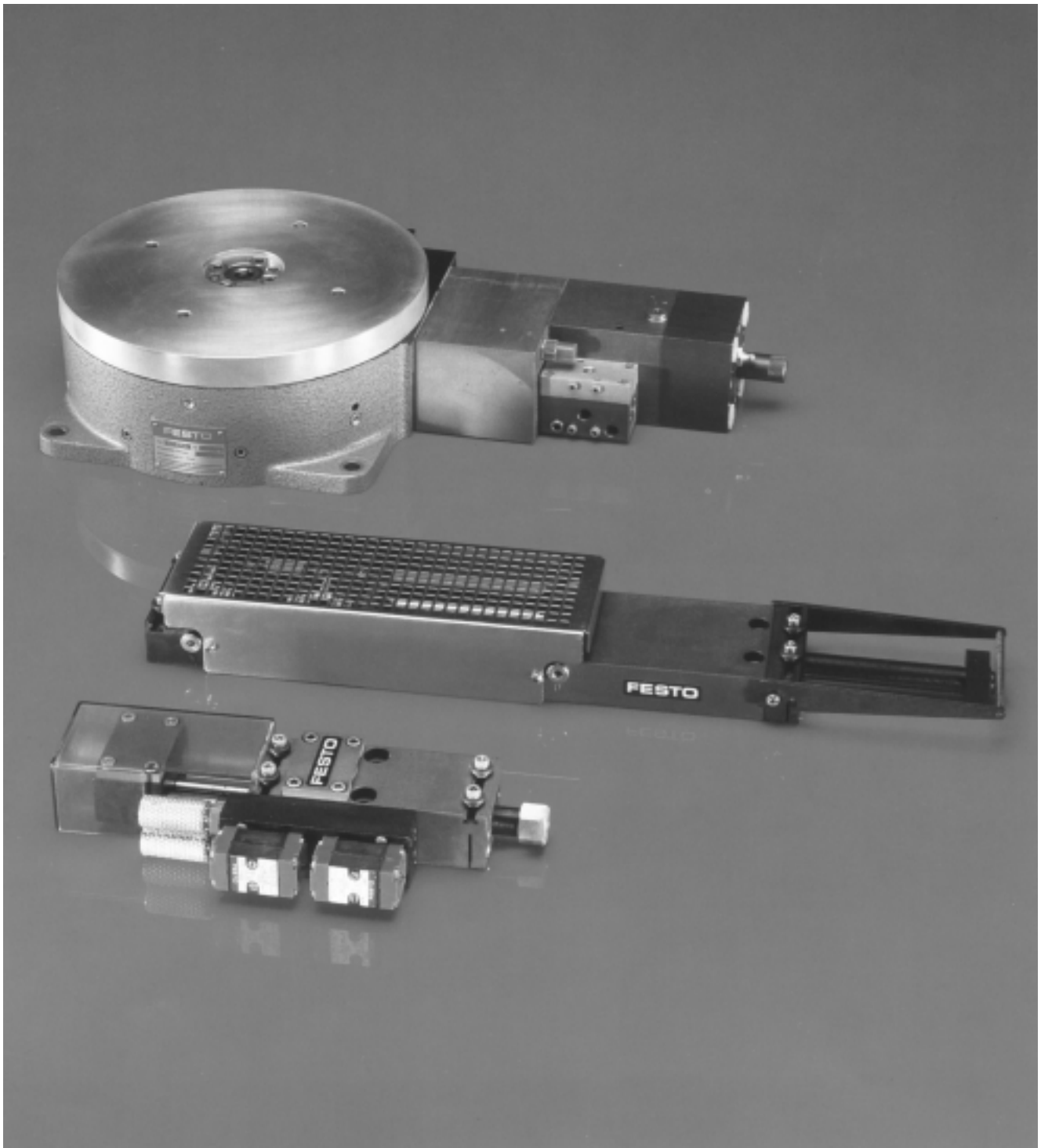


# Pneumatic Feed Units and Rotary Indexing Tables



**FESTO**

# Pneumatic Feed Units, Rotary Indexing Tables

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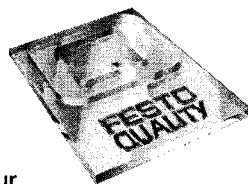
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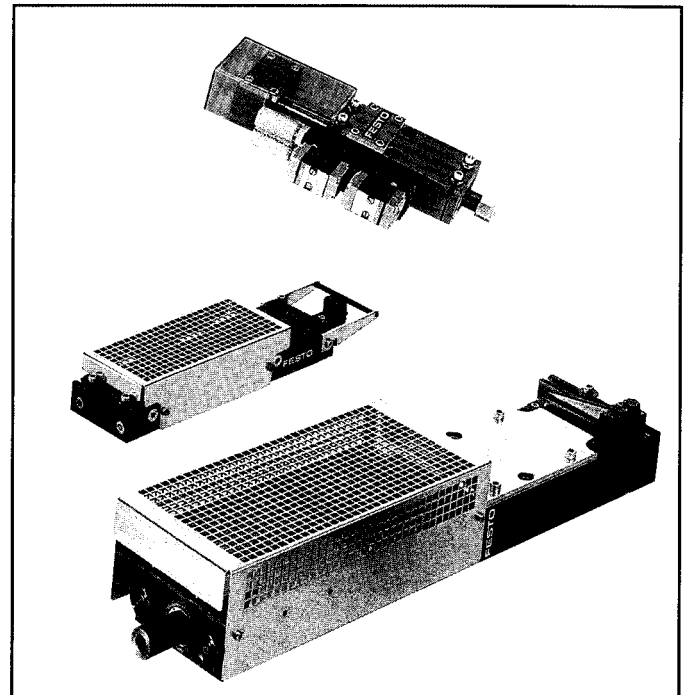
### Festo Pneumatic Feed Units and Indexing Tables Offer Field-Proven Performance and Dependability



Now you can easily incorporate strip-feed and or indexing functions into your stand-alone machine or integrate them into larger automated production applications using Festo pneumatic feed units and rotary indexing tables.

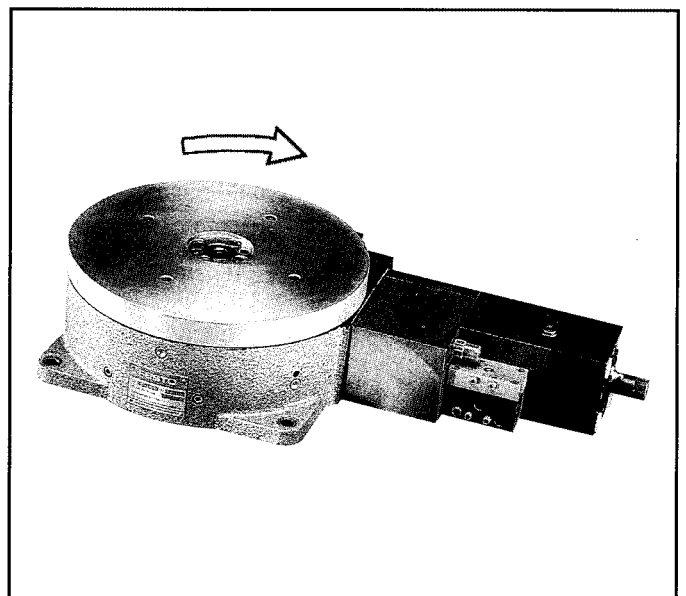
These heavy-duty, self-contained units are industry-proven in a wide variety of applications, providing long-life, dependable operation in harsh industrial environments.

Festo also offers a complete range of pneumatic components and accessories, providing you with a single-source resource for your automation needs.



### Pneumatic Feed Units

Festo pneumatic strip feed units offer a compact, space-saving solution for push or pull feeding of strip materials, belts, profiles etc. made of metal, plastic, wood, textiles etc. They are available in four sizes, for feeding strip widths up to 25 mm, 50 mm, 100 mm, and 200 mm respectively.



### Pneumatic Rotary Indexing Tables

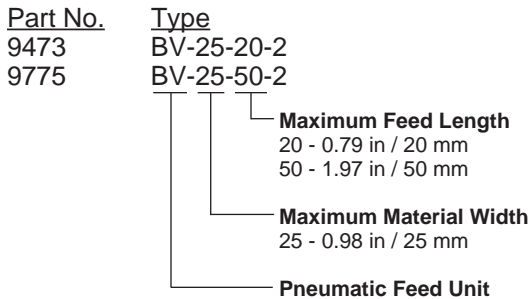
Festo pneumatic rotary indexing tables, feature a heavy-duty 270 mm (10-1/2") turntable, integral speed control, and hydraulic cushioning for smooth, accurate indexing. They are available with either 4, 6, 8, 12, or 24 standard indexing stations.

Festo order numbers consist of a part number and a type. When ordering feed units, also specify the desired valve(s) and accessories for the type of actuation desired, as described below.

### Type Key:

### Pneumatic Feed Units, Type BV-...

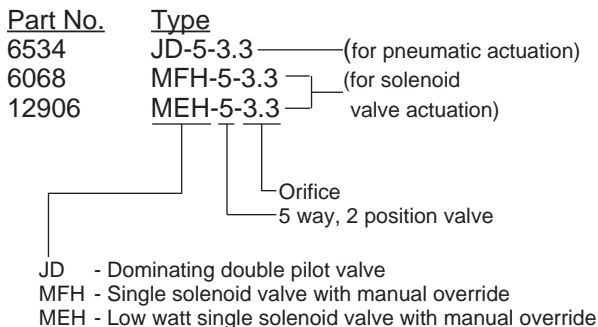
Feed units for material widths up to 0.98 in / 25 mm



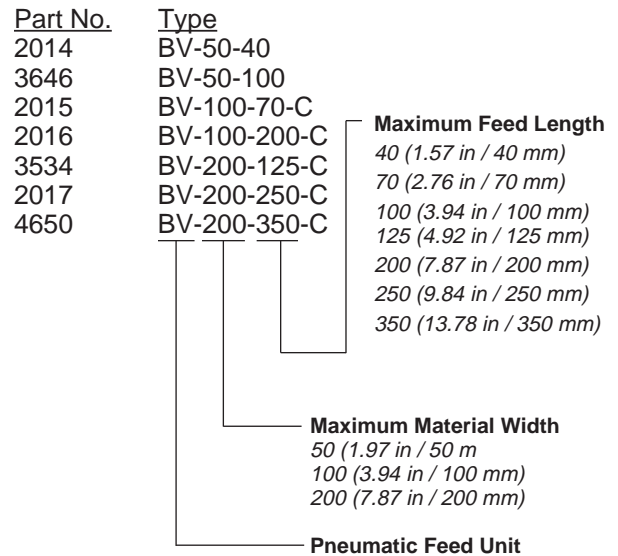
### Valves

**For pneumatic actuation**, order 2 dominating double pilot valves, type JD-5-3.3.

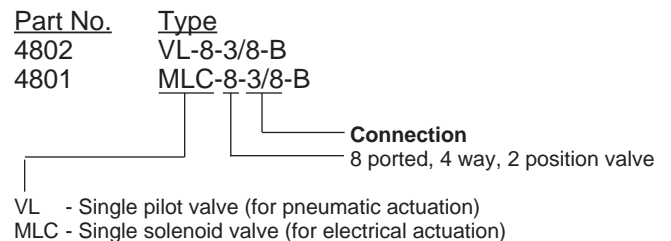
**For electrical actuation**, order 1 dominating double pilot valve, type JD-5-3.3, and 1 single solenoid valve, either low-watt MEH-5-3.3 (coil included), or MFH-5-3.3 (order coil separately).



Feed units for material widths up to 7.87 in / 200 mm



### Valves



**Valve Coils:** The part number for Type MEH includes a low watt solenoid E-coil. For Type MFH and MLC valves, the solenoid F-coil/C-coil must be ordered separately. The F and C-coils are available in a wide range of voltages.

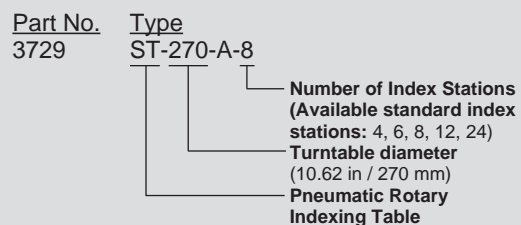
**Accessories:** Solenoid sockets, cables and accessories must be ordered separately, except as noted.

#### Ordering Example, Pneumatic Feed Unit:

To order a pneumatic feed unit with a feed length between 0-4.92 in / 125 mm, a maximum material width of 7.87 in / 200 mm, electrical actuation with a 110 Volt AC, 60 Hz coil and a socket with LED and 8.2 ft. / 2.5 m cable, then order:

Description	Part No.	Type
Pneumatic Feed Unit	3534	BV-200-125-C
Single Solenoid Valve	4801	MLC-8-3/8-B
110 Volt AC, 60 Hz. Coil	34406	MSW-110-60-OD
Socket with LED and 8.2 ft / 2.5 m Cable	30932	KMC-1-220-2.5-LED

#### Ordering Example: Pneumatic Rotary Indexing Table



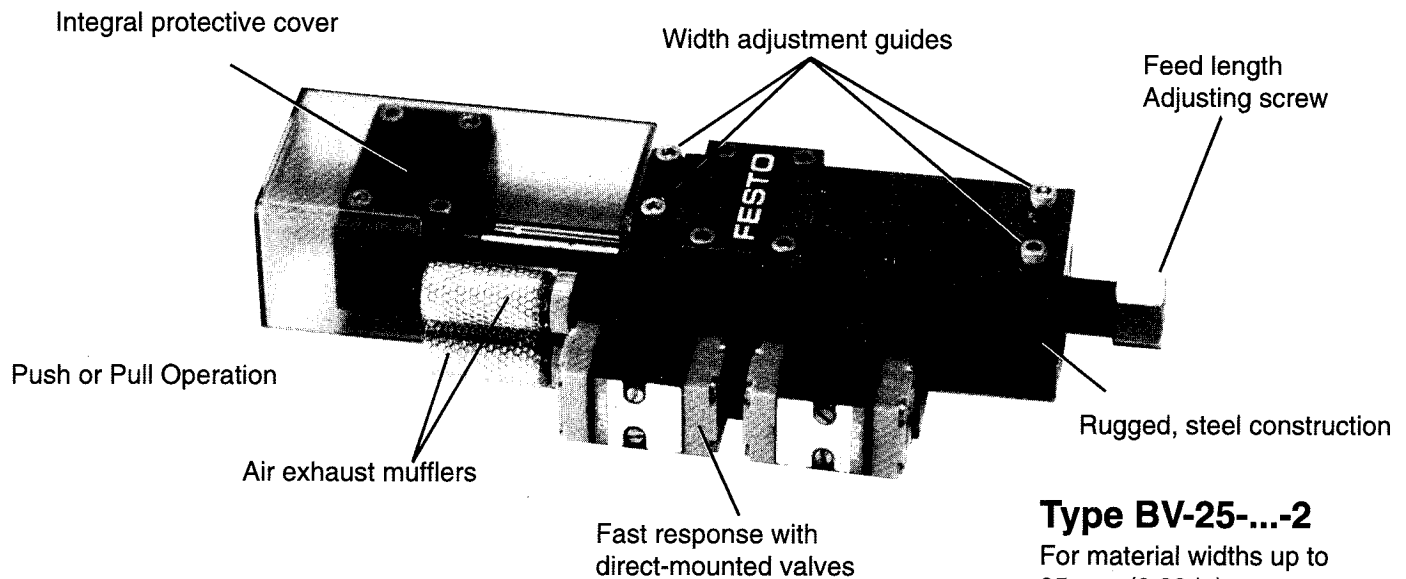
**Note:** Special single index stations available upon special order. Contact Festo.

# Pneumatic Feed Units, Type BV

## Features and Benefits

**Festo Pneumatic Feed Units are compact, space-saving components for feeding belts, strips, rods, profiles and tubing made of metal, plastic, wood, textiles, etc.**

- High cycle rates to 650/min
- Feed forces up to 180 lbf
- Quick, easy to install
- Adjustable cushioning for quiet, vibration-free operation
- Direct pneumatic, electric, or remote actuation
- Easily synchronized to machine speed



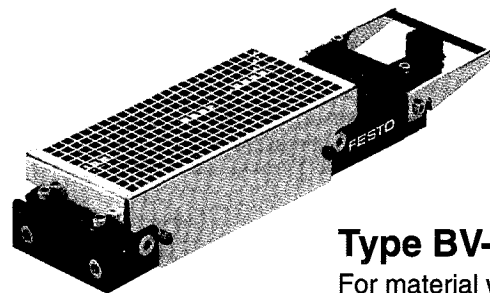
### Type BV-25-...-2

For material widths up to 25 mm (0.89 in)

Festo pneumatic feed units are available in nine sizes, offering feed ranges up to 350 mm and material widths up to 200 mm.

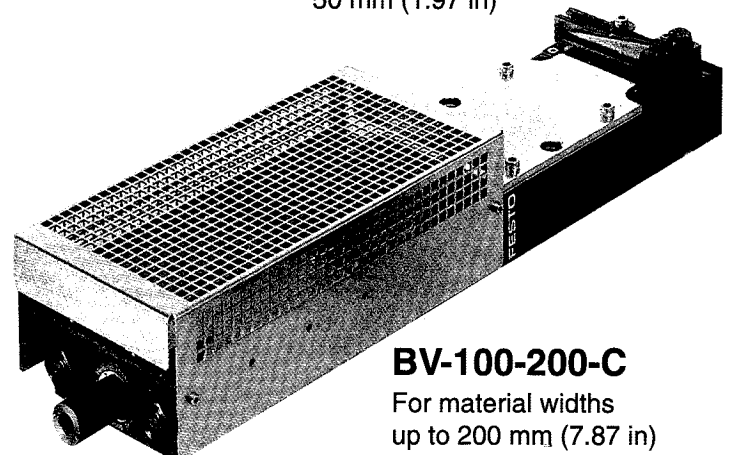
The feed path on the BV-25-20, is infinitely adjustable over the entire stroke; on the BV-25-50 it is infinitely adjustable from 20-50 mm. On Types BV-100-... and BV-200-..., the total stroke is divided into several ranges which are used for coarse setting. Fine setting is then achieved by means of an adjusting screw. The set stroke-length will be accurately retained, even for long periods of time.

On all sizes you have a choice of push or pull operation. The units have an automatic equalization of tension feature so no tension adjustment is necessary. Depending on the application, feed accuracies between 0.02 and 0.05 mm can be obtained.



### Type BV-50-40

For material widths up to 50 mm (1.97 in)



### BV-100-200-C

For material widths up to 200 mm (7.87 in)

## Festo Pneumatic Feed Units, Industry-proven Performance

Festo pneumatic feed units have been applied in a wide variety of applications in virtually every industry around the world to feed strip material in automated processing stations.

Typical applications include:

- Cutting
- Stamping
- Drilling
- Labelling
- Forming
- Riveting
- Molding
- Pressing
- Punching, etc.

## Quick Precision Feeding and Long Lasting Durability

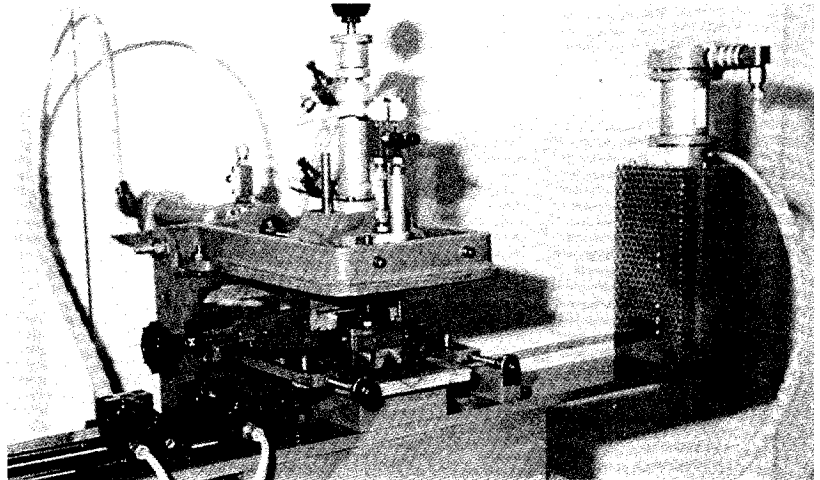
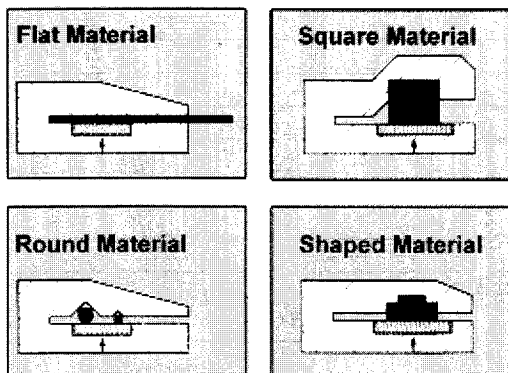
Festo Pneumatic Feed Units are designed for precise feeding and durability and are able to withstand the most extreme conditions.

The guide rods and bearings are hardened and ground, the cylinder bores are honed and the housing is anodized. In addition, all parts which come into contact with the material to be conveyed are hardened or hard-chrome plated.

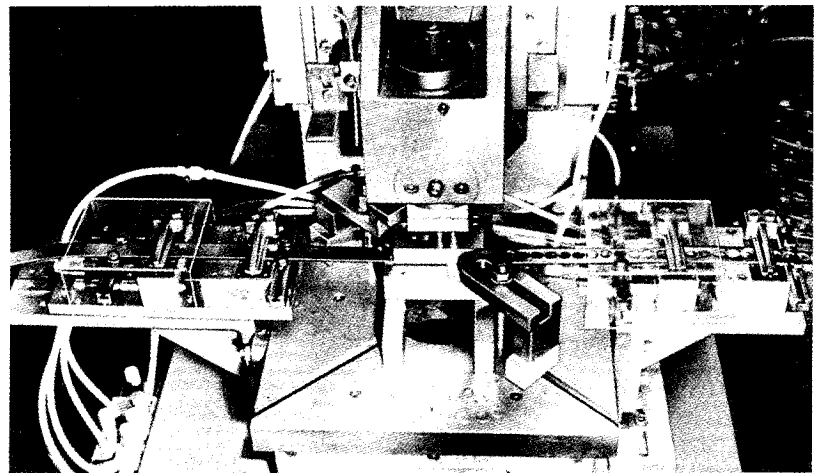
## Festo Feed Units Can Handle A Wide Range of Materials:

- Adjustable clamping pressure for sensitive or soft material
- Open collet for material to be fed from the side (BV-50 and above)
- Transporting material which is wider than the width of the unit
- Chucks that are shaped appropriately are able to feed round material, tubing and profiles

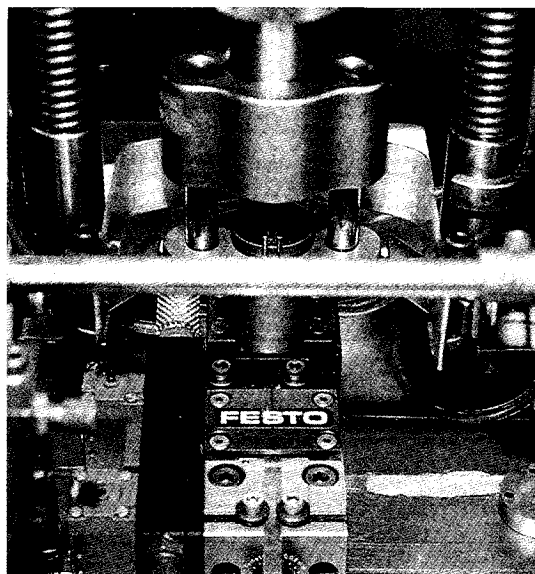
## Materials suitable for use with Festo Pneumatic Feed Units



**Silk Screen Printing Press:** A plastic strip is fed by a feed unit. The strip is imprinted and then cut to length by a pneumatic cylinder.



**Feed Units on an Eccentric Press:** Spacers are punched out of steel strip.



**Compact Design** suitable for both pushing and pulling applications

# Pneumatic Feed Units, Type BV-25-...

## Specifications

### Pneumatic Feed Units

With Valve Manifold, Silencers and Safety Guard

Type BV-25-20-2

Type BV-25-50-2

FESTO feed units are compact, space-saving devices for feeding strip, flat, rod, profiled bar and tube stocks of metal, plastic, wood, textiles, and other material.

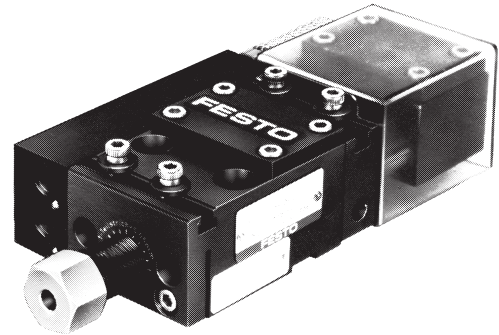
The feed units can be used in either "push" or "pull" mode. Whichever way they are installed, they will achieve full functional efficiency. Rate of feed, feed length, clamping force and thrust are adjustable.

The feed rate can also be controlled by inserting an exhaust flow control sandwich plate. Type GRO-3.3 x 2-ZPL, between the valves and the feed unit. The feed force is dependent on the supply pressure.

The rate of feed can be set to synchronize with the operating cycle of the machine with which the feed unit is used. Adjustable built-in cushioning at both ends of the feed cylinder eliminates slamming and noise.

Parts which come in contact with transported material are surface-hardened, including polished guide rods and guide bearings.

The clamping grippers are serrated steel on standard models.



All clamping and feed movements are controlled by valves (order separately) which can be mounted directly on the feed unit manifold, permitting easy valve interchange. The feed direction is determined by the gasket located between the manifold and the feed unit housing. Factory assembled units "pull" (→ A) the material away from the stationary clamp. To change to the "push" (→ B) mode, moving the material toward the stationary clamp, the manifold gasket is simply reversed.

The feed length of Type BV-25-20 is adjustable from 0 to 0.79 in / 0 to 20 mm, Type BV-25-50 is adjustable from 0.79 to 1.97 in / 20 to 50 mm.

#### Accessories:

##### Pneumatic actuation

2 dominating double pilot valves, Type JD-5-3.3  
Technical data, see page 921.

##### Electrical actuation

1 single solenoid valve, spring return, with manual override, Type MFH-5-3.3  
1 dominating double pilot valve Type JD-5-3.3  
Technical data, see page 922.

Flow control plate, Type GRO-3.3 x 2-ZPL 13763, with integral exhaust flow controls can be mounted between the control valves and plate to control feed speed. The push and pull speed can be adjusted independently up to approximately 3 ft / 1 m per minute.

Order Number	Feed Unit	9473 BV-25-20-2	9775 BV-25-50-2
	Pneumatic Valve	6534 JD-5-3.3	
	Solenoid Valve	6068 MFH-5-3.3	
Medium	Compressed air (filtered, lubricated)		
Mounting	2 thru-holes in housing		
Connection	G1/8 ISO		
Pressure Range*	60 to 120 psi / 4 to 8 bar		
Force at 90 psi / 6 bar	40 lbf / 180 N		
Return force at 90 psi / 6 bar	31 lbf / 140 N		
Clamping Force at 90 psi / 6 bar	77 lbf / 350 N		
Feed Length	0 to 0.79 in / 0 to 20 mm	0.79 to 1.97 in / 20 to 50 mm	
Feed Accuracy	±0.0032 in / ±0.08 mm		
Max. Material Width	0.98 in / 25 mm		
Max. Material Thickness	0.06 in / 1.5 mm		
Materials	Housing and clamping jaws; steel. Seals: Buna N		
Weight	3.9968 lb / 1.800 kg	4.850 lb / 2.200 kg	

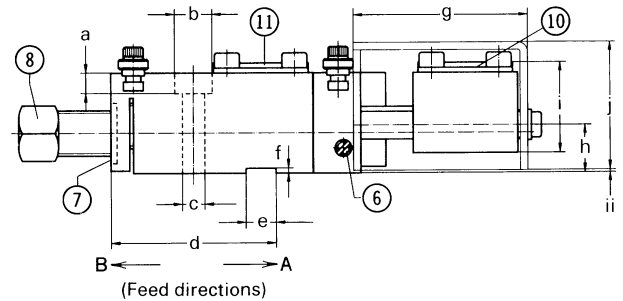
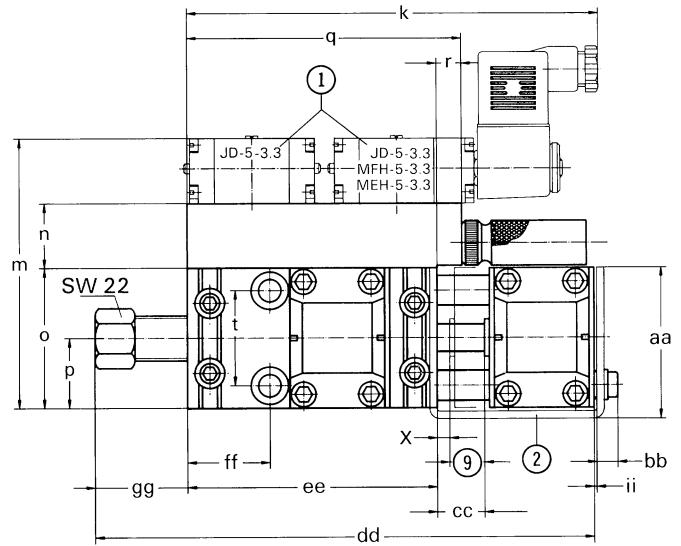
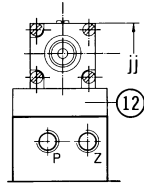
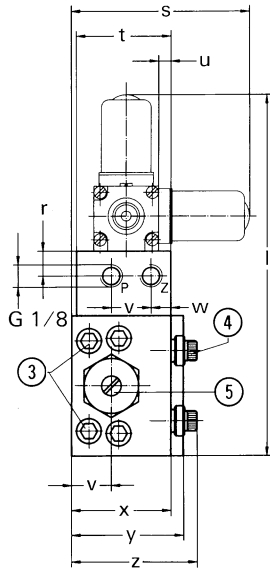
\* 32 to 140°F / 0 to 60°C

# Pneumatic Feed Units, Type BV-25-...

## Dimensions, Performance Characteristics

# FESTO

Type BV-25-20  
 BV-25-50  
 (dimensions  
 in parentheses)



X = Feed Length setting  
 in retracted position  
 P = Supply  
 Z = Pilot line

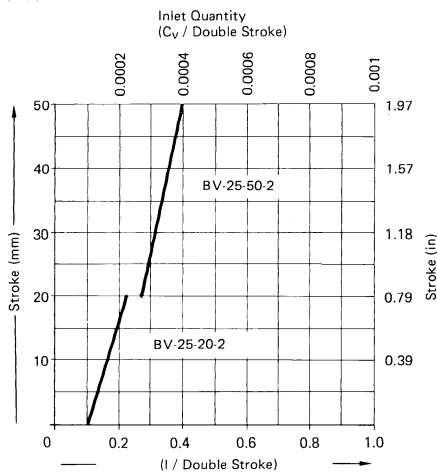
### Dimensions

a	0.32 in / 8.2 mm	s	2.81 in / 71.5 mm
b	diameter	t	1.50 in / 38 mm
	0.59 in / 15 mm	u	0.20 in / 5 mm
c	diameter	v	0.63 in / 16 mm
	0.35 in / 9 mm	w	0.31 in / 8 mm
d	2.60 (4.17) in /	x	1.57 in / 40 mm
	66 (106) mm	y	1.77 in / 45 mm
e	0.47 in / 12 mm (Hg)	z	1.99 in / 50.5 mm
f	0.08 in / 2 mm	aa	2.38 (2.52) in / 60.5 (64) mm
g	2.74 (4.72) in /	bb	0.33 in / 8.5 mm
	69.5 (120) mm	cc	0.83 (2.83) in / 21 (72) mm
h	0.75 in / 19 mm	dd	max 7.87 (11.81) in / 200 (300) mm
i	1.46 in / 37 mm		min 7.09 (9.84) in / 180 (250) mm
j	2.00 in / 51 mm	ee	3.94 (5.51) in / 100 (140) mm
k	6.30 in / 160 mm	ff	1.30 (2.87) in / 33 (73) mm
l	5.69 in / 144.5 mm	gg	max 1.46 in / 37 mm
m	4.25 in / 108 mm		min 0.67 in / 17 mm
n	1.02 in / 26 mm		(max 1.85 in / 47 mm)
o	2.20 in / 56 mm		(min 0.67 in / 17 mm)
p	1.10 in / 28 mm	ii	0.04 in / 1 mm
q	4.33 in / 110 mm	jj	4.69 in / 119.2 mm
r	0.39 in / 10 mm	sw	= wrench size (mm)

Scale drawing for clamp attachment, upon request.

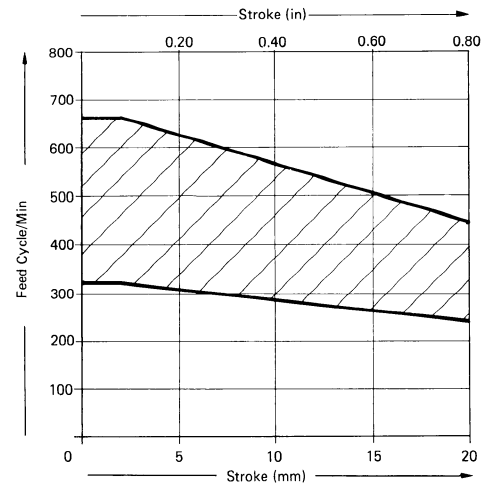
- ① Valves for pneumatic and electrical control
- ② Moveable clamp housing
- ③ Clamp screw for feed length adjustment shaft
- ④ Guide roller
- ⑤ Regulating screw for cushioning in direction A
- ⑥ Regulating screw for cushioning in direction B
- ⑦ Scale for feed length adjustment (1 revolution ≈ 0.039 in / 1 mm)
- ⑧ Feed length adjustment spindle
- ⑨ Set feed length for BV-25-20 = 0.83-X in / 21-X mm  
 BV-25-50 = 2.83-X in / 72-X mm
- ⑩ Feed clamp
- ⑪ Holding clamp
- ⑫ Optional flow control plate, Type GRO-3.3 X 2-ZPL

### Air Consumption at 90 psi / 6 bar



Standard values for cycle rates  
 at 90 psi / 6 bar operating  
 and control pressure

Feed cycles/min depend on several factors, e.g., feed length, load and type of control. The diagram shows the range of various types of controls and the 1:1 pulse-pause ratio. Higher feeding cycles can be attained by optimizing the pulse-pause ratio. (Signal advancing.)

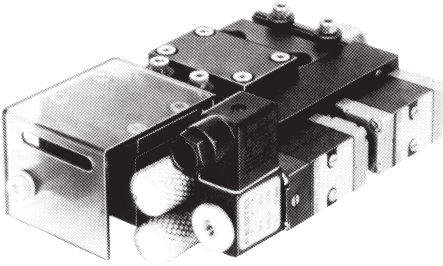
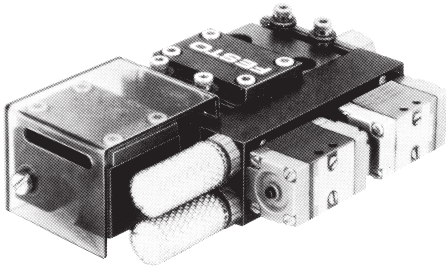


# Pneumatic Feed Units, Type BV-25-...

## Valve Options

### Summary of Products

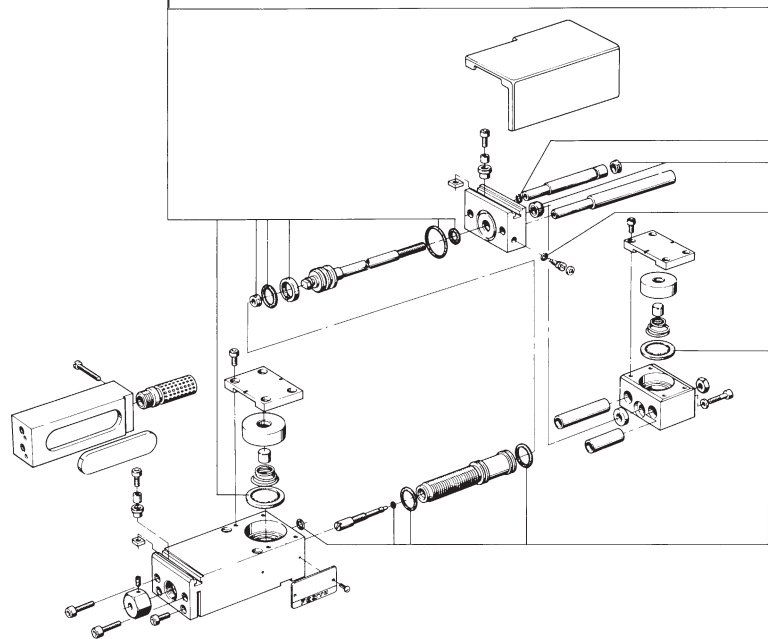
Type BV-25-...



Without intermediate exhaust			
	Feed and return	Clamping grippers	
Pneumatic Actuation	6534 JD-5-3.3		6034 JD-5-3.3
Electrical Actuation	6534 JD-5-3.3		6068 MFH-5-3.3
Feed unit	Stroke 0 to 0.79 in / 0 to 20 mm 9473 BV-25-20-2		
	0.79 to 1.97 in / 20 to 50 mm 9775 BV-25-50-2		
For remote valve mounting			
Feed unit	Stroke 0 to 0.79 in / 0 to 20 mm 8797 BV-25-20-F		
Valve plate order no. 103651	0.79 to 1.97 in / 20 to 50 mm 8798 BV-25-50-F		

### Wear Parts Kit

For Type	BV-25-...-2, BV-25-...-3
Part Number	104115

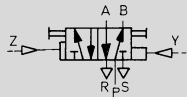




### Dominating Double Pilot Valve

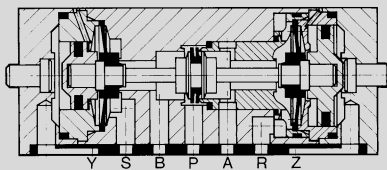
with Manual Override  
without Sub-base

Type JD-5-3.3

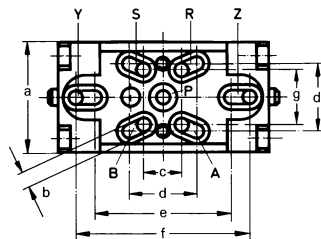
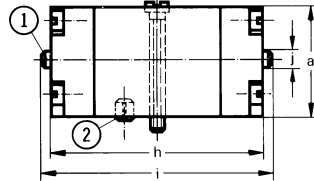
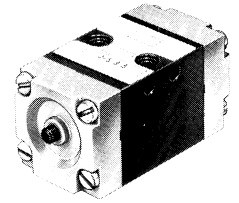


The valve is shifted by alternating pilot pressures at ports Z and Y. After the signal is removed, the valve maintains its shifted position until a counter-signal is received. If pilot pressures are equal, the Z signal dominates and the valve shifts in that direction.

Example: Type JD-5-3.3



1 (P) = Supply    3, 5 (R, S) = Exhaust  
2, 4 (A, B) = Outlet    12, 14 (Y, Z) = Pilot

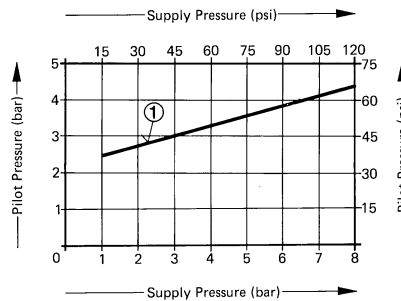


- ① Manual Override
- ② Positioning Lug

#### Dimensions

a	1.02 in / 26 mm	f	1.62 in / 41 mm
b	0.14 in / 3.5 mm	g	0.51 in / 13 mm
c	0.35 in / 9 mm	h	1.97 in / 50 mm
d	0.63 in / 16 mm	i	2.17 in / 55 mm
e	1.26 in / 32 mm	j	0.16 in / 4 mm

#### Minimum Pilot Pressure versus Supply Pressure



① Type JD-5-3.3

#### Wear Parts Kit

For Type	JD-5-3.3
Order No.	104 199

Order Number	6534 JD-5-3.3
Medium	Compressed air (filtered, lubricated or unlubricated)
Mounting	Sub-base mounted
Orifice Size	0.12 in / 3.3 mm
C <sub>v</sub> Factor (P→A)	0.13 C <sub>v</sub> / 130 l/min
Supply Pressure Range*	15-120 psi / 1-8 bar
Pilot Pressure Range	See graph
Response Time at 90 psi / 6 bar	Z: 9 ms, Y: 25 ms
Design	Seat valve, with spring return
Materials	Housing: Al, blue anodized, plastic. Seals: Buna N
Weight	0.154 lb / 0.070 kg

\* 32 to 140°F / 0 to 60°C

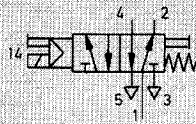
# Solenoid-Actuated Valves for BV-25

5/2 Single Solenoid Pilot Valve, Type MFH-5-3.3

## Single Solenoid Valve

Mechanical Spring Return and Manual Override with Socket, without Sub-base

Type MFH-5-3.3



Accessories:

Order F-solenoid, socket and accessories separately (pages 923-924)

Socket with cable

Order Number

Cable length 8.3 ft / 2.5 m

30935 KMF-1-24-2.5-LED

30936 KMF-1-220-2.5

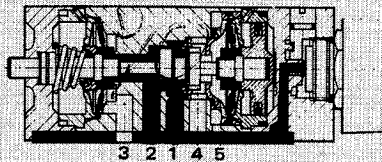
Cable length 16.5 ft / 5 m

30937 KMF-1-24-5-LED

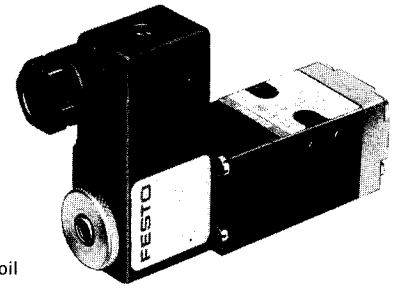
30938 KMF-1-220-5

For LED inserts and gaskets, see page 925.

When the solenoid is energized, the valve shifts and remains shifted until the solenoid is deenergized.

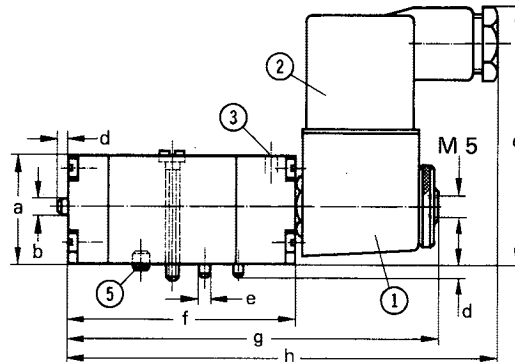


- 1 (P) = Supply Port  
 4, 2 (A, B) = Working or Outlet Port  
 5, 3 (R, S) = Exhaust Port



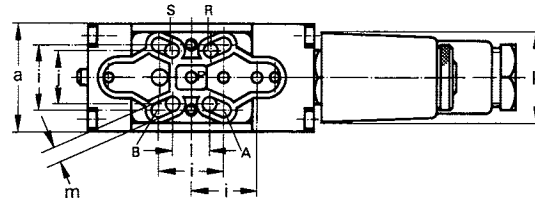
MFH-5-3.3  
 (Shown with coil and socket)

Permissible torque for solenoid mounting nuts = 13 lb in / 150 Ncm.



### Dimensions

- a 1.02 in / 26 mm
- b 0.16 in / 4 mm
- c 2.46 in / 62.5 mm
- d 0.10 in / 2.5 mm
- e 0.11 in / 2.6 mm
- f 2.20 in / 56 mm
- g 3.54 in / 90 mm
- h 4.18 in / 106 mm
- i 0.63 in / 16 mm
- j 0.51 in / 13 mm
- k 0.87 in / 22 mm
- l 0.35 in / 9 mm
- m 0.14 in / 3.5 mm



- ① Solenoid coil can be rotated
- ② Plug can be turned 180°
- ③ Manual override
- ④ Locating pin

Order Number	6068 MFH-5-3.3	
Medium	Compressed air (filtered, lubricated or unlubricated)	
Mounting	On sub-base	
Connection	Appropriate to sub-base used	
Orifice Size	0.13 in / 3.3 mm	
C <sub>v</sub> Factor (1 → 4)	0.13 C <sub>v</sub> / 130 l/min	
Pressure Range*	45-120 psi / 3-8 bar	
Response Time at 90 psi / 6 bar	ms	On: 10, Off: 22
Ambient Temperature	29 to 104°F / -5 to +40°C	
Design	Seat valve, piloted, with spring return	
Materials	Housing: Diecast Zn, blue anodized. Seals: Buna N	
Weight	0.419 lb / 0.190 kg	
Direct Current	Standard Voltage	12, 24 V
	Available Voltage	12-220 V
Alternating Current	Standard Voltage	24, 42, 110, 220 V / 50 or 50 and 60 Hz
	Available Voltage	8-240 V / 50 or 60 Hz
Power Consumption	DC	4.5 W
	AC	Holding: 6 VA, Inrush: 7.5 VA
ED Switching Time	100%	
Type of Protection	IP 65 (DIN 40050)	

\*14 to 140°F / -10 to +60°C temperature range of medium