



Flexible  
feeding  
More than  
Motion.

Yesterday. Today. Tomorrow.

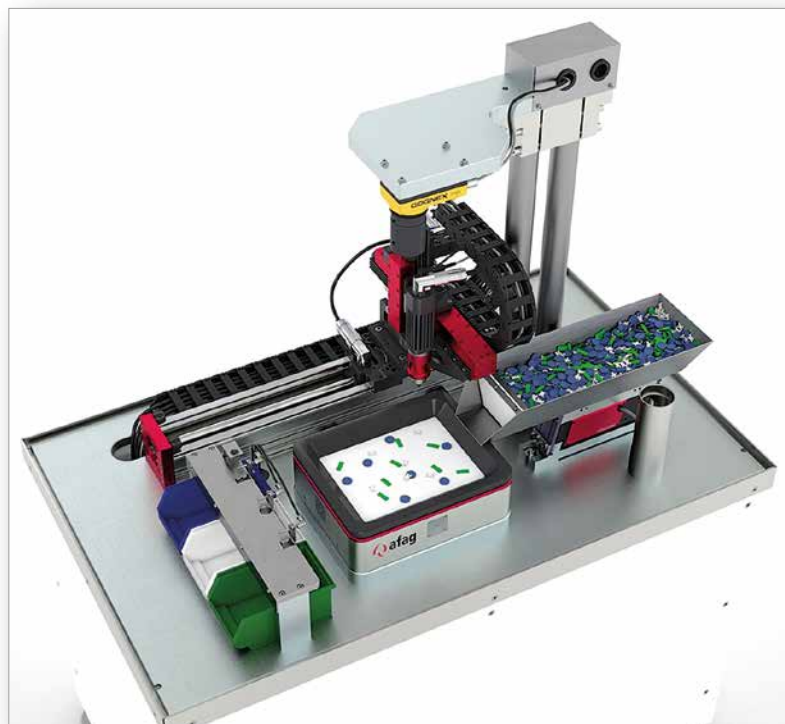


## Flexible feeding systems

Flexible feeding systems combine the short changeover times of the system with a high variety of conveyed materials.

### Function principle of the system

The parts are conveyed from the hopper to the aflex or, alternatively, to the flip conveyor. There they are evenly distributed and made available for the vision system. Parts that can be gripped are detected by the vision system, picked up by the handling system and made available for follow-up processes.



#### **Multidimensional transport**

- › Active 3-dimensional manipulation of conveyed materials by the aflex
- › Active 2-dimensional manipulation of conveyed materials and possibility for the quick emptying by the flip conveyor

#### **Variant handling**

- › High variant flexibility
- › Short changeover times

#### **Flexibility**

- › Unrestricted reusability of the system components

# Flexible feeding components

Flexible feeding systems separate conveyed materials from a pile and organize them in a way that enables the optical identification as well as the resulting collection and further processing of individual parts. Unlike conventional feeding technology, the form and quality play as small a part as possible.

The aflex qc and flip conveyor system components were developed for precisely these complex requirements in the field of feeding technology for small and very small parts. They are used in situations where time-efficient separation and orientation of parts is required during feeding.



Both products are each available to the user in two sizes and with various equipment options.

## Advantages of aflex qc:

### Flexibility

- › Short changeover times due to quick-change conveyor sheet
- › Integrated transmitted light illumination with LEDs that can be controlled in clusters
- › Suitable for almost all part geometries

### Simplicity

- › Effortless installation
- › Intuitive user interface

### Compatibility

- › Modular design
- › Selection between different field bus interfaces
- › Connection option on the side and below for numerous integration possibilities

## Advantages of the flip conveyor:

### Flexibility

- › Suitable for almost all part geometries
- › A variety of transport belts available for optimum detection of the materials conveyed
- › Possibility of quick emptying for quick type changes

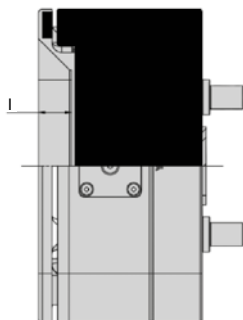
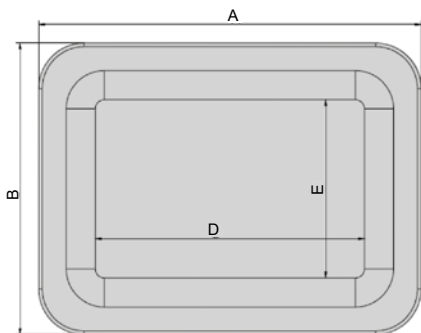
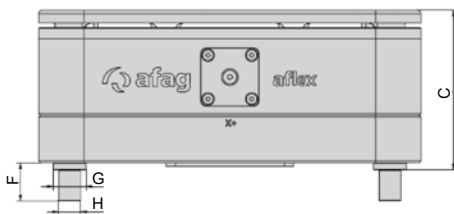
### Simplicity

- › Continuous adjustment of the belt and flip speed via turning potentiometer
- › Stainless steel funnel that prevents the parts from falling

### Compatibility

- › Internal drives for easier integration
- › Large image area
- › 24 V operating voltage

# Flexible feeding components



Type	aflex 150 qc	aflex 200 qc
aflex qc - base with red backlight	Order no. <b>50473402</b>	Order no. <b>50473404</b>
aflex qc - base with white backlight	Order No. <b>50473403</b>	Order No. <b>50473405</b>
Conveyor sheet - POM white	Order No. <b>50473406</b>	Order No. <b>50473410</b>
Conveyor sheet - POM black	Order no. <b>50473407</b>	Order No. <b>50473411</b>
Controller - Profibus	Order No. <b>50441875</b>	Order No. <b>50441875</b>
Controller - Ethercat	Order No. <b>50473416</b>	Order No. <b>50473416</b>
Controller - Profinet	Order No. <b>50473418</b>	Order No. <b>50473418</b>
Control voltage	24 V	24 V
Total current [max]	10 A	10 A
Recommended pre-fuse	C10A/10A GL T	C10A/10A GL T
Relative activation duration of the actuators	< 15%	< 15%
Ambient temperature	0 °C to 45 °C	0 °C to 45 °C
Weight	4 kg	10,2 kg
Protection type	IP51	IP51

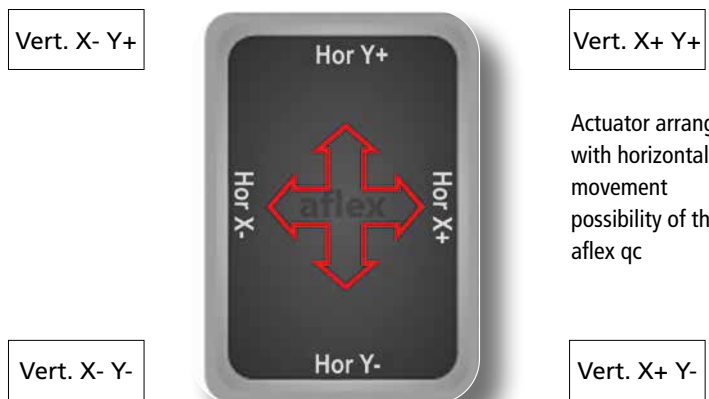
	aflex 150 qc	aflex 200 qc
<b>A</b>	210 mm	295 mm
<b>B</b>	160 mm	240 mm
<b>C</b>	88 mm	111 mm
<b>D</b>	150 mm	220 mm
<b>E</b>	100 mm	165 mm
<b>F</b>	21 mm	21 mm
<b>G</b>	Ø 18 mm	Ø 18 mm
<b>H</b>	Ø 12 mm	Ø 12 mm
<b>I</b>	17 mm	22 mm

## The operating principle of the aflex qc

The quick-change conveyor sheet of the aflex is brought into resonance-like vibration by a total of 8 actuators.

Through targeted control of the intensity and frequency, the parts on the aflex qc can be flipped in the vertical direction or moved horizontally in all directions.

The individual parts are therefore specifically separated from each other and made available for the follow-up process.



Actuator arrangement with horizontal movement possibility of the aflex qc

## The vibration component

### Conveyor sheet

- › Quick-change
- › One-piece design of sheet and frame
- › Enables manual quick emptying

### Backlighting

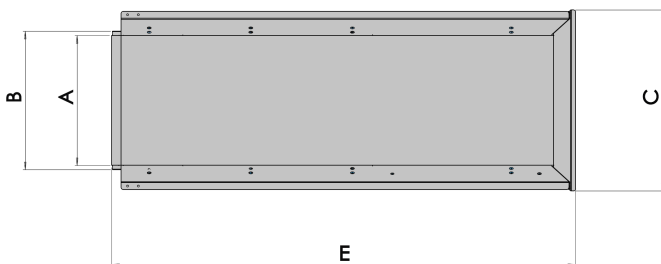
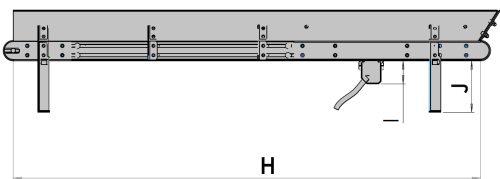
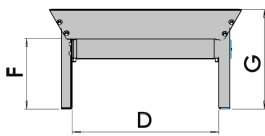
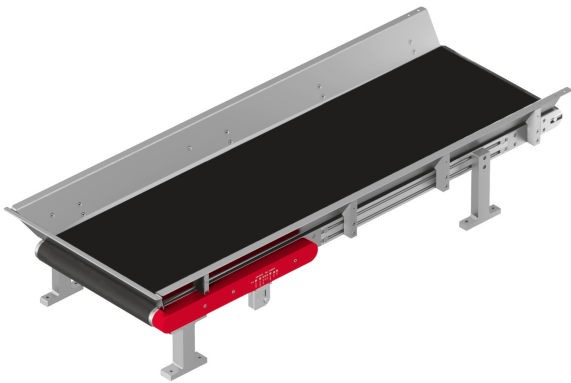
- › Red or white

### Control

- › Modular design
- › Standard system:
  - › 1x control unit
  - › 2x T4X driver modules
  - › 1x aflexConfigurator2
- › Freely expandable by field bus modules

## Quick-change conveyor sheet





Type	Flip conveyor 200	Flip conveyor 300
with black transport belt	Order No. <b>50436249</b>	Order No. <b>50436251</b>
with white transport belt	Order No. <b>50436250</b>	Order no. <b>50436252</b>
Max. part size	40 x 40 mm	40 x 40 mm
Max. part weight	50 g	50 g
Control voltage	20...30 V	20...30 V
Load voltage	9...30 V	9...30 V
Total current [max]	7 A	7 A
Recommended pre-fuse	C6A	C6A
Relative activation duration of the actuators	< 15 %	< 15 %
Ambient/storage temperature	10 °C to 50 °C/ 0 °C to 80 °C	10 °C to 50 °C/ 0 °C to 80 °C
Weight	23 kg	23 kg
Standard interface	Multi I/O	AC servo
Protection type	IP 50	IP 50

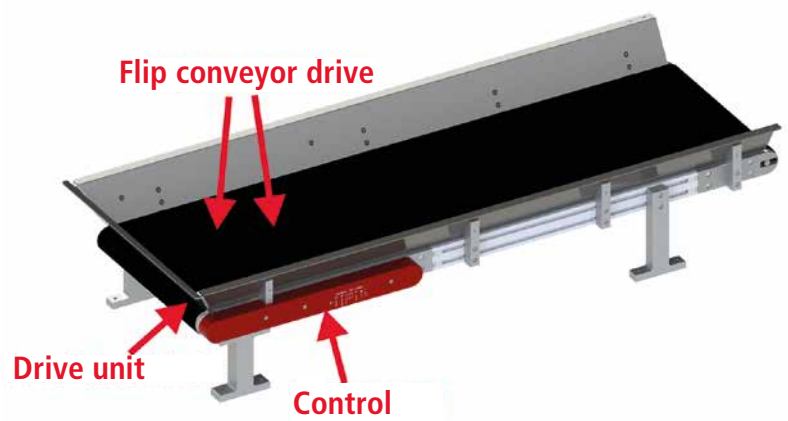
	Flip conveyor 200	Flip conveyor 300
<b>A</b>	200 mm	300 mm
<b>B</b>	220 mm	320 mm
<b>C</b>	318 mm	418 mm
<b>D</b>	220 mm	320 mm
<b>E</b>	1073 mm	1073 mm
<b>F</b>	154 mm	154 mm
<b>G</b>	218 mm	218 mm
<b>H</b>	1000 mm	1000 mm
<b>I</b>	51 mm	51 mm
<b>J</b>	110 mm	110mm

## The operating principle of the flip conveyor

The flip conveyor can be used to make larger and heavier parts available for flexible feeding applications than with the aflex qc.

The parts to be separated are positioned over the flip belt drive by means of a transport belt and flipped until the correct position for the transfer of the parts is achieved.

The flip conveyor can also be quickly emptied automatically by changing the transport direction.



## Flip conveyor

### Transport belt

- › White or black

### Drive unit

- › Continuously adjustable belt drive
- › Continuously adjustable flip drives
- › Possibility for quick emptying

### Stainless steel funnel

- › Prevents the materials conveyed from falling





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