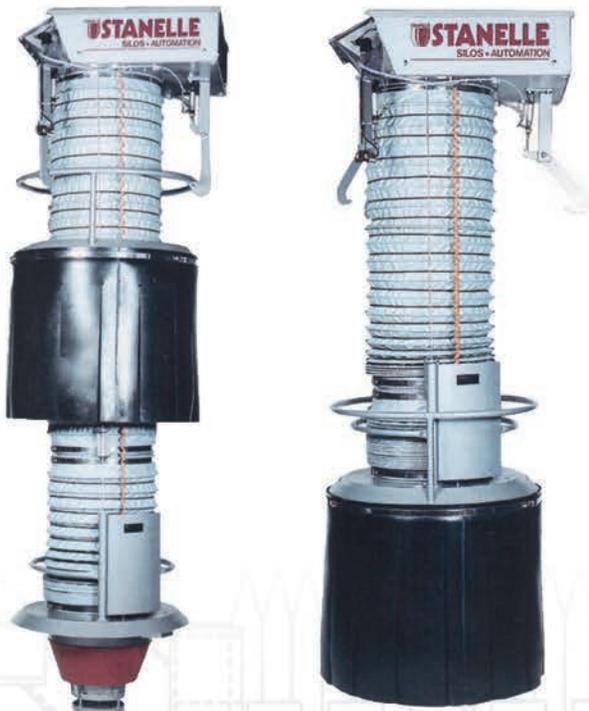
automatically equipped with a and then clocked upwards again according to the loading process - so effective dedusting is also possible during open loading.

**Stanelle hand loader QUADRO / RONDO**

As a cost-effective alternative to our standard loaders QUADRO and RONDO 250.

Available in different versions (with or without filter attachment).

Area of application: Loader for subordinate loading, emergency emptying, etc.



**RONDO 250 variabel**

open and closed



## RONDO 300 M

### JET loader TYPE RONDO 300 M

- for loading open road and rail vehicles, silo vehicles and containers with free-flowing, dry, dusty to chippy bulk materials
- nominal widths: 300 mm
- number of buckets: 3 - 16
- stroke up to 3100 mm
- special sizes on request
- ariant bucket materials: cast steel, steel sheet, stainless steel

The Stanelle JET loaders TYPE Rondo 300 M are of modular design. That means a change of the output. The same loader head can therefore be used for barrels with a sealing cone, without sealing cone and with a dust bell.

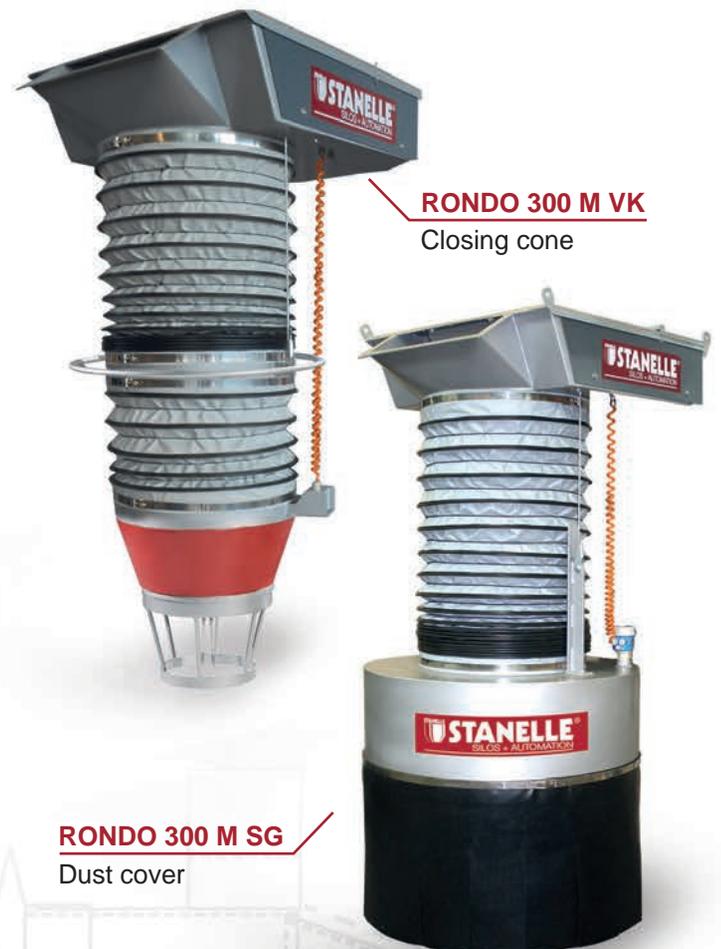
The application range of the Stanelle JET loader type Rondo 300 M covers the building material, cement, mining, chemical, energy generating, water and waste water and pharmaceutical industries. In these areas, reduced loading time for silo vehicles is required. This could be achieved by increasing the cross section of the throughput.

A version with **variable dust** bell is also possible.

*maximum loading capacity*

The JET loader TYPE **RONDO 300 M VK** (closing cone) is our most powerful loading set for the loading of **silo vehicles and containers with dry, free-flowing bulk materials**.

The JET loader TYPE **RONDO 300 M SG** (dust cover) is suitable for loading **open road and rail vehicles with dry, free-flowing bulk materials**.



**RONDO 300 M VK**  
Closing cone

**RONDO 300 M SG**  
Dust cover

## RONDO 350, 450, 500, 600, 800

*open loading*



**Ship loader TYPE RONDO 350 - 500** are special loaders for loading dry, free-flowing bulk material onto ships.

**Gravel loader TYPE RONDO 600 - 800** are special loaders for dust-free loading of coarse-grained bulk materials, such as gravel and ballast, onto open trucks, railway wagons, ships and dumps.

The large nominal diameters from 600 to 800 mm enable extremely high conveying capacities of up to more than 1000 t/h. Special sizes are available and designed and manufactured for specific projects in terms of diameter and stroke length.

**RONDO 350**  
Ship loader



**RONDO 800**  
Gravel loader



## TELE-RONDO

### JET loader TYPE TELE-RONDO 200

- nominal width: 200 mm
- throughput: 100 m<sup>3</sup>/h
- telescoping length (pipe) about 2735 mm
- perfected technology based on a further development of the JBM 220 QUADRO type loading spout
- integrated level control automatically adjusts the loader's telescoping length to the present fill level
- variant telescoping pipe materials: steel, stainless steel

The Stanelle JBM 200 TELE-RONDO type loading spout is a specialised system for loading silo vehicles (trucks, rail cars) with high-separation bulk goods like e.g. dry mortar. Bulk goods of various weights and large free fall heights are associated with separation problems in standard loaders, leading to losses in quality. The separation of bulk goods in this category is prevented to the greatest possible extent when the TELE-RONDO type JBM 200 is used.

### Operating mode

Position the silo vehicle under the TELE-RONDO within a precision of 50 mm. The TELE-RONDO discharge cone sets itself on the silo dome opening and the telescoping pipes enter the silo vehicle. Remaining is a free fall height of 200 - 400 mm only. This minimal free fall height serves to prevent the separation of the bulk material's components into their constituent weights. When the bulk material reaches the bottom fill level sensor the telescopic pipes are raised, but loading continues at the low free fall height. This procedure is repeated until two max level indicators signal the silo vehicle is full



**TELE-RONDO**

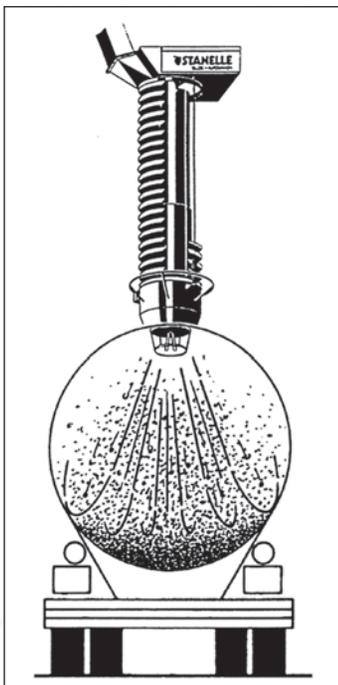
## *Loading with minimal segregation*

and the upstream charging or shutoff components are switched off or closed respectively. When the TELE-RONDO is raised the closure cone prevents material from escaping into the environment and circulating air – and therefore humidity – from entering the loader.

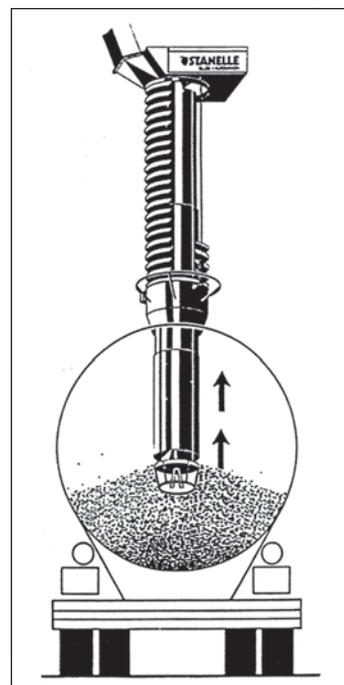
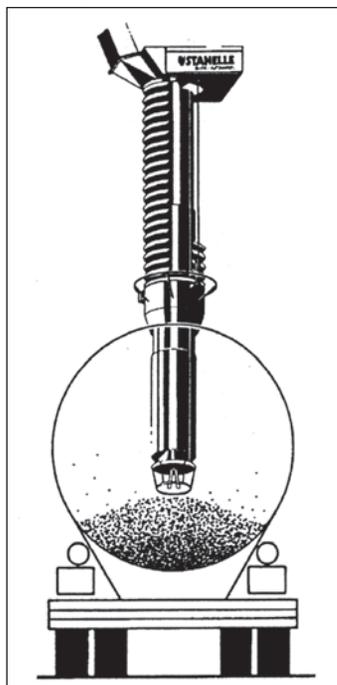
### **Accessories**

The TELE-RONDO in conjunction with our transverse and longitudinal positioners presents the optimal loading solution for special bulk goods tending to separate.

**QUADRO type loading**



**TELE-RONDO type loading**



## Longitudinal and cross traversing unit QLV 400 / LV 400 / LV 1000

*best possible positioning*

The **Longitudinal and cross traversing QLV 400** enables an easy and precise positioning of telescopic loaders when loading silo vehicles and silo wagons.

The frames and supports are made of steel profiles. The transfer hopper is available in steel or in various stainless steel qualities. An extension of the proven Stanelle loader- and filter is possible at any time.

Due to the transverse and longitudinal traversing device QLV 400 may cause damage to the telescopic TELE-RONDO or the silo vehicle can be avoided.

A low overall height enables the equip in existing plants.

With the transverse and longitudinal traversing device QLV 400 is the loading from the control room possible without any problems and a control- and technically simple equipment provides a optimal and inexpensive solution.

Using the pneumatic cylinders, a longitudinal and transverse movement of 200 mm (total 400 mm) from the centre can be carried out within a very short time.

The **LV 400 longitudinal** travel device enables telescopic loaders to be positioned precisely in the **longitudinal** direction when loading silo vehicles and silo wagons. Alternatively, versions up to 1000 mm are available. track available.



## Docking station SAD 200 / 250

### Docking station TYPE SAD

- nominal width 200 / 250 mm
- inlet cross section: Ø 300 mm
- stroke length: bis zu 2900 mm
- material variants: sheet steel, stainless steel

The docking devices TYPE SAD 200-EP / SAD-HD are suitable for loading small component containers, mixing drums and containers with dry, free-flowing bulk material.

It consists of an easy-to-assemble, compactly manufactured loading head with air outlet, two attached pneumatic cylinders with solenoid valve and terminal box or a manual rope winch.

The bellows are made of highly abrasion-resistant neoprene hypalon-coated polyester fabric with sewn-in spring steel rings and reinforced cuffs on both sides.

The docking device is optionally available in cup or telescopic tube design. The displacement air is supplied to the aspiration by means of bellows.

The docking device is supplied ready for connection. The installation of a loader filter is possible on request.

A custom-fit production according to customer requirements is also possible on request.



**SAD 250-HD**



**SAD 200-EP**

### Advantages of the Stanelle loading spout:

- high operating reliability
- protected outside bellows
- protected drive
- compact design
- simplified installation
- precisely centred material stream
- short loading times
- tight seat
- low-maintenance
- customisable
- special sizes on request

Stanelle Silos + Automation GmbH  
 Langwiesenstr. 6  
 D-74363 Güglingen

Fon +49 7135 9530-0  
 Fax +49 7135 9530-17

info@stanelle.de  
 www.stanelle.de

Distributor Seal

### Further components:

Dedusting



Controlling



Discharging



Shut-off devices



Loading



Filling



BIG-BAG



Silos

