Screwdriving technology | Automation | Air motors | Air tools

DEPRAG

Feeding Technology

Stationary Feeding Systems

for the secure processing of your fasteners

- **Streamline your assembly**
- **Optimise the assembly process**
- **Increase your output**
- **Simple integration and start-up procedure**

Feed systems are essential for productivity and efficiency in automatic assembly machines. Originally developed for shaft-heavy screws, today's DEPRAG feeding systems are capable of processing screws of all types with or without washers, threaded bolts, pins, rivets, nuts, washers, o-rings and diverse other small components.

D 3830 E 09.2014

STATIONARY FEEDING SYSTEMS

Integrated sequence control
For stationary applications using screws or screw-similar fasteners, we offer screw-feeding systems with integrated sequence control (our EP version). This design is used if you want an extensively tested and proven system but do not want to use your own PLC or where your PLC has insufficient capacity.

Simple integration and start-up procedure
The integration of your host PLC with DEPRAG stationary screwfeeders is exceptionally simple and easy. Many design details, such as the quick-release feature of the separator or the tiltable or removable housing, simplify handling during start-up or maintenance.

High reliability
The sophisticated design of all feeders, the use of high-alloyed and heat-treated steels for all mechanically critical components and the required quality of the components to be transported, are the foundation for the high quality of our equipment.

Freely programmable
Parts with a multitude of varied geometries can be processed with a freely programmable feed system and the pneumatic and electric equipment based on your requirements.

Large output capability
DEPRAG feed systems have a particularly large output capability - they accelerate your assembly cycle whilst guaranteeing continued high quality.

Vibratory Feeder

Stationary feed systems for the processing of small components of all kinds, such as screws, pins, bolts, rivets, nuts, washers and o-rings. Vibratory feeders feature a high output rate in comparison to other feed systems.
We offer stationary screwfeeders with vibratory drive for screws < M1 to M20. Screws with a shaft length from 5 mm up to 130 mm can be processed.
Even countersunk screws can be fed easily by our vibratory feeders.

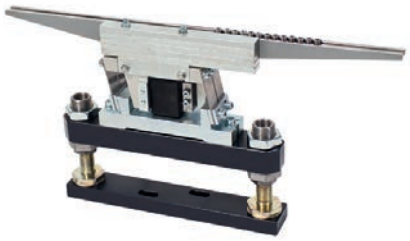
Design Sizes:

Sword (Segment) Feeder

Sword feeders or segment feeders are used when the requirement calls for gentle, almost noiseless feeding of sensitive fasteners. Our sword feeder systems can process screw sizes from M2 to M6. They are ideal for screws up to 25 mm in length. Sword (segment) feeders are also well-suited for the processing of balls and pins.

Design Sizes:

Linear Conveyor



Linear conveyors can be used to transport parts over larger distances within your assembly system, to allow for a parts buffer or to allow for the constant and consistent flow of parts.
Our robust linear conveyors enable correct sorting in the feedbowl, thereby preventing jams or parts becoming wedged or backed up to the feedbowl.

STATIONARY FEEDING SYSTEMS

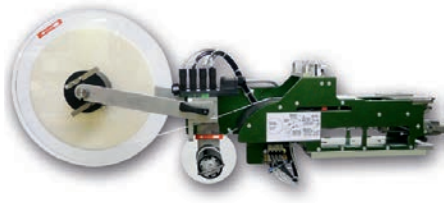
Pick-and-Place Feeding

If the screw dimensions do not allow feeding through a feedhose, for example where there is an unfavorable relation between screw head diameter and overall length, we can offer special solutions, such as the pick-and-place procedure with vacuum suction or removal by gripper. This process can also be used for screw locations which are difficult to access.

Tape-on-Reel Feeding

The DEPRAG tape-on-reel feeder is specifically designed for the reliable and accurate feeding of adhesive components, which are supplied on reel tapes.

→ Catalogue D 3870 E



Screw Presenter

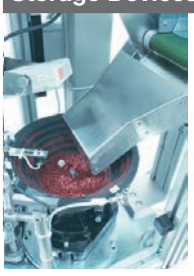
The DEPRAG screw presenter is ideal if you need a quick solution to automate your assembly, but an automatic screw-feeder is not feasible because of the low number of screws to be processed.
In such as case screw presenters are well-suited for the automatic presentation of screws to allow pick-up with a handheld or stationary screwdriver.

→ Catalogue D 3840 E

Storage Devices

Do your operating staff frequently have to refill your feeding equipment to stop production running to a halt? Or does your feeder run inconsistently and you would like to optimise the process?
In these situations we recommend the use of our storage devices, such as the DEPRAG belt-driven hopper.

→ Catalogue D 3850 E



FEED MATERIAL

Different parts and connectors often also require different feeding technologies.
Here you can find a small sample of different components matched with the appropriate DEPRAG feeder:

Screws

For the processing of screws, depending on size, we recommend a vibratory feeder or a sword (segment) feeder. To make the first step toward automation of your assembly process, we recommend our screw presenter.

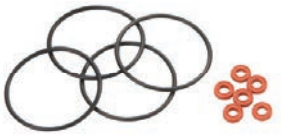
Pins

For the processing of pins, we recommend a vibratory feeder.
For standard applications we can offer handheld feeding systems. An adapted separator is often used for stationary applications.

Nuts

For the processing of nuts we recommend a vibratory feeder.
We can provide standard systems for handheld and stationary applications.

O-Rings



For the processing of o-rings we recommend a vibratory feeder.
Our feed systems can be implemented as part of an assembly solution into stationary machines. The o-ring will be supplied to the pick position and then handled and positioned by the assembly system.

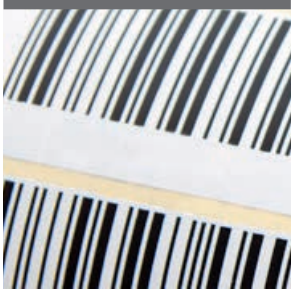
Components

We are able to sort and process many different types of components with our vibratory feeder in combination with a linear conveyor. The use of sensors allows us to process components with varying geometries in our stationary feeding systems.

Small components supplied by reels

The DEPRAG tape-on-reel feeder is designed for the delivery of adhesive components (e.g. seals), which are supplied on reel tapes. These adhesive components can be lifted from the pick-up location by vacuum or gripper. This type of feeding system allows the processing of both single-sided and double-sided adhesive components.

Labels

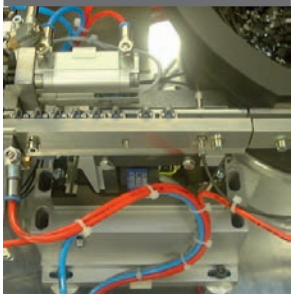


Labels, tags and films are primarily supplied on reels. A DEPRAG tape-on-reel feeder is recommend to lift them using vacuum suction.

Parts to be press-fitted

For the processing of rivets, pins, sleeves and balls, we can offer our standardised press-fit systems consisting of a pressurised device connected to either a vibratory feeder or sword (segment) feeder.

Components requiring gentle handling



Sword (segment) feeders are especially suited for gentle feeding procedures. Vibratory Feeders can also be coated with a fibre coating or soft PUR-coating which protects the surface quality of your components. A storage device can be set to keep the fill-level of the feeding-system to an absolute minimum which again serves to protect the surface quality of your components. If your components need even gentler handling then we can palletise them and process them by a gripper or vacuum handling system. Please contact us for additional information.

Part assembly in cleanrooms

A vibratory feeder in connection with a suction device can be used to process components in cleanrooms class D. If your cleanroom requirement is even higher, then a palletised solution with gripper or vacuum handling can be used.

STRUCTURE OF STATIONARY SCREW FEEDING SYSTEMS

DEPRAG screw feeders consist of the supply system itself, an air connection, a power switch and an electronic controller including feedhose, in standard length 4m.

With either vibratory bowl feeder or sword feeder

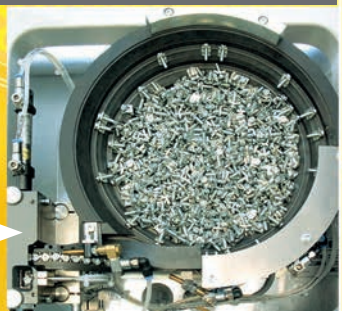
screw separator

with single or double spiral bowl

can be combined with any screwdriver model

If feeding with a hose system is not possible, we offer special solutions, such as the pick-and-place procedure

defined pick position with integrated screw pick control option



with hopper and sort segment

sword feeder with a separator system

Distributor system see page 6

ADVANTAGES OF STATIONARY SCREW FEEDING SYSTEMS

Fill-level independent self-regulation (for series 6)

Generally the intensity of oscillation in standard vibratory feeders is also influenced by the fluctuation of the fill-level. The result: If the bowl is full, the system is slower; if the bowl is nearly empty, the system is faster. To eliminate this influence, screw refilling can be controlled by an additionally integrated fill-level sensor, which communicates with a refill hopper.
We offer feeding systems with integrated fill-level independent self-regulation!
Your advantage: Investment cost for additional sensors and refill-systems are obsolete! The device regulates itself, and the vibrating speed remains constant.

Positioning

By using various sorting elements (so called deflectors), the material for sorting is moved into position and subsequently processed. Material that is not correctly positioned and cannot be turned is directed back into the bowl by additional deflectors.

DEPRAG, a feeder specialist, has more than 30 years of experience in feeding technology, specifically in the design of the bowl spiral geometry (form and angular tilt) – and in the sorting of complex components.

Efficient Assembly

The high level of in-house production, the use of wear resistant materials, as well as specific coating procedures during the manufacturing of the vibratory bowls, ensures consistently high quality products and the outstanding efficiency of our feeders. DEPRAG vibratory feeders feature an extremely high feed rate of up to 60 parts per minute.
With a so called twin feeder, your production can be streamlined even further. One vibratory bowl can supply either two independent workstations, or, when used with pre-separation of the screw, even multiple screwdriver spindles in an assembly system.

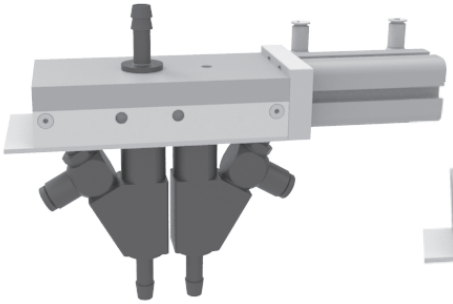
Solutions tailored to customer specific requirements

If you wish to integrate a feeder directly into your assembly system and restrictive space conditions have to be considered, then we can adapt our standard devices to your installation conditions. You profit from our unique know-how and moreover, you receive a reliable, fully-tested feeding system at a particularly attractive price-to-performance ratio.
When ordering a customer specific device, you will naturally receive the necessary 3D data to facilitate easy integration into your system.

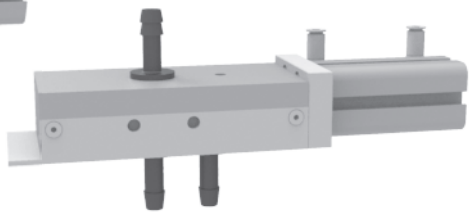
Simplified start-up

Prior to the delivery of your feeder, we carry out an endurance test which simulates your workflow during series production. Each device is delivered with comprehensive documentation, which clearly explains the start-up and operation of the feeder.

ACCESSORIES



Distributor with hose nozzles for pre-separation of the screw

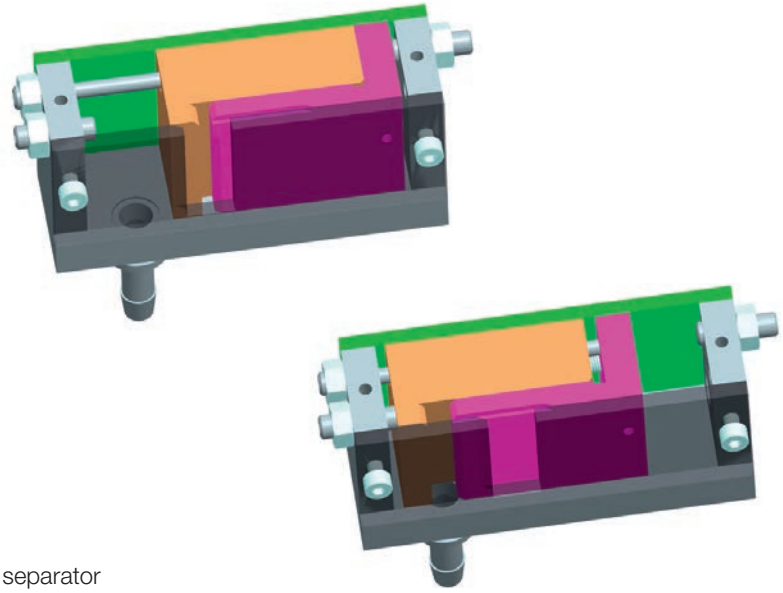


Distributor with standard hose nozzles

Distributor

If more than two positions (i.e. screwdriver spindles) have to be supplied out of one feeder, then so called pre-separation hose nozzles can be used. These distributors can supply 2, 3, 4, 5 or even 6 channels.

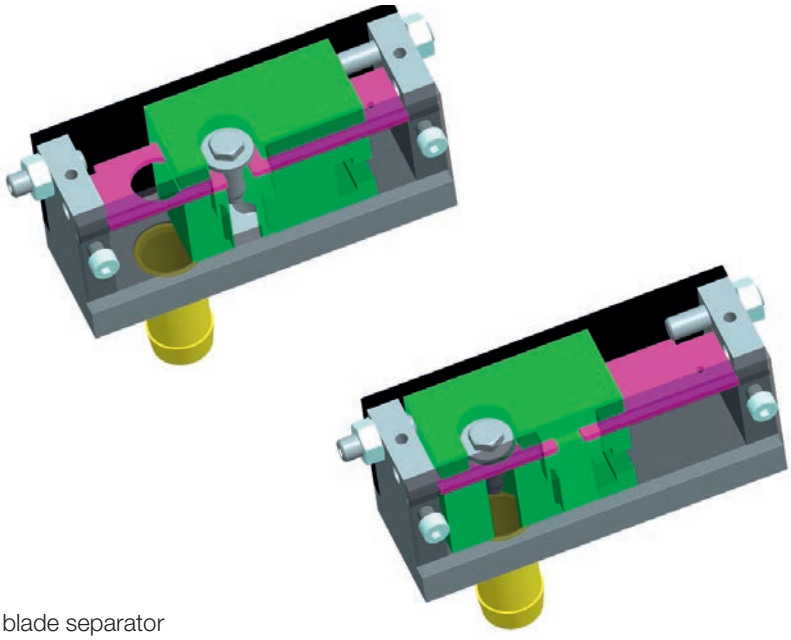
To increase the feed rate the distributors can be operated by pre-separators (version “V“). With such a system, the feed parts separator can be operated parallel to the processing time. The feeding of the hardware will be done simultaneously for all channels. This type of feed system is also used when feeding has to be done against gravity (i.e. underfloor assembly).



Slide separator

Screw Separator

The screws exit the feed bowl in a well ordered line ready to be separated at the end of a retaining rail. Different types of separators can be provided depending on the geometry of the material (e.g. screws).



Profile blade separator

ACCESSORIES

Control

The standard version (version “0”) of our feed system does not include pneumatic valves or a sequence controller. The vibratory feeder bowl includes the integrated control unit. The necessary pneumatics, as well as sequence controller are the essential components of a complete assembly unit. If components are ordered, the corresponding pneumatic and function diagrams are made available.

To keep design costs to a minimum and to simplify installation, all devices can be supplied with pneumatic valves. There is wiring up to the terminal block (version “P”). Again, if components are delivered we will provide an terminal plan.

The version “P” includes all necessary valves for the operation of the screwfeeding machine.

The third available version with the designation “EP” offers screwfeeding machines with 1 to 4 outlets, and includes pneumatic and electronic sequence control. To feed the next screw, only a 24 V signal is necessary. This means the customer can use a smaller PLC and no programming is necessary for the screw feeding. Therefore, the series “EP” is an especially economical and reliable solution and should be given preference.

Control Units

We offer different control units to control our vibratory drives.

- **Piezo controller**
  is used for bowl sizes of
  0.05 l (0.01 gal.)
- **Feeder controller 5**
  with integrated sequence control
  is used for bowl sizes of
  0.15 l (0.04 gal.)
- **Feeder controller 5 S**
  is used for bowl sizes of
  0.15 l (0.04 gal.)
- **Feeder controller 6**
  is used for bowl sizes of
  0.75 l (0.2 gal.) and 1.2 l (0.32 gal.)
- **Feeder controller 5 SL**
  is used for bowl sizes over 2.5 l
  (0.66 gal.) capacity

Naturally, all units conform to the protection type no. IP 54. The bowl size of 2.5 l (0.66 gal.) has a soft start feature integrated into the control unit of the vibratory drive.

Feeder controller 5

Feeder controller 5 S

Feeder controller 5 SL

Piezo controller

Feeder controller 6

Additional Accessories

To complete the automatic assembly station, we provide additional components, such as:

- Standard mouthpiece
- Tiltable mouthpiece
- Nosepiece ball type, single
- Nosepiece ball type, double
- Nosepiece ball type with extension
- Nosepiece split type
- Nosepiece with attachment piece
- Ring proximity switch
  for screw presence sensors
- Fill level indicator
- Feeder stand
- Base for feeder stand
- Storage devices
  (Catalogue D 3850 E)



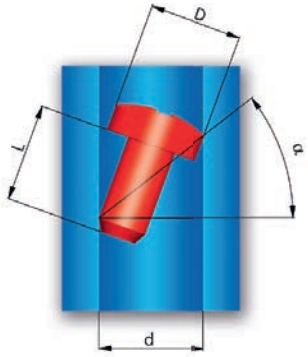
Nosepiece


Special nosepiece with mouthpiece

GUIDELINE FOR THE SELECTION OF A SUITABLE SCREWFEEDER

STEP 1:
Feeding criteria

Basically all “shaft heavy“ screws with heads which fulfil the following criteria are suitable for processing with our feed systems:



Feeding criteria:
a > 30°

d ~ D + 0.5 mm

Approximate formula:

L > D + 2 mm

d = Internal diameter feed hose
D = Screw head diameter
L = Screw shaft length

STEP 2:
Screw Quality

DIN quality standard fasteners (allowable 3% bad parts) is not always sufficient for reliable feeding machines.

Higher levels of screw/fastener quality improve the feeder‘s reliability.

The goal should be a quality grade of 10 ppm (“parts per million”). This means every 100,000 screws there can be 1 bad part.

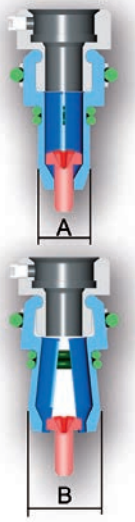
STEP 3:
Which feeding principle is best suited to your application?

A vibratory spiral bowl is particularly suited to screws with awkward dimensions or those with special feed rate requirements.
The sword feeder is used when extremely gentle handling of the parts is required or when very low noise level is a must. If feeding with a hose system is not possible we also offer pick-and-place procedure.

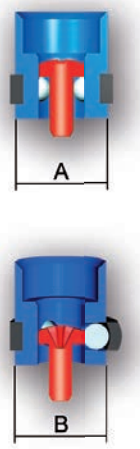
STEP 4:
Determine the screw receiver

At the end of the mouthpiece there is a nosepiece ball type (1 or 2 rows) or a nosepiece split type, mounted to receive and position the screw.

Nosepiece split type



Nosepiece ball type



D = Head diameter
d = Shaft diameter
n = Space required to open

A = D + 2.5 mm
B = A + D - d

B = 3D - 2d + 5 mm

n = A x B

n = ø B

STEP 5:
Space available on the component

The available space around the screw head on the assembled components is very important for effective use of the handheld screw feeders.
Both the nosepiece split type and ball type have space requirements.

STEP 6:
Single or multiple feeding/screwdrivers

Single and double spiral bowls are available for vibratory bowl feeders. You can also get more out of each feeder with only one outlet using a distributor to further divide the feed parts into several hose outlets.
In this way up to twelve outlets can be created from just one feeder by using a double spiral bowl and 2 six-fold distributors. The selection of the correct feeder depends in particular on the cycle time required.
Please ask your local representative for further information.

STEP 7:
Specifications

In order to design your feeder we need the following information from you:

- Number of screwdriving spindles to be used
- Cycle time (described in detail if possible)
- Feeding design (vibratory bowl feeder or sword feeder) if you have a preference
- Controller design (without valves as version „0“, with valves as version „P“ or with valves and sequence controller as version „EP“)
- Details of feed part geometry (e.g. dimension sheet of the screw with tolerances)
- Details of required length of feedhose(s) Details of the geometry of the screw-in position (3D model in format STEP or IGES)
- Voltage/mains frequency

To process your order we will also require approx. 1 sample load of parts to fill the capacity of your feeding system.

Filling capacity 0.05 liter – for screws with max. shaft length 8 mm

Filling capacity 0.05 liter / 0.01 gal.	**Type**	**0611-P/0.05-x** **0611-O/0.05-x**
Amount of connectable drivers		1
Feed Rate	parts/min	50
Filling capacity	liter/gal.	0.05/0.01
Max. Head Diameter	mm / in.	3 7/64
Max. Shaft Length	mm / in.	8 5/16
Range of Shaft Diameter	mm / in.	0.6 - 2.0/0.024-0.079
Voltage	V/Hz	230/50
Power Consumption	VA	50
Air Pressure Requirement	bar / PSI	6/85
Air Hose dia.	mm / in.	4 5/32
Dimensions (W x D x H)	mm / in.	220 x 200 x 180/8 5/8 x 7 7/8 x 7 1/16
Weight	kg / lbs	10/22
Feedhose length Standard	m / ft.	4/13.1
max.	m / ft.	10/32.8
Number of In-/Outputs needed for PLC Version "O" and "P"	min.	2 / 4
Control Unit	**Type**	**Piezo Controller**
	Part no.	806652
Dimensions (L x W x H)	mm / in.	106 x 100 x150/4 11/64 x 3 7/8 x 5 7/8

*) The controller can be positioned either next to the feeder in the work area or in the control cabinet.
We recommend integration into the control cabinet. Additionally the height of the cable connections (approx 50mm) must be taken into account.

Filling capacity 0.15 liter – for screws with max. shaft length 8 mm

Filling capacity 0.15 liter / 0.04 gal.	**Type**	**0511** **-O/0.15** **-P/0.15** **-EP/0.15***	**0511** **-2-O/0.15** **-2-P/0.15** **-2-O/0.15V** **-2-P/0.15V** **-2-EP/0.15***	**0522** **-O/0.15** **-P/0.15** **-EP/0.15***	**0511** **-3-O/0.15** **-3-P/0.15** **-3-O/0.15V** **-3-P/0.15V** **-3-EP/0.15***	**0511** **-4-O/0.15** **-4-P/0.15** **-4-O/0.15V** **-4-P/0.15V** **-4-EP/0.15***	**0511** **-5-O/0.15** **-5-P/0.15** **-5-O/0.15V** **-5-P/0.15V**
Amount of connectable Drivers		1	2	2	3	4	5
Preferred Type for identical amount of spindles			●				
Feed Rate	parts/min	60	2 x 25	2 x 60	3 x 17	4 x 13	5 x 10
Filling capacity	liter / gal.	0.15/0.04					
Max. Head Diameter	mm / in.	5/13/64					
Max. Shaft Length	mm / in.	8/5/16					
Range of Shaft Diameter	mm / in.	1.0 - 2.5/0.039 - 0.099					
Air Pressure Requirement	bar / PSI	6.3/90					
Air Hose dia.	mm / in.	10/3/8					
Weight (design "O")	kg / lbs	15/33	15/33	17/37	15/33	15/33	15/33
Feedhose length Standard	m / ft.	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6
max.	m / ft.	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4
Number of In-/Outputs needed for PLC Version "O" and "P"	min.	1/5	4/7	2/8	7/9	8/9	11/11
Version "V"	min.	–	5/9	–	8/12	9/13	12/16
Version "EP"	min.	1/1	2/2	2/2	3/2	4/2	–
Control Unit		SZG Controller 5 S (Insulation IP 54) *SZG Controller 5 (Insulation IP 54)					

TECHNICAL DATA SCREWFEEDING MACHINES VIBRATORY BOWL FEEDERS

Filling capacity 0.75 liter – for screws with max. shaft length 35 mm

Filling capacity 0.75 liter / 0.2 gal	Type	0611 -O/0.75 -P/0.75 -EP/0.75	0611 -2-O/0.75 -2-P/0.75 -2-O/0.75V -2-P/0.75V -2-EP/0.75	0612 -O/0.75 -P/0.75 -O/0.75V -P/0.75V	0622 -O/0.75 -P/0.75 -EP/0.75	0611 -3-O/0.75 -3-P/0.75 -3-O/0.75V -3-P/0.75V -3-EP/0.75	0611 -4-O/0.75 -4-P/0.75 -4-O/0.75V -4-P/0.75V -4-EP/0.75	0612 -4-O/0.75 -4-P/0.75 -4-O/0.75V -4-P/0.75V	0624 -O/0.75 -P/0.75	0611 -5-O/0.75 -5-P/0.75 -5-O/0.75V -5-P/0.75V	0612 -6-O/0.75 -6-P/0.75 -6-O/0.75V -6-P/0.75V
Amount of connectable Drivers		1	2	2	2	3	4	4	4	5	6
Preferred Type for identical amount of spindles			●				●				
Feed Rate	parts/min	45	2 x 20	2 x 25	2 x 45	3 x 13	4 x 10	4 x 12	4 x 25	5 x 8	6 x 7
Filling capacity	liter / gal.	0.75/0.2	0.75/0.2	0.75/0.2	0.75/0.2	0.75/0.2	0.75/0.2	0.75/0.2	0.75/0.2	0.75/0.2	0.75/0.2
Max. Head Diameter	mm / in.	12/15/32	12/15/32	12/15/32	8/5/16	12/15/32	12/15/32	12/15/32	8/5/16	12/15/32	12/15/32
Max. Shaft Length	mm / in.	35/1 3/8	35/1 3/8	35/1 3/8	25/31/32	35/1 3/8	35/1 3/8	35/1 3/8	25/31/32	35/1 3/8	35/1 3/8
Range of Shaft Diameter	mm / in.	1.6 - 6.3/0.063 - 0.25									
Air Pressure Requirement	bar / PSI	6.3/90									
Air Hose dia.	mm / in.	10/3/8									
Weight (design "O")	kg / lbs	26/57	26/57	26/57	29/64	29/64	29/64	30/66	30/66	30/66	31/68
Feedhose length Standard	m / ft.	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6
max	m / ft.	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4
Number of In-/Outputs needed for PLC											
Version "O" and "P"	min.	1/5	4/7	2/8	2/8	7/9	8/9	6/10	4/14	11/11	10/12
Version "V"	min.	–	5/9	4/10	–	8/12	9/13	8/14	–	12/16	12/18
Version "EP"	min.	1/1	2/2	–	2/2	3/2	4/2	–	–	–	–
Control unit		SZG Controller 6									

Filling capacity 1.2 liter – for screws with max. shaft length 50 mm

Filling capacity 1.2 liter / 0.32 gal.	Type	0611-EP/1.2 0611-P/1.2 0611-O/1.2	0611-2-EP/1.2 0611-2-P/1.2 0611-2-O/1.2	0611-3-EP/1.2 0611-3-P/1.2 0611-3-O/1.2	0611-4-EP/1.2 0611-4-P/1.2 0611-4-O/1.2	0611-5-P/1.2 0611-5-O/1.2	0611-6-P/1.2 0611-6-O/1.2
Amount of connectable drivers		1	2	3	4	5	6
Feed Rate	parts/min	25	2 x 12	3 x 8	4 x 6	5 x 5	6 x 4
Filling capacity	liter / gal.	1.2/0.32					
Max. Head Diameter	mm / in.	16/5/8					
Max. Shaft Length	mm / in.	50/1 15/16					
Range of Shaft Diameter	mm / in.	3 - 7/0.118 - 0.276					
Voltage	V/Hz	115/60 bzw. 230/50					
Power Consumption	VA	135					
Air Pressure Requirement	bar / PSI	6/85					
Air Hose dia.	mm / in.	10/3/8					
Dimensions (W x D x H)	mm / in.	360 x 415 x 320 *) /14 5/32 x 16 5/16 x 12 9/16					
Weight	kg / lbs.	37/81	40/88	40/88	40/88	40/88	40/88
Feedhose length Standard	m / ft.	4/13.1	4/13.1	4/13.1	4/13.1	4/13.1	4/13.1
max.	m / ft.	8/26.2	8/26.2	8/26.2	8/26.2	8/26.2	8/26.2
Number of In-/Outputs needed for PLC							
Version "O" and "P"	min.	1/5	4/7	7/9	8/9	11/11	10/12
Version "V"	min.	–	5/9	8/12	9/13	12/16	12/18
Version "EP"	min.	1/1	2/2	3/2	4/2	–	–
Control unit		SZG Controller 6					

Filling capacity 2.5 liter – for screws with max. shaft length 60 mm

Filling capacity 2.5 liter / 0.66 gal.	Type	0511 -O/2.5 -P/2.5 -EP/2.5	0511 -2-O/2.5 -2-P/2.5 -2-O/2.5V -2-P/2.5V -2-EP/2.5	0512 -O/2.5 -P/2.5 -O/2.5V -P/2.5V	0522 -O/2.5 -P/2.5 -EP/2.5	0511 -3-O/2.5 -3-P/2.5 -3-O/2.5V -3-P/2.5V -3-EP/2.5	0511 -4-O/2.5 -4-P/2.5 -4-O/2.5V -4-P/2.5V -4-EP/2.5	0512 -4-O/2.5 -4-P/2.5 -4-O/2.5V -4-P/2.5V	0524 -O/2.5 -P/2.5	0511 -5-O/2.5 -5-P/2.5 -5-O/2.5V -5-P/2.5V	0512 -6-O/2.5 -6-P/2.5 -6-O/2.5V -6-P/2.5V
Amount of connectable Drivers		1	2	2	2	3	4	4	4	5	6
Preferred Type for identical amount of spindles			●				●				
Feed Rate	parts/min	40	2 x 20	2 x 25	2 x 40	3 x 12	4 x 10	4 x 12	4 x 20	5 x 8	6 x 7
Filling capacity	liter / gal.	2.5/0.66	2.5/0.66	2.5/0.66	2.5/0.66	2.5/0.66	2.5/0.66	2.5/0.66	2.5/0.66	2.5/0.66	2.5/0.66
Max. Head Diameter	mm / in.	16/5/8	16/5/8	16/5/8	14/35/64	16/5/8	16/5/8	16/5/8	14/35/64	16/5/8	16/5/8
Max. Shaft Length	mm / in.	60 /2 23/64									
Range of Shaft Diameter	mm / in.	4 - 8/0.157 - 0.315									
Air Pressure Requirement	bar / PSI	6.3/90									
Air Hose dia.	mm / in.	10/3/8									
Weight (design "O")	kg / lbs	61	61	61	61	61	61	62	62	62	63
Feedhose length Standard	m / ft.	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6
max	m / ft.	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4
Number of In-/Outputs needed for PLC											
Version "O" and "P"	min.	1/5	4/7	2/8	2/8	7/9	8/9	6/10	4/14	11/11	10/12
Version "V"	min.	–	5/9	4/10	–	8/12	9/13	8/14	–	12/16	12/18
Version "EP"	min.	1/1	2/2	–	2/2	3/2	4/2	–	–	–	–
Control unit		SZG Controller 5-SL (Insulation IP 54)									

Filling capacity 6.0 liter – for screws with max. shaft length 100 mm

Filling capacity 6 liter / 1.6 gal.	Type	0511-O/6.0 0511-P/6.0	0511-2-O/6.0 0511-2-P/6.0 0511-2-O/6.0V 0511-2-P/6.0V	0511-3-O/6.0 0511-3-P/6.0 0511-3-O/6.0V 0511-3-P/6.0V	0511-4-O/6.0 0511-4-P/6.0 0511-4-O/6.0V 0511-4-P/6.0V	0511-5-O/6.0 0511-5-P/6.0 0511-5-O/6.0V 0511-5-P/6.0V	0511-6-O/6.0 0511-6-P/6.0 0511-6-O/6.0V 0511-6-P/6.0V
Amount of connectable drivers		1	2	3	4	5	6
Feed Rate	parts/min	25	2 x 12	3 x 8	4 x 6	5 x 5	6 x 4
Filling capacity	liter / gal.	6/1.6					
Max. Head Diameter	mm / in.	30/1 3/16					
Max. Shaft Length	mm / in.	100/4					
Range of Shaft Diameter	mm / in.	8 - 16/0.315 - 0.63					
Air Pressure Requirement	bar / PSI	6.3/90					
Air Hose dia.	mm / in.	10/3/8					
Weight (design "O")	kg / lbs.	250/550					
Feedhose length Standard	m / ft.	4/13.1					
max	m / ft.	8/26.2					
Number of In-/Outputs needed for PLC							
Version "O" and "P"	min.	2/6	5/8	7/10	9/10	11/12	12/12
Version "V"	min.	–	7/10	10/13	13/14	16/17	18/18
Control unit		SZG Controller 5-SL (Insulation IP 54)					

TECHNICAL DATA SCREWFEEDING MACHINES VIBRATORY BOWL FEEDERS

Filling capacity 12.0 liter – for screws with max. shaft length 130 mm

Filling capacity 12 liter / 3.2 gal	Type	0511 -O/12 -P/12	0511 -2-O/12 -2-P/12 -2-O/12 V -2-P/12 V	0512 -O/12 -P/12 -O/12 V -P/12 V	0522 -O/12 -P/12	0511 -3-O/12 -3-P/12 -3-O/12 V -3-P/12 V	0511 -4-O/12 -4-P/12 -4-O/12 V -4-P/12 V
Amount of connectable Drivers		1	2	2	2	3	4
Preferred Type for identical amount of spindles			●				
Feed Rate	parts/min	20	2 x 10	2 x 11	2 x 20	3 x 7	4 x 5
Filling capacity	liter / gal.	12/3.2	12/3.2	12/3.2	12/3.2	12/3.2	12/3.2
Max. Head Diameter	mm / in.	40/1 37/64	40/1 37/64	40/1 37/64	30/1 3/16	40/1 37/64	40/1 37/64
Max. Shaft Length	mm / in.	130/5 1/8	130/5 1/8	130/5 1/8	120/4 23/32	130/5 1/8	130/5 1/8
Range of Shaft Diameter	mm / in.	14-20/35/64-25/32	14-20/35/64-25/32	14-20/35/64-25/32	12-18/15/32-45/64	14-20/35/64-25/32	14-20/35/64-25/32
Air Pressure Requirement	bar / PSI	6.3/90	6.3/90	6.3/90	6.3/90	6.3/90	6.3/90
Air Hose dia.	mm / in.	10/3/8	10/3/8	10/3/8	10/3/8	10/3/8	10/3/8
Weight	kg / lbs	as per customer's specification approx. 500					
Feedhose Length Standard	m / ft.	4/13.1	4/13.1	4/13.1	4/13.1	4/13.1	4/13.1
max	m / ft.	8/26.2	8/26.2	8/26.2	8/26.2	8/26.2	8/26.2
Number of In-/Outputs needed for PLC Version "O" and "P"	min.	5/6	8/8	6/7	9/9	11/10	12/10
Version "V"	min.	–	10/10	8/9	–	14/13	16/14
Control unit for Vibratory Conveyor		Special Controller					
Control unit for Linear Conveyor		Special Controller					

TECHNICAL DATA SCREWFEEDING MACHINES SWORD FEEDERS

Filling capacity 0.15 liter – for screws with max. shaft length 8 mm

Filling capacity 0.15 liter / 0.04 gal	Type	0811-O/0.15 0811-P/0.15
Amount of connectable Drivers		1
Feed Rate	parts/min	30
Filling capacity	liter / gal.	0.15 / 0.04
Max. Head Diameter	mm / in.	5 / 13/64
Max. Shaft Length	mm / in.	8 / 5/16
Range of Shaft Diameter	mm / in.	1.0 - 2.5 / 3/64 - 3/32
Air Pressure Requirement	bar / PSI	6.3 / 90
Air Hose dia.	mm / in.	10 / 25/64
Weight	kg / lbs	6 / 13.2
Feedhose Length Standard	m / ft.	4 / 13.12
max	m / ft.	5 / 16.4
Number of In-/Outputs needed for PLC Version "O" and "P"	min.	4/5

TECHNICAL DATA SCREWFEEDING MACHINES SWORD FEEDERS

Filling capacity 1.5 liter – for screws with max. shaft length 25 mm

Filling capacity 1.5 liter / 0.4 gal	Type	0811-O/1,5 0811-P/1,5 0811-EP/1,5	0811-2-O/1,5 0811-2-P/1,5 0811-2-O/1,5V 0811-2-P/1,5V	0811-3-O/1,5 0811-3-P/1,5 0811-3-O/1,5V 0811-3-P/1,5V	0811-4-O/1,5 0811-4-P/1,5 0811-4-O/1,5V 0811-4-P/1,5V	0811-5-O/1,5 0811-5-P/1,5 0811-5-O/1,5V 0811-5-P/1,5V	0811-6-O/1,5 0811-6-P/1,5 0811-6-O/1,5V 0811-6-P/1,5V
Amount of connectable Driver		1	2	3	4	5	6
Feed Rate	parts/min	30	2 x 15	3 x 10	4 x 8	5 x 6	6 x 5
Filling capacity	liter / gal.	15/0.4					
Max. Head Diameter	mm / in.	12/15/32					
Max. Shaft Length	mm / in.	25/63/64					
Range of Shaft Diameter	mm / in.	2 - 6.3/0.08 - 0.25					
Air Pressure Requirement	bar / PSI	6.3/90					
Air Hose dia.	mm / in	10 3/8					
Weight (design "O")	kg / lbs	35/77	38/84	40/88	40/88	42/92	42/92
Feedhose Length Standard	m / ft.	4/13.1	4/13.1	4/13.1	4/13.1	4/13.1	4/13.1
max	m / ft.	6/19,7*	6/19,7	6/19,7	6/19,7	6/19,7	6/19,7
Number of In-/Outputs needed for PLC							
Version "O" and "P"	min.	4/5	7/7	10/9	11/9	14/11	15/11
Version "V"	min.	–	8/9	11/12	12/13	15/16	16/17
Version "EP"	min.	1/1	–	–	–	–	–

*Longer hose lengths reduce maximum attainable feed rate

TECHNICAL DATA NUT FEEDERS (VIBRATORY BOWL FEEDERS)

Filling capacity 0.75 / 2.5 liter – maximum permissible nut height 5 mm / 8 mm

Filling capacity 0.75 / 2.5 liter / 0.2 / 0.66 gal	Type	0611M-O/0.75 0611M-P/0.75 0611M-EP/0.75	0511M-O/2.5 0511M-P/2.5 0511M-EP/2.5	0612M-O/0.75 0612M-P/0.75	0512M-O/2.5 0512M-P/2.5	0624M-O/0.75 0624M-P/0.75	0524M-O/2.5 0524M-P/2.5
Amount of connectable Drivers		1	1	2	2	4	4
Feed Rate	parts/min	45	40	2 x 25	2 x 25	4 x 25	4 x 20
Filling capacity	liter / gal.	0.75/0.2	2.5/0.66	0.75/0.2	2.5/0.66	0.75/0.2	2.5/0.66
Across Flats	mm / in.	4 - 8 / 5/32-5/16	5.5-17/7/32-43/64	4 - 8 / 5/32-5/16	5.5 - 13/7/32-1/2	4 - 8 / 5/32-5/16	5.5 - 13/7/32-1/2
Female Thread	mm / in.	3 - 5/1/8-3/16	3 - 8/1/8-5/16	3 - 5/1/8-3/16	3 - 8/1/8-5/16	3 - 5 /1/8-3/16	3 - 8/1/8-5/16
Max. possible nut height	mm / in.	5/3/16	8/5/16	5/3/16	8/5/16	5/3/16	8/5/16
Air Pressure Requirement	bar / PSI	6.3/90	6.3/90	6.3/90	6.3/90	6.3/90	6.3/90
Air Hose dia.	mm / in.	10/3/8	10/3/8	10/3/8	10/3/8	10/3/8	10/3/8
Weight (design "O")	kg / lbs	26/57	58/128	27/59	58/128	30/66	62/136
Feedhose Length Standard	m / ft.	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6	2/6.6
max	m / ft.	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4	5/16.4
Number of In-/Outputs needed for PLC							
Version "O" and "P"	min.	1/5	1/5	2/8	2/8	4/14	4/14
Version "EP"	min.	1/1	1/1	–	–	–	–
Control unit		SZG Controller 6	SZG Controller 5-SL	SZG Controller 6	SZG Controller 5-SL	SZG Controller 6	SZG Controller 5-SL
Insulation		IP 54	IP 54	IP 54	IP 54	IP 54	IP 54

POWER USAGE

The design of the feeding systems can be made for either 230 volts or for 115 volts of power-connection.
For the corresponding maximum usage (in VA) please refer to the listing below.

Unit	Type	05xx-x/0.15	06xx-x/0.75	06xx-x/1.2	05xx-x/2.5	05xx-x/6.0	08xx-x/1.5
Voltage	V	115 or 230	115 or 230	115 or 230	115 or 230	115 or 230	115 or 230
Power Consumption	VA	40	135	135	550	550	15

Unit	Type	0811-O/0.15	0811-P/0.15
Power Supply	V	not applicable	24
Power Consumption	VA	0	10

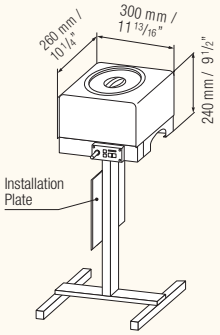
OPTIONAL EQUIPMENT

for Screwfeeding Machines and Nut-Feeders

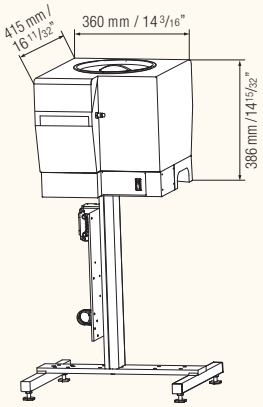
Stationary Mouthpiece (standard)
Tiltable Mouthpiece
Nosepiece Ball Type (single)
Nosepiece Ball Type (double)
Nosepiece Split Type
Ring Proximity Switch with impulse extension 100 ms, with connector, cable and connector plug
for screw presence control installed and wired
Feeder fill level indicator
Feeder Bowl, coated with polyurethane
Hopper (Catalog D 3850 E)
Downholder (for screws with washers)
”Semi-pick and place-system”

DIMENSIONS

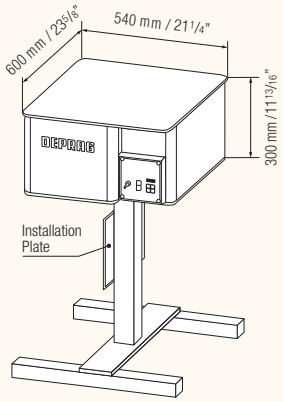
Vibratory Bowl Feeder



Type 05xx 0.15

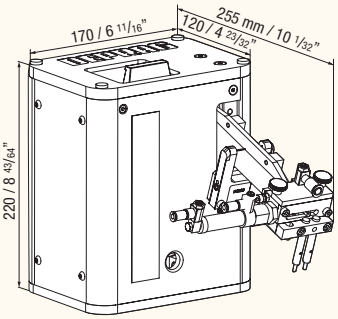


Type 06xx 0.75 / 1.2

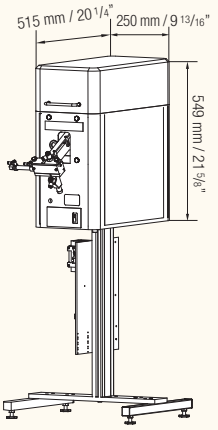


Type 05xx 2.5

Sword Feeder

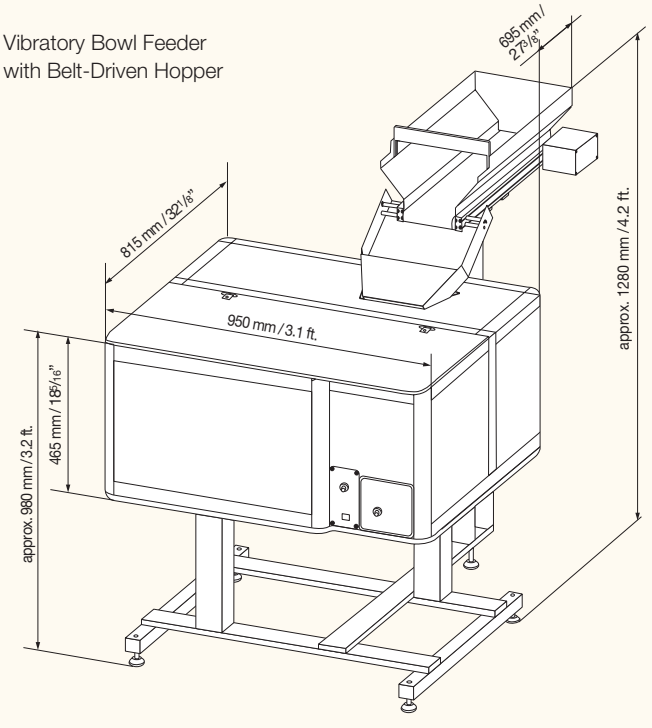


Type 0811 x/0.15



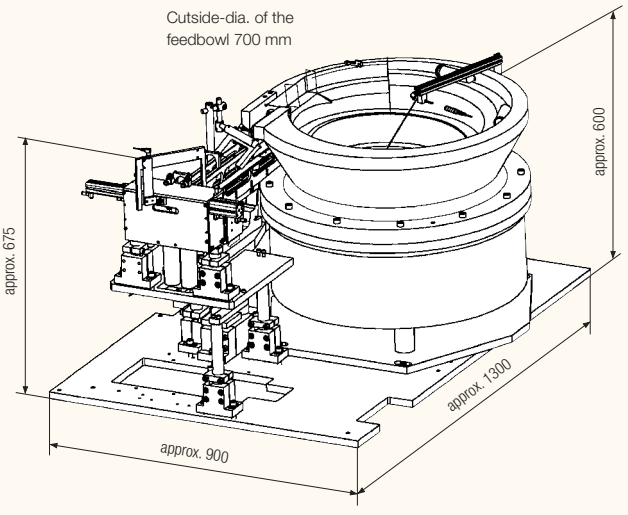
Type 0811 P/1.5

Vibratory Bowl Feeder
with Belt-Driven Hopper



Type 0511-xx / 6.0

Vibratory Bowl Feeder



Type 0511-xx / 12.0

NOMENCLATURE OF SCREWFEEDING MACHINES

i. E. 0 6 1 1 - 3 - P / 0,15 V - 1

- Voltage: 1 = 230V / 50Hz
  2 = 115V / 60Hz
  3 = 230V / 60Hz
- Pre-Separation (→ page 6 screw-separator)
- Filling Capacity - Vibratory Feeders: 0.05 / 0.15 / 0.75 / 1.2 / 2.5 / 6 / 12 liter (3.5 liters available if required)
  - Sword Feeders: 0.15 / 1.5 liters
- Control (→ page 7 Control)
- Amount of Distributors
- Amount of Separator Outlets
- Amount of Bowl Outlets
  Vibratory Feeders: 1 - Single Spiral
  2 - Double Spiral
  Sword Feeders: 1
- Design Series Vibratory Feeders: Code 5 / 6
  Sword Feeders: Code 8
- Code for stationary version

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