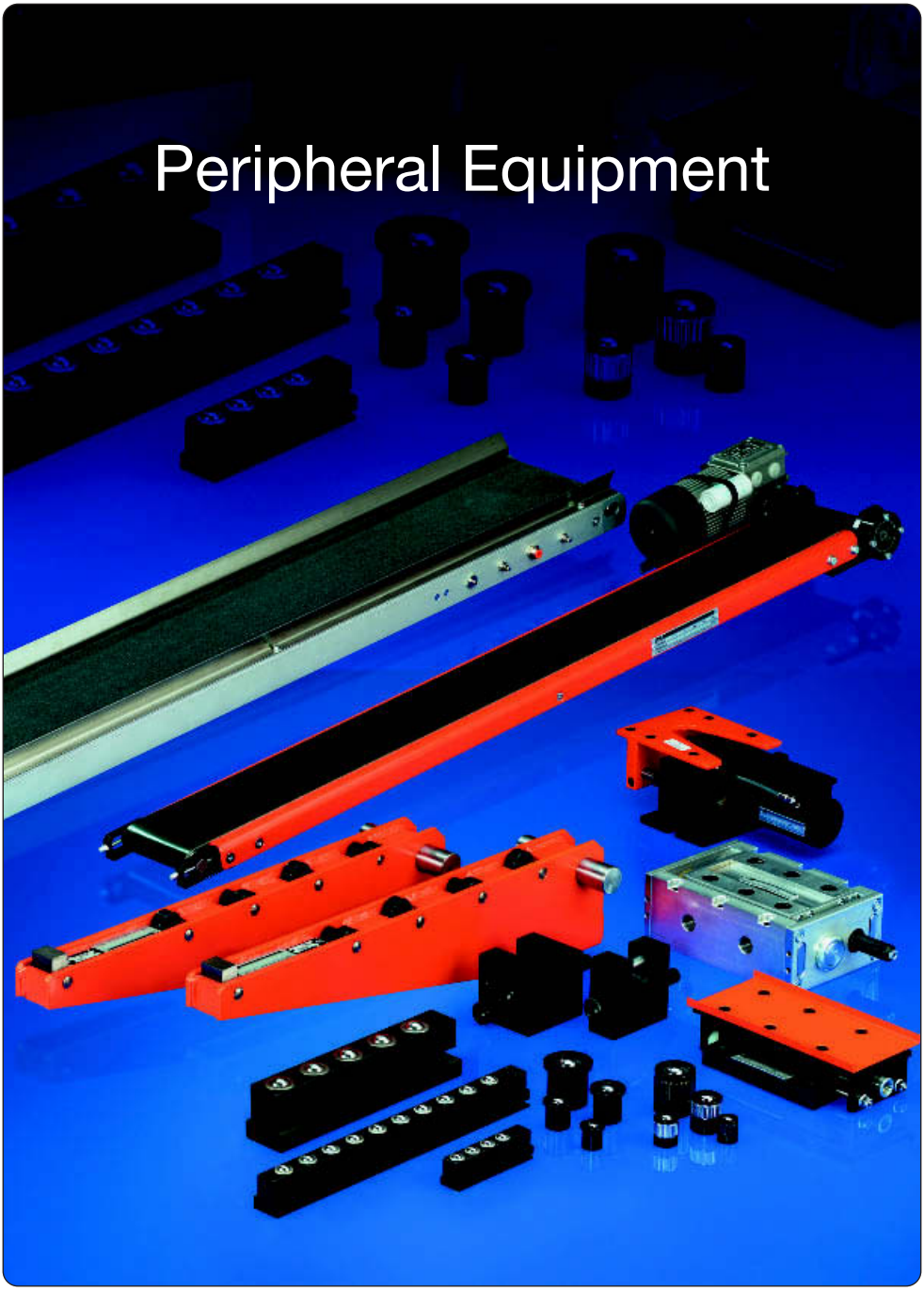
Peripheral Equipment



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Press and Tools Products

Ball Bearing Inserts and Rails

If you need fast and reliable tool changing, you will find that equipping or updating your press with ball bearing inserts and rails is the ideal solution.

With ball bearing inserts and rails you can move or change tools fast, and above all accurately - even if they weigh several tons. In the past this has often been an awkward, inconvenient and sometimes even critical process.

Equipping and retrofitting press tables with ball bearing rails is extremely straightforward as virtually every press table has fixing slots. The ball bearing rails are simply inserted and fixed in these slots.

Ball bearing inserts can be used for press tables which do not have fixing slots. These are fitted in the locating sockets.

The ball bearings of the inserts and rails will move in any direction and project only slightly above the surface of the press table. The result is that only slight force is required for movement on the table. When the tool is clamped in place it sits on the table and the clamping pressure causes the ball bearings to retract into their sockets.

Cantilevered Brackets

Cantilevered brackets give you the room you need for fast and reliable tool changing.

Ball bearing cantilevered bracket slides provide linear movement.

You can move even the heaviest of tools with relatively little force.

Swing brackets are used for fixed mounting on the press table. FIBRO also supply cantilevered brackets for quick mounting on the press table. The brackets are then hooked on to previously installed seatings.

Cantilevered brackets should always be used in pairs.

Conveyor Belts

Our conveyor belts are designed for use in a wide variety of production applications.

There is a belt width and length to suit almost every application.

The conveyor belts are powered by an electric motor, which is electronically regulated to provide belt speeds from 0.02 to 30 metres per minute.

The motor can be mounted horizontally or vertically, on either side of the belt for either direction of movement. Conveyor belts are available with or without profiles across the belt. Conveyor edge rails are also available in a range of designs.

Pneumatic Conveyor Belts

FIBRO pneumatic conveyor belts are ideal for conveying both large and small products and are used in many industries and sectors.

The conveyor is robust in design and the standard versions employ an aluminium profile.

There are no awkward contours on the top and bottom, so the conveyor is especially useful in applications where space is tight.

The belt runs within the profile on the underside, so the conveyor can be mounted directly on a flat surface.

A simple installation process allows the conveyor to be driven directly by the machine's compressed air supply and work automatically in time with it.

A control system is available to enable the conveyor to run at a different rate (see Control).

Our conveyors work with belts to a wide range of specifications, to suit the specific application.

Pneumatic conveyors

This pneumatic conveyor is unique and is patented. It was

designed to provide an effective and affordable solution to the problems of conveying parts and disposing of waste.

This beltless system conveys stampings and waste from the tool area by vibration alone.

2.17432.2002-1 e

2-17437-2002-1 ◦

Contents

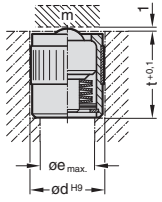
2.13567.2001.2 e

Contents

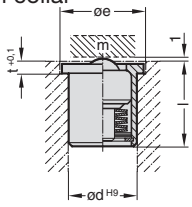
2 13568 20012 0

2198.30./.31. Ball Bearing Inserts
2198.40. Ball Bearing Rails

2198.30.
Ball Bearing Inserts without collar



2198.31.
Ball Bearing Inserts with collar



2198.30.

d	Load capacity m [daN]	e	t
20	20	14	24
24	40	17	29
30	60	22	35
40	100	29,5	45

Ordering Code (example):

Ball Bearing Insert without collar = 2198.30.		
d = 20 mm	=	020
Order No		= 2198.30.020

2198.31.

d	Load capacity m [daN]	e	t	l
20	20	25	3,5	24
24	40	30	4	29
28	60	35	5	35
40	100	50	6	45

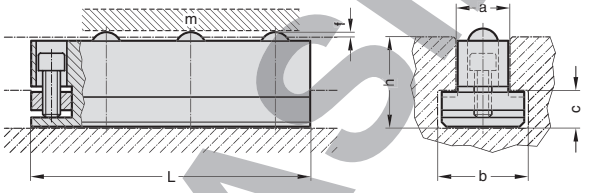
Ordering Code (example):

Ball Bearing Insert with collar = 2198.31.		
d = 24 mm	=	024
Order No		= 2198.31.024

Note:

The supporting ball bearings raise the object to be moved (tool) away from the table surface and replace the surface friction with rolling friction. This significantly reduces the force required to move the tool.

2198.40. Ball Bearing Rails



2198.40.

a	Load capacity m [daN]	L	Kug.	f	b	c	h
18	60	80	3	2	30	12	30
	80	100	4				
	100	120	5				
	120	140	6				
	160	180	8				
	200	220	10				

a	Load capacity m [daN]	L	Kug.	f	b	c	h
22	120	120	3	3	37	16	38
	160	150	4				
	200	180	5				
	240	210	6				
	320	270	8				
	400	330	10				

a	Load capacity m [daN]	L	Kug.	f	b	c	h
28	180	150	3	3	46	20	48
	240	195	4				
	300	240	5				
	360	285	6				
	480	375	8				
	600	465	10				

a	Load capacity m [daN]	L	Kug.	f	b	c	h
36	300	150	3	3	56	25	61
	400	195	4				
	500	240	5				
	600	285	6				
	800	375	8				
	1000	465	10				

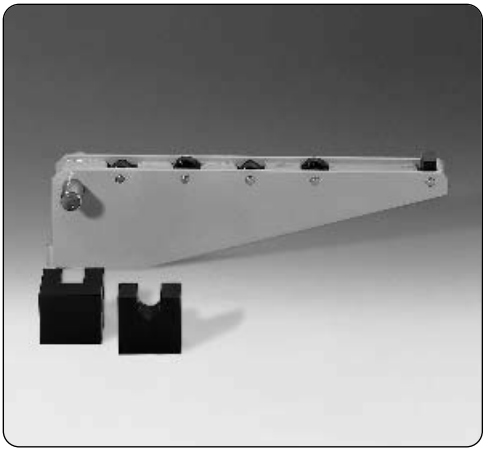
Note:

The ball bearing rails are pushed into the DIN 650 T-shaped grooves in the press table and are fixed in place by the clamping piece. The size and number of the ball bearing rails is determined by the size of the T-shaped groove and the load-bearing capacity required. Once the tool is clamped in place, it lies on the press table and the clamping pressure presses the ball bearings into the holes.

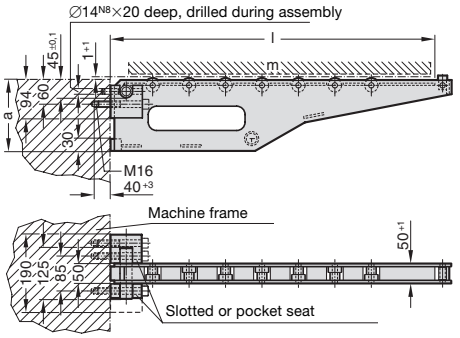
Ordering Code (example):

Ball Bearing Rail	= 2198.40.	
for DIN 650 T-shaped groove	=	18.
L = 80 mm	=	080
Order No	= 2198.40.18.080	

2.12611.9-1.0



2198.10. Cantilevered Brackets with fixed stop
2198.11. with tilting stop



Note:

Projecting tool guides as an aid for tool changing in presses.

FIBRO's Cantilevered Brackets are always used in pairs. For reasons of guide precision the load must not be extended by increasing the number of cantilevered brackets. While attaching the cantilevered brackets to the front of the bedplate slab ensure sufficient mounting height.

The tool guides are fitted with rollers to make tool insertion into the plunger area easy.

The cantilevered brackets are fitted with rigid or retractable stops at each end to avoid the tool being pushed over the ends of the cantilevered arms and dropping to the floor.

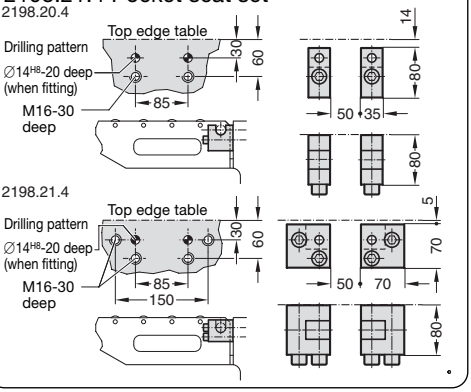
It is only for immediate use that FIBRO's Cantilevered Brackets are hooked on to installed slotted seats or pocket seats. This mounting technique enables the cantilevered brackets to be used on different presses.

Cantilevered brackets supplied without slotted or pocket seat sets, without screws.

Slotted and pocket seat sets supplied including pins and screws for 2 cantilevered brackets.

The technical performance data assume use of 2198.20.4/ 2198.21.4 seats.

2198.20.4 Slotted seat set
2198.21.4 Pocket seat set



2198.10./.2198.11. Cantilevered Brackets

Order No	Load (pairs) in daN	l	a
2198. ¦ ¦ .0500.0500	500	500	120
0800		800	120
1000		1000	150
2198. ¦ ¦ .1000.0500	1000	500	150
0800		800	180
1000		1000	250
2198. ¦ ¦ .2000.0500	2000	500	175
0800		800	250
1000		1000	300
2198. ¦ ¦ .3000.0500	3000	500	250
0800		800	375
1000		1000	450

Ordering Code (example):

Cantilevered Bracket (one piece)	= 2198.	Cantilevered Bracket (one piece)	= 2198.
with fixed stop	= 10.	with tilting stop	= 11.
load = 3000 daN (pairs)	= 3000.	load = 1000 daN (pairs)	= 1000.
l = 800 mm	= 0800	l = 800 mm	= 0800
Order No	= 2198.10.3000.0800	Order No	= 2198.11.1000.0800

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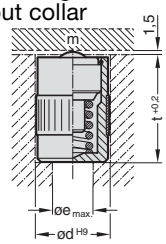
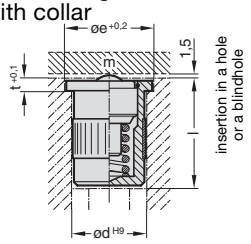
2198.32./.33. Ball Bearing Inserts
2198.42. Ball Bearing Rails

2198.32.
Ball Bearing Inserts without collar



2198.33.
Ball Bearing Inserts with collar



2198.32.

d	Load capacity m [daN]	e	t
20	25	10	30
24	40	14	38
30	63	20	44
40	100	30	53

Ordering Code (example):

Ball Bearing Insert without collar	= 2198.32.
d = 20 mm	= 020
Order No	= 2198.32.020

2198.33.

d	Load capacity m [daN]	e	t	l
20	25	25	3,5	31
24	40	30	4	39
30	63	35	5	45
40	100	50	6	54

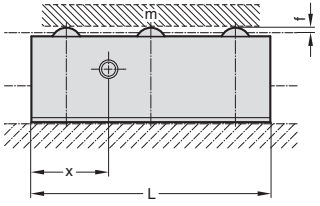
Ordering Code (example):

Ball Bearing Insert with collar	= 2198.33.
d = 24 mm	= 024
Order No	= 2198.33.024

Note:

The supporting ball bearings raise the object to be moved (tool) away from the table surface and replace the surface friction with rolling friction. This significantly reduces the force required to move the tool.

2198.42. Ball Bearing Rails



* T-shaped grooves are not absolutely necessary.

2198.42.

a	Load capacity m [daN]	L	Ball	f	b*	c*	h	x	y
18	75	105	3	1,5	30	12	30	35	14,5
	100	140	4						
	125	175	5						
	150	210	6						
	200	280	8						
	250	350	10						

a	Load capacity m [daN]	L	Ball	f	b*	c*	h	x	y
28	190	135	3	1,5	46	20	48	45	19
	250	180	4						
	320	225	5						
	380	270	6						
	500	360	8						
	630	450	10						

a	Load capacity m [daN]	L	Ball	f	b*	c*	h	x	y
22	120	120	3	1,5	37	16	38	40	14,5
	160	160	4						
	200	200	5						
	240	240	6						
	320	320	8						
	400	400	10						

a	Load capacity m [daN]	L	Ball	f	b*	c*	h	x	y
36	300	150	3	1,5	56	25	61	50	24,5
	400	200	4						
	500	250	5						
	600	300	6						
	800	400	8						
	1000	500	10						

Note:

The ball bearing rails are pushed into the DIN 650 T-shaped grooves in the press table and are fixed in place by the clamping piece. The size and number of the ball bearing rails is determined by the size of the T-shaped groove and the load-bearing capacity required. Once the tool is clamped in place, it lies on the press table and the clamping pressure presses the ball bearings into the holes.

Ordering Code (example):

Ball Bearing Rail	= 2198.42.
for DIN 650 T-shaped groove	= 18.
L = 105 mm	= 105
Order No	= 2198.42.18.105

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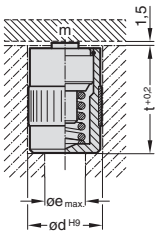
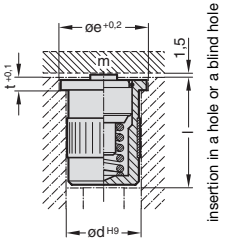
2198.34.

Roller inserts without collar



2198.35.

Roller inserts with collar



Note:

Roller inserts provide double the capacity of ball bearing inserts.

Torsion protection is provided by the customer.

2198.34.

d	Load capacity m [daN]	e	t
20	50	10	30
24	80	14	38
30	125	20	44
40	200	30	53

Ordering Code (example):

Roller inserts without collar	= 2198.34.
d = 20 mm	= 020
Order No	= 2198.34.020

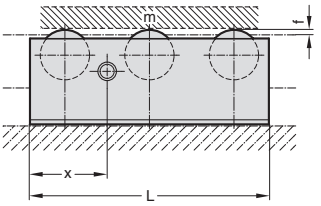
2198.35.

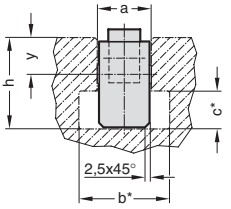
d	Load capacity m [daN]	e	t	l
20	50	25	3,5	31
24	80	30	4	39
30	125	35	5	45
40	200	50	6	54

Ordering Code (example):

Roller inserts with collar	= 2198.35.
d = 24 mm	= 024
Order No	= 2198.35.024

2198.44. Roller rails





* T-shaped grooves are not absolutely necessary.

Note:

Roller rails provide double the capacity of ball bearing rails. They ensure precise linear movement of the tool.

Unlike ball bearing rails, roller rails can be used in tool base plates, i.e. installed upside down.

Ordering Code (example):

Roller rails	= 2198.44.
for T-Nut 18 mm DIN 650	= 18.
L = 105 mm	= 105
Order No	= 2198.44.18.105

2198.44.

a	Load capacity m [daN]	L	Rollers	f	b*	c*	h	x	y
18	150	105	3	1,5	30	12	30	35	14,5
	200	140	4						
	250	175	5						
	300	210	6						
	400	280	8						
	500	350	10						

a	Load capacity m [daN]	L	Rollers	f	b*	c*	h	x	y
28	380	135	3	1,5	46	20	48	45	19
	500	180	4						
	630	225	5						
	750	270	6						
	1000	360	8						
	1250	450	10						

a	Load capacity m [daN]	L	Rollers	f	b*	c*	h	x	y
22	240	120	3	1,5	37	16	38	40	14,5
	320	160	4						
	400	200	5						
	480	240	6						
	640	320	8						
	800	400	10						

a	Load capacity m [daN]	L	Rollers	f	b*	c*	h	x	y
36	600	150	3	1,5	56	25	61	50	24,5
	800	200	4						
	1000	250	5						
	1200	300	6						
	1600	400	8						
	2000	500	10						

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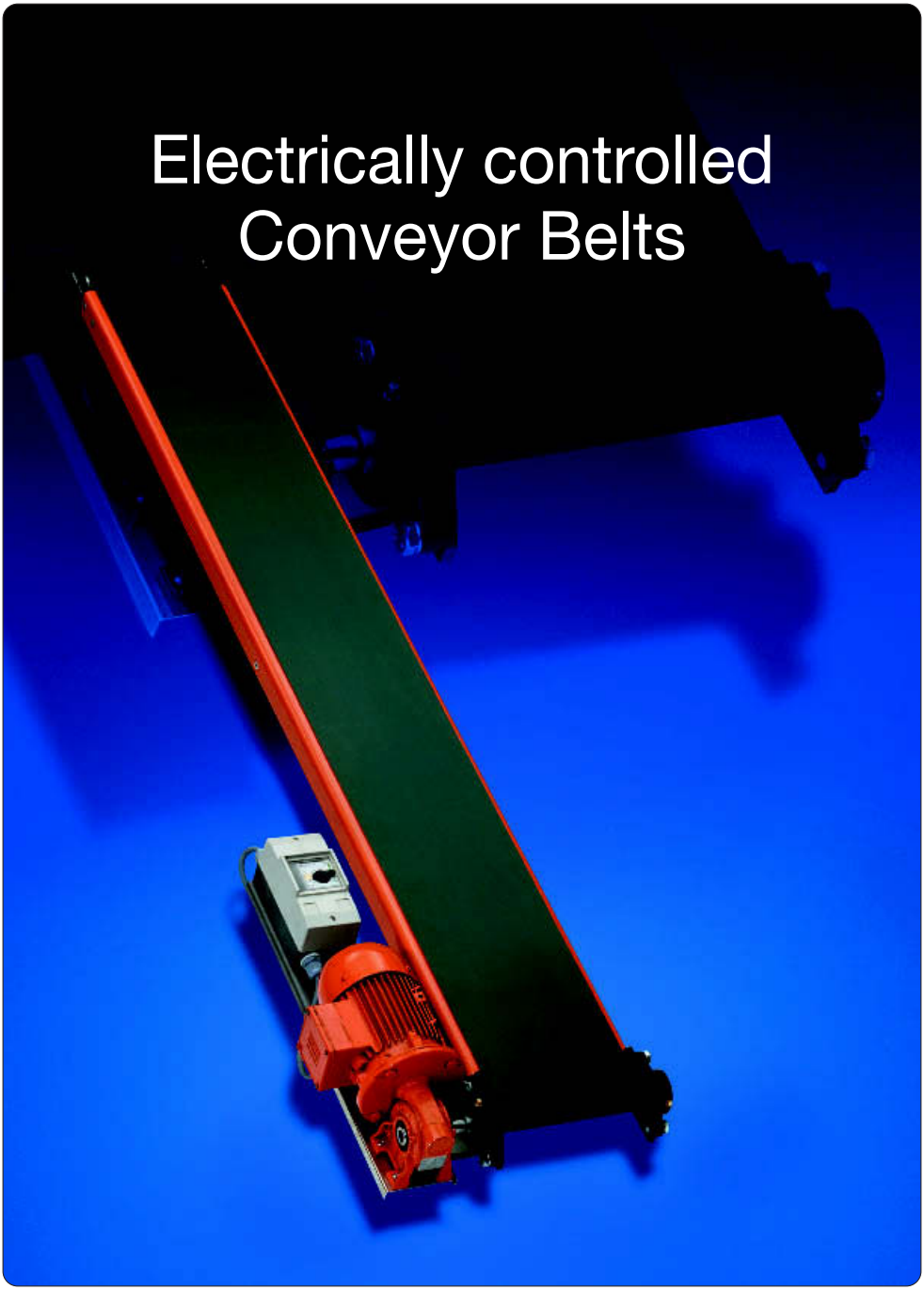
Electrically controlled Conveyor Belts



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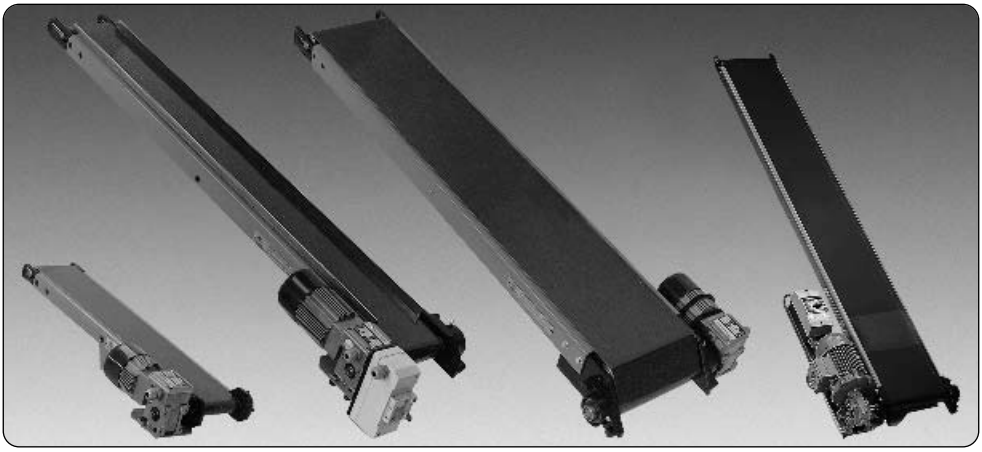

Belt speed:

The standard speed is 5,5 m/min.
Speeds of 2,7–7,5–11–20 m/min are available on request.

5,5 m/min.	Code	1
2,7 m/min.	Code	2
7,5 m/min.	Code	3
11 m/min.	Code	4
20 m/min.	Code	5

An electrical controller enables the belt speed to be set to between

0,02 – 10 m/min.	Code	6 3	6 4
10 – 20 m/min.	Code	7 3	7 4
20 – 30 m/min.	Code	8 3	8 4
0,02 – 30 m/min. with limited control precision.	Code	9 3	9 4
		230 V AC 1-ph.	400 V AC 3-ph.

Motors: (supply voltage)

Single-phase-motor 230 V–50 HZ	Code	1
Three-phase-motor 230 V–50 HZ (star delta control)	Code	2
Three-phase-motor 400 V–50 HZ	Code	3

Motor position with gearbox:

Motor axis horizontal relative to direction of belt travel, right	Code	1
Motor axis horizontal relative to direction of belt travel, left	Code	2
Motor axis vertical relative to direction of belt travel, right, above	Code	3
Motor axis vertical relative to direction of belt travel, right, below	Code	4
Motor axis vertical relative to direction of belt travel, left, above	Code	5
Motor axis vertical relative to direction of belt travel, left, below	Code	6

Controller:

Excluding electrical installation	Code	0
With manual ON/OFF switch and motor circuit-breaker	Code	1
With manual ON/OFF switch and motor circuit-breaker, additional emergency stop switch and 3 m cable with IEC 309 plug connector.	Code	2
Fittings as for 2 + Motor frequency controller to regulate the belt speed, 230 V AC, single phased, with IEC 309 plug connector.	Code	3
Fittings as for 2 + Motor frequency controller to regulate the belt speed, 400 V AC, three phased, with IEC 309 plug connector.	Code	4

Description:

The conveyor belts are used to move parts and waste out of the press. They are suitable for any other application involving the movement of parts or waste.

The belt consists of a woven glass fibre fabric with a polyurethane coating.

The drives are designed for both continuous and intermittent operation.

Accessories:

only in conjunction with a conveyor belt order.

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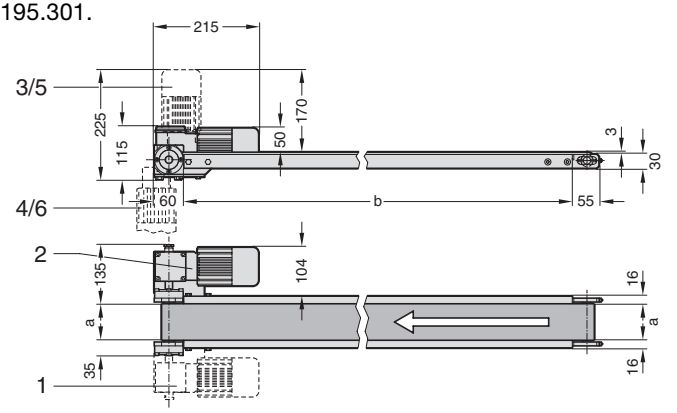
2195.301.



2195.301.

a \ b	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
030	●	●	●	●	●	●	●	●	●						
050	●	●	●	●	●	●	●	●	●						
075	●	●	●	●	●	●	●								
100	●	●	●	●	●	●	●								
125	●	●	●	●	●										
150	●	●	●	●	●										
175	●	●	●	●											
200	●	●	●	●											
225	●	●	●												
250	●	●	●												
275	●	●													
300	●	●													

Belt load:

Belt width a	kg per meter conveyed
30– 50– 75	4
100–125–150	7
175–200–225	10
250–275–300	15

For details of ordering instructions see page J 9.

Ordering Code (example):

Conveyor Belt		= 2195.
Type 301		= 301.
Belt width	a = 100 mm	= 100.
Nominal belt length	b = 1750 mm	= 1750.
Belt speed		= 1
Motor voltage 400 V		= 3
Motor position		= 1
Motor controller		= 1
Order No		= 2195.301.100.1750.1311

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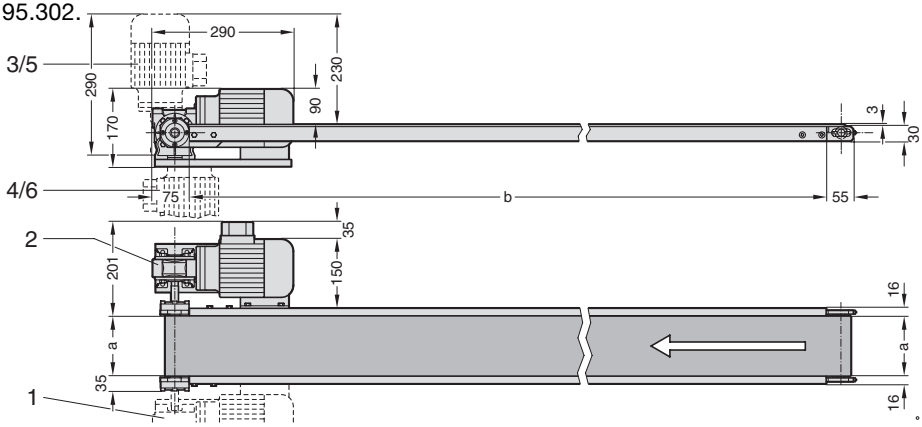
2195.302.



2195.302.

a \ b	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
030										●	●	●	●	●	●
050										●	●	●	●	●	●
075								●	●	●	●	●	●	●	●
100								●	●	●	●	●	●	●	●
125						●	●	●	●	●	●	●	●	●	
150						●	●	●	●	●	●	●	●	●	
175					●	●	●	●	●	●	●				
200					●	●	●	●	●	●	●				
225				●	●	●	●	●	●	●					
250				●	●	●	●	●	●	●					
275			●	●	●	●	●	●	●						
300			●	●	●	●	●	●	●						

Belt load:

Belt width a	kg per meter conveyed
30– 50– 75	4
100–125–150	7
175–200–225	10
250–275–300	15

For details of ordering instructions see page J 9.

Ordering Code (example):

Conveyor Belt		=	2195.
Type 302		=	302.
Belt width	a = 100 mm	=	100.
Nominal belt length	b = 25000 mm	=	2500.
Belt speed		=	1
Motor 400 V		=	3
Motor position		=	1
Motor controller		=	1
Order No		=	2195.302.100.1750.1311

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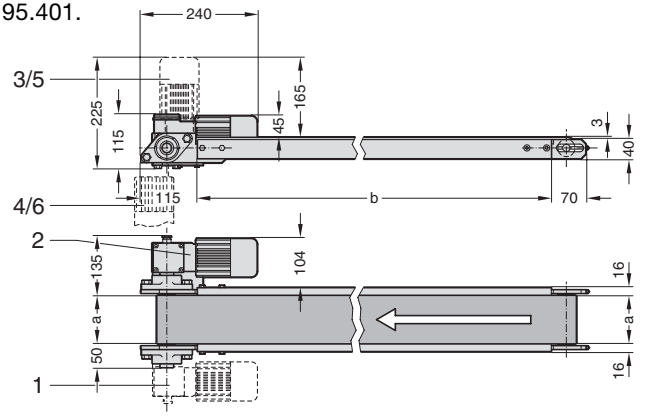
2195.401.



2195.401.

a	b 500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
030	●	●	●	●	●	●	●	●	●						
050	●	●	●	●	●	●	●	●	●						
075	●	●	●	●	●	●	●								
100	●	●	●	●	●	●	●								
125	●	●	●	●	●	●									
150	●	●	●	●	●	●									
175	●	●	●	●	●										
200	●	●	●	●	●										
225	●	●	●	●											
250	●	●	●	●											
275	●	●	●												
300	●	●	●												

Belt load:

Belt width a	kg per meter conveyed
30– 50– 75	5
100–125–150	10
175–200–225	14
250–275–300	17

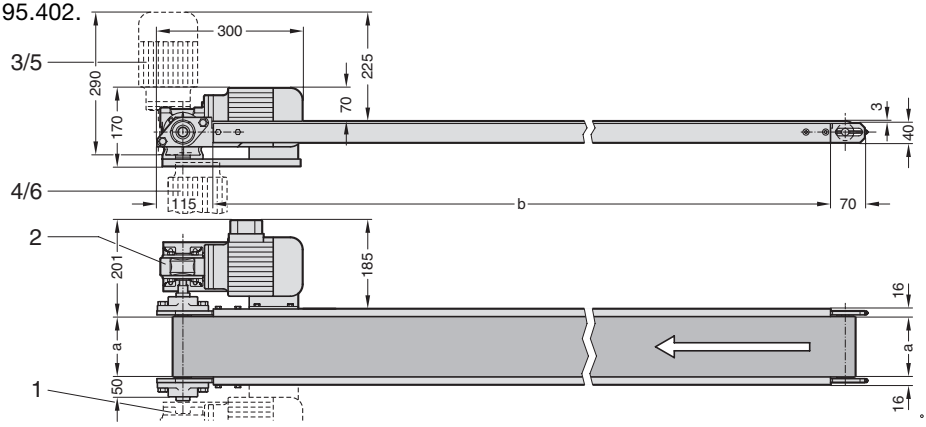
For details of ordering instructions see page J 9.

Ordering Code (example):

Conveyor Belt		= 2195.
Type 401		= 401.
Belt width	a = 100 mm	= 100.
Nominal belt length	b = 1750 mm	= 1750.
Belt speed		= 1
Motor voltage 400 V		= 3
Motor position		= 1
Motor controller		= 1
Order No		= 2195.401.100.1750.1311

2 13575 2001-1 °

2195.402.



2195.402.

a \ b	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
030										●	●	●	●	●	●
050										●	●	●	●	●	●
075								●	●	●	●	●	●	●	
100								●	●	●	●	●	●	●	
125							●	●	●	●	●	●	●		
150							●	●	●	●	●	●	●		
175						●	●	●	●	●	●				
200						●	●	●	●	●	●				
225					●	●	●	●	●	●	●				
250					●	●	●	●	●	●	●				
275				●	●	●	●	●	●	●					
300				●	●	●	●	●	●	●					
350	●	●	●	●	●	●	●	●	●						
400	●	●	●	●	●	●	●	●	●						
450	●	●	●	●	●	●	●	●							
500	●	●	●	●	●	●	●	●							

Belt load:

Belt width a	kg per meter conveyed
30– 50– 75	5
100–125–150	10
175–200–225	14
250–275–300	17
350–400–450	20
500	24

For details of ordering instructions see page J 9.

Ordering Code (example):

Conveyor Belt		= 2195.
Type 402		= 402.
Belt width	a = 100 mm	= 100.
Nominal belt length	b = 2500 mm	= 2500.
Belt speed		= 1
Motor 400 V		= 3
Motor position		= 1
Motor controller		= 1
Order No		= 2195.402.100.2500.1311

2.13576.0001-1 ◦

2195.114.

Description:

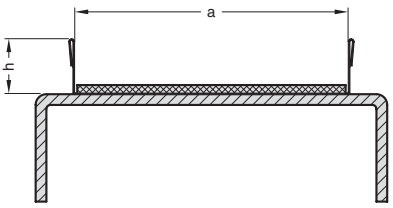
Delimiting guides made of stainless steel
Standard height h = 20 mm
h_{min} = 15 mm

Note:

Only in conjunction with a conveyor belt order.

Ordering Code (example):

Conveyor Belt	= 2195.	
Delimiting guide type	=	114.
h_{min} = 15 mm	=	015.
Belt width a = 100 mm	=	100.
Frame length b = 1500 mm	=	1500
Order No	= 2195.114.015.100.1500	



2195.115.

Description:

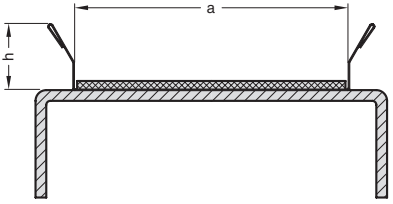
Delimiting guides made of stainless steel
$h_{min.}$ = 25 mm

Note:

Only in conjunction with a conveyor belt order.

Ordering Code (example):

Conveyor Belt	= 2195.	
Delimiting guide type	=	115.
h_{min} = 25 mm	=	025.
Belt width a = 150 mm	=	150.
Frame length b = 1500 mm	=	1500
Order No	= 2195.115.025.150.1500	



2195.116. conveyor edge rails

Description:

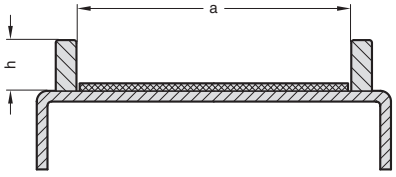
Conveyor edge rails of steel, brazed
$h_{min.}$ = 10 mm

Note:

Only in conjunction with a conveyor belt order.

Ordering Code (example):

Conveyor Belt	= 2195.	
Delimiting guide type	=	116.
h_{min} = 10 mm	=	010.
Belt width a = 100 mm	=	100.
Frame length b = 1500 mm	=	1500
Order No	= 2195.116.010.100.1500	



2195.117.

Description:

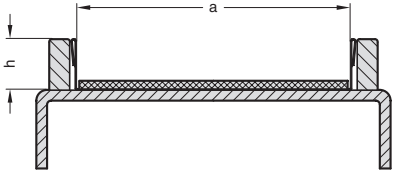
Trough conveyor edge rails of stainless steel, with brazed on steel reinforcement walls $h_{min.}$ = 15 mm

Note:

Only in conjunction with a conveyor belt order.

Ordering Code (example):

Conveyor Belt	= 2195.	
Delimiting guide type	=	117.
h_{min} = 15 mm	=	015.
Belt width a = 100 mm	=	100.
Frame length b = 1500 mm	=	1500
Order No	= 2195.117.015.100.1500	



2 13577 20013 °

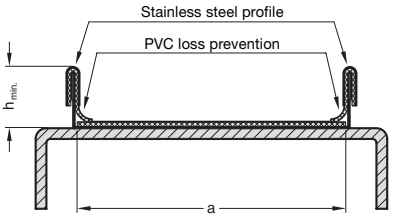
2195.218. 2195.219. 2195.220. 2195.221.

Delimiting Guids for Conveyor Belts with loss prevention

2195.218.

Installation Example:

with profile on conveyor edge rail 2195.114.



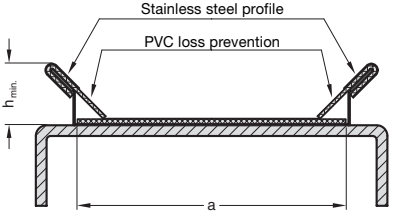
Ordering Code (example):

Conveyor Belt	= 2195.	
Delimiting guide type 114 with loss prevention type 218	=	218.
h_{min} = 23 mm	=	023.
Belt width a = 150 mm	=	150.
Frame length b = 1500 mm	=	1500
Order No	= 2195.218.023.150.1500	

2195.219.

Installation Example:

with profile on conveyor edge rail 2195.115.
with loss prevention.



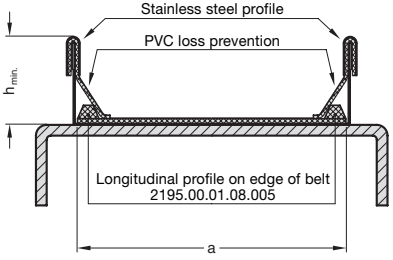
Ordering Code (example):

Conveyor Belt	= 2195.	
Delimiting guide type 115 with loss prevention type 219	=	219.
h_{min} = 23 mm	=	023.
Belt width a = 150 mm	=	150.
Frame length b = 1500 mm	=	1500
Order No	= 2195.219.023.150.1500	

2195.220.

Installation Example:

with profile on conveyor edge rail 2195.114.
and longitudinal profile on edge of belt, with loss prevention.



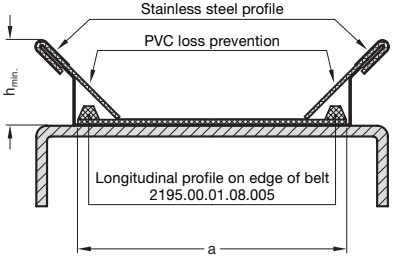
Ordering Code (example):

Conveyor Belt	= 2195.	
Delimiting guide type 114 with loss prevention and longitudinal profile 2195.00.01.08.005	=	220.
h_{min} = 33 mm	=	033.
Belt width a = 150 mm	=	150.
Frame length b = 1500 mm	=	1500
Order No	= 2195.220.033.150.1500	

2195.221.

Installation Example:

with profile on conveyor edge rail 2195.115.
and longitudinal profile on edge of belt, with loss prevention.



Ordering Code (example):

Conveyor Belt	= 2195.	
Delimiting guide type 115 with loss prevention and longitudinal profile 2195.00.01.08.005	=	221.
h_{min} = 33 mm	=	033.
Belt width a = 150 mm	=	150.
Frame length b = 1500 mm	=	1500
Order No	= 2195.221.033.150.1500	

2.18257.2001.1 ◦

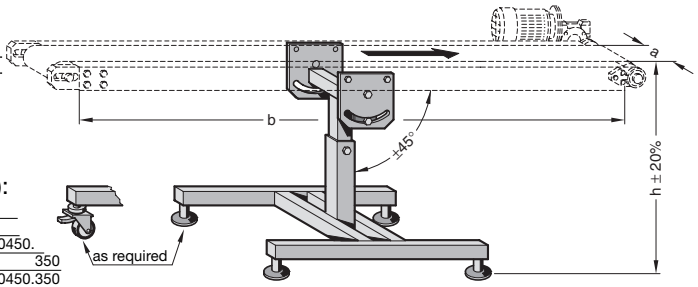
2-16252-2001-1 e

2195.120./121. 2195.130./131. 2195.140./141. 2195.150./151. Stands for Conveyor Belts

2195.120./2195.121.

Description:

Stand, tilting with adjustable feet .120.
Stand, tilting with adjustable castors .121.
h = height to customer's requirements, min. 450 mm
±20% h = adjustable height range
a = max. 350 mm
b = max. 2000 mm



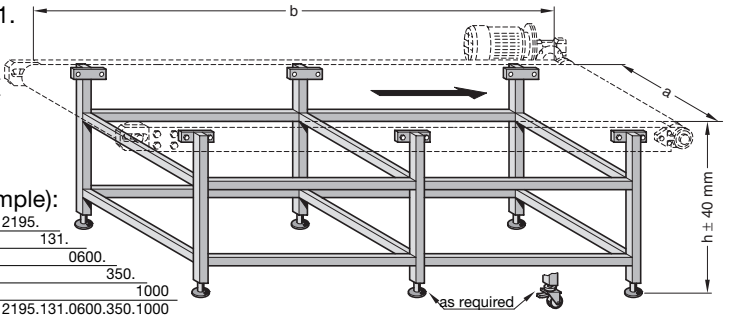
Ordering Code (example):

Conveyor Belt	= 2195.	
Stand with adjustable feet	= 120.	
h = 450 mm	= 0450.	
Belt Width a = 350 mm	= 350	
Order no	= 2195.120.0450.350	

2195.130./2195.131.

Description:

Table format with adjustable feet .130.
Table format with adjustable castors .131.
h = height to customer's requirements, min. 450 mm
For use with beltwidths a
For use with frame length b



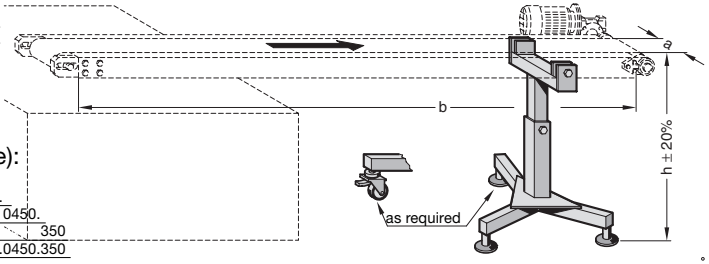
Ordering Code (example):

Conveyor Belt	= 2195.	
Stand with adjustable castors	= 131.	
h = 600 mm	= 0600.	
Belt Width a = 350 mm	= 350.	
Nominal Belt Length b = 1000 mm	= 1000	
Order No	= 2195.131.0600.350.1000	

2195.140./2195.141.

Description

Stand, with adjustable feet .140.
Stand, with adjustable castors .141.
h = height to customer's requirements, min. 450 mm
±20% h = adjustable height range
a = max. 350 mm



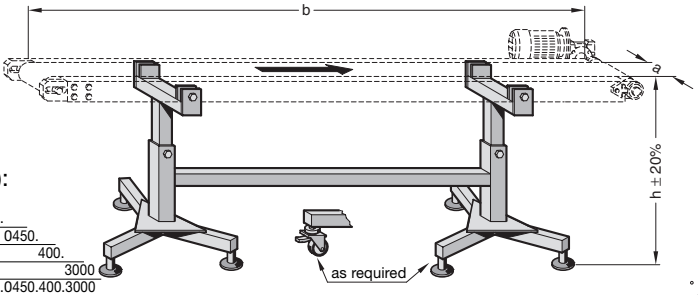
Ordering Code (example):

Conveyor Belt	= 2195.	
Stand with adjustable feet	= 140.	
h = 450 mm	= 0450.	
Belt Width a = 350 mm	= 350	
Order No	= 2195.140.0450.350	

2195.150./2195.151.

Description

double adjustment with adjustable feet .150.
double adjustment with adjustable castors .151.
h = height to customer's requirements, min. 450 mm
±20% h = adjustable height range
$a_{max.}$ 400 mm
$b_{max.}$ 3000 mm



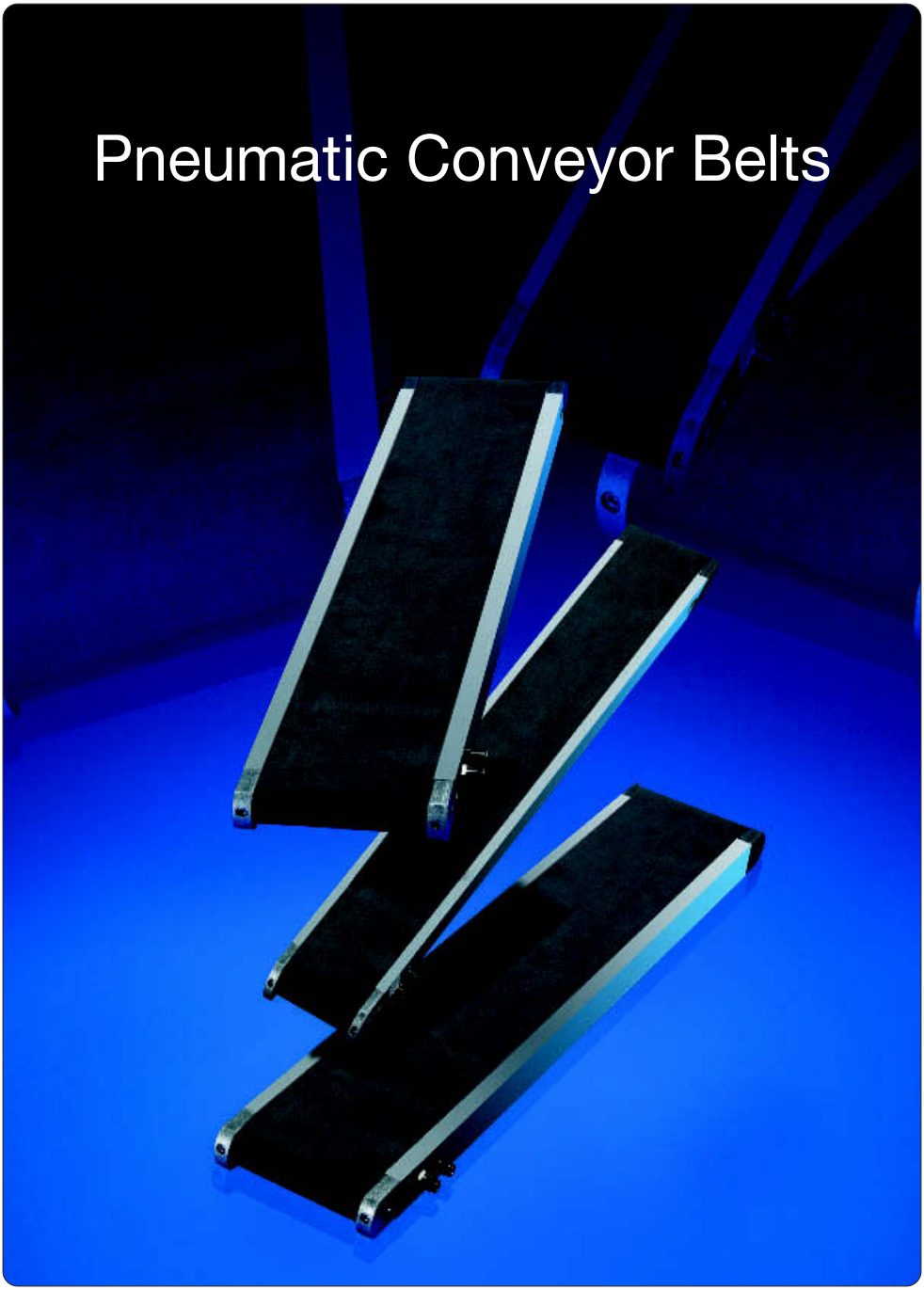
Ordering Code (example):

Conveyor Belt	= 2195.	
Stand with adjustable feet	= 150.	
h = 450 mm	= 0450.	
Belt Width a = 400 mm	= 400.	
Nominal Belt Length b = 3000 mm	= 3000	
Order No	= 2195.150.0450.400.3000	

2.1682.2001-1

2.16247.2001.1 e

Pneumatic Conveyor Belts



2.18567.2003.1 e

2-1857/0203-1 e

2295. Compact pneumatic conveyor belts

Description:

FIBRO pneumatic conveyor belts are ideal for conveying both large and small products and are used in many industries and sectors. The conveyor is robust in design and the standard versions employ an aluminium profile.
There are no awkward contours on the top and bottom, so the conveyor is especially useful in applications where space is tight.
The belt runs within the profile on the underside, so the conveyor can be mounted directly on a flat surface.

A simple installation process allows the conveyor to be driven directly by the machine's compressed air supply and work automatically in time with it.
A control system is available to enable the conveyor to run at a different rate (see Control).
Our conveyors work with belts to a wide range of specifications, to suit the specific application.

Drive unit:

The conveyor belt is powered by a double action cylinder to ISO 6432 (∅16/25 mm) and features end of travel damping.
The customer can select the cylinder stroke length to suit the various models, taking into account the minimum length of the conveyor belt. The piston operates an eccentric clamping shaft, which grabs the belt when the piston travels. When it returns, the belt does not move. The distance that the belt and its load travel is a few mm shorter than the travel of the piston. This system of belt drive is non-slip in both dry and oily environments, so it ensures safety and reliability.

Technical data:

Operating pressure:	6 bar
Temperature range – mechanical parts:	Ambient temperature: max. +60° C
Temperature range - belt:	see pages ⌟25 and ⌟29
Air consumption:	During movement backwards and forwards, 6 bar and 20°C
2295.3.	app. 0,03 l/cm stroke
2295.4.	app. 0,06 l/cm stroke

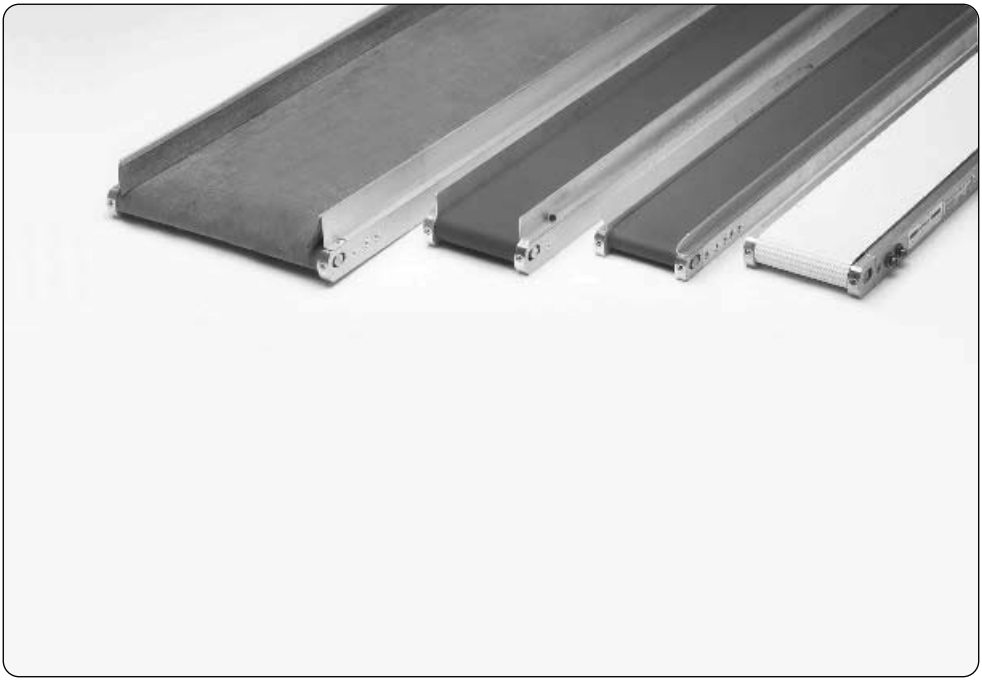
The cost of operation and maintenance is minimal because of the few mechanically stressed parts.

Location of the conveyor belt:

It is important that the conveyor belt is mounted on a firm and even surface. The guide unit must not be subjected to side loads. For this reason we recommend the use of the M6 threaded holes on the U section profile which are also used for fixing the end parts.

If you are not considering using these threaded holes we recommend that wedges be used.

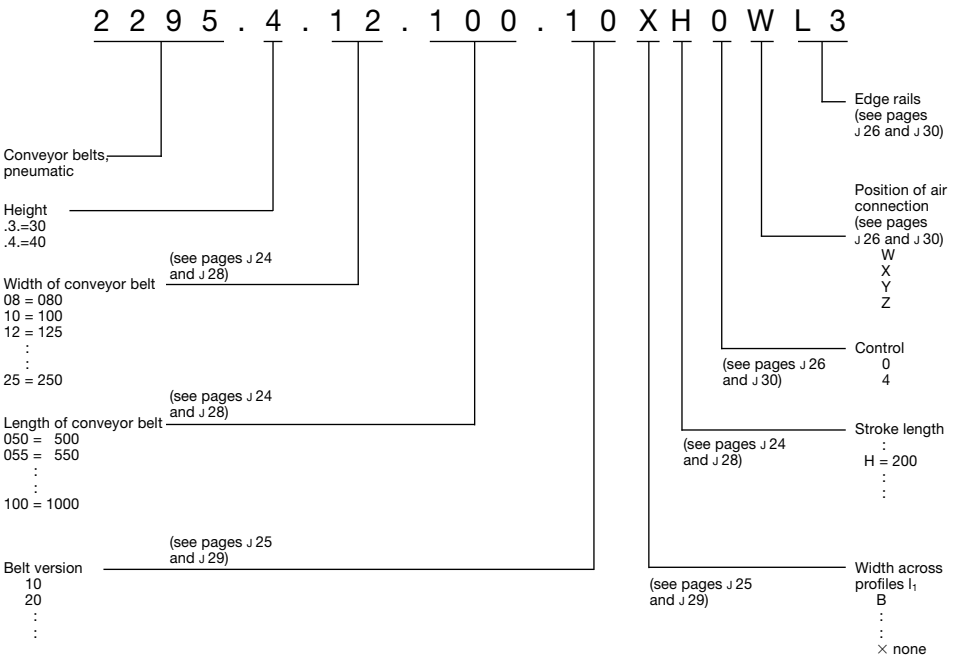
There are two versions of fixing clamp for each version height, for conveyors with and without edge rails.



2.18571.2005-1 ∘

2-1872-2003-1 e

Order number system for pneumatic conveyor belts



2-18573-2003-1 ◦

Dimensions:

Belt length* 500-1500 mm (50 mm increments)
Belt width** 80, 100-250 mm (25 mm increments)

* tolerance ±1 mm
** tolerance ±0,5 mm
Belt width = conveyor width –31 mm
Other lengths & widths upon request.

Note:

If you work with parts smaller than 10 mm diameter, or smaller then 80 mm², please contact us for advice.

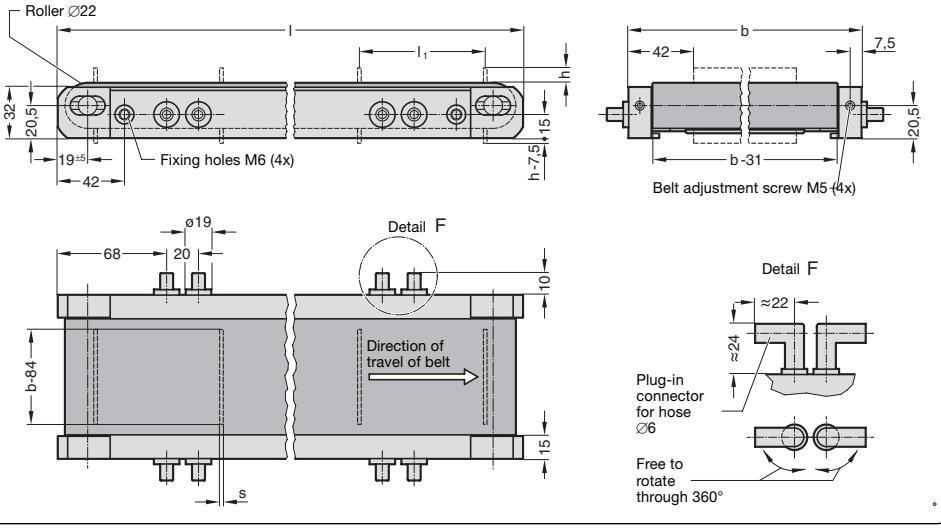
Available stroke lengths and minimum conveyor belt length:

Stroke length	Conveyor belt length
A = 25 mm	500 mm
B = 40 mm	500 mm
C = 50 mm	500 mm
D = 80 mm	550 mm
E = 100 mm	600 mm
F = 125 mm	650 mm
G = 160 mm*	700 mm
H = 200 mm	800 mm

Number of cylinders:

Width of belt	Number
≤125 mm	1
>150 mm	2

* standard stroke



2295.3.

b \ l	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
080	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
125	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
175	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
200	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
225	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
250	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Ordering Code (example):

see fold-out page J 23.

2-18574-2003-1 ∘

Construction:

Belt versions (transverse profiles available from widths of 100 mm upwards):

20 Polyurethane belt, PU03, smooth, blue/green, t = 1.7 mm

21 Polyurethane belt, PU03, with polyurethane transverse profiles, transp. S = 2 mm, h = 5 mm

22 Polyurethane belt, PU03, with polyurethane transverse profile, transp. S = 2 mm, h = 10 mm

23 Polyurethane belt, PU03, with polyurethane transverse profile, transp. S = 2 mm, h = 15 mm

50 Polyurethane belt, PUM2, smooth, light blue, t = 1.6 mm

Temperature range: Polyurethane belt = 60°C. Polyester fabric (PET).
The number of profile sections or dimensions l_1 should be stated when ordering.

Width across profiles l_1 (mm)

40	50	80	100	125	160	200	250	300	320	400	500	Special	None
B	C	D	E	F	G	H	J	K	L	M	N	S	X

80 NBR belt, HAT 8P. Rubberised high friction surface, green, s = 2 mm.
Temperature range: ≤100°C. Heavy duty, extremely abrasion resistant.
Polyamid fabric Oil resistant.

Belt specifications for a range of applications:

2295.3. can be fitted with various belts.
The compact design of the conveyor belt assumes that the belt will work with 22 mm diameter rollers.

Technical specifications	PU03	PUM2	NBR
Oil resistance	●	●	●
Abrasion resistance	●	●	●
Friction	Medium	Low	High
Anti-static	Low	High	Medium
Application			
Sheet metal working	●	●	●
Punch	●	●	●
Hydraulic press	●	●	●
Wood and paper industries	●	●	●
Plastics industry	●	●	●
Machining centres (coolant)	●	●	●
Assembly line, conveying dry products within the industry	●	●	●

Comment: All details and information are recommendations only.
Whilst they are given in good faith we cannot give any assurances or guarantee that they are accurate or applicable in particular applications.

We also offer conveyor belts for use in the foodstuffs and pharmaceuticals industries.
For such applications we can supply stainless steel and acid resistant components to order.

Ordering Code (example):

see fold-out page J 23.

2.18575.2005-1 ©

Control:

0 Standard 2 air ports, control by customer for forward and reverse movement or in conjunction with an external control system.

External control units (accessories):

2295.00.11

Electro-pneumatic: 24 V DC, sensors/actuators in separate casings (IP65).[1)]

2295.00.12

Electro-pneumatic: 230 V AC, sensors/actuators in separate casings (IP65).[1)]

2295.00.13

Fully pneumatic: Logic elements in separate casing (IP65). (IP65).[2) 3)]

[1)] The frequency (work/pause time) is set with a timing relay.
[2)] The stroke speed is set with 2 one-way restrictors.
[3)] Minimum operating pressure: 6 bar.

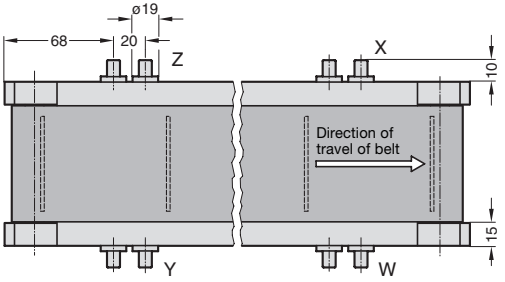
Position of compressed air ports:

W Front right (standard)

X Front left

Y Back right

Z Back left



Edge rails:

The edge rails are manufactured from 1.5 mm stainless steel sheet.

L1 L profile, h=10 mm

L2 L profile, h=20 mm

L3 L profile, h=30 mm

L9 L-Profil, h=Sonder

G3 G profile, h=30 mm

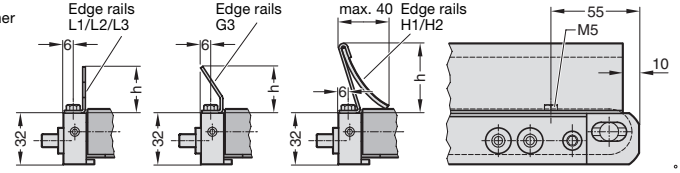
G9 G-Profil, h=Sonder

H1 H profile, h=45 mm with belt tensioner (felt, oil resistant)

H2 H profile, h=45 mm with belt tensioner (PVC, not oil resistant)

H9 H-Profil, h=Sonder

X Without edge rail



2-18576/2003-1 ◦

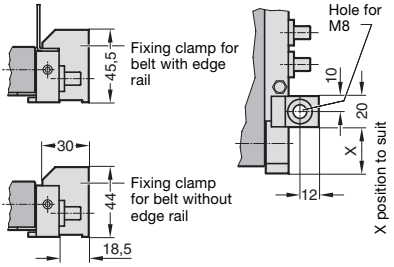
Accessories:

Fixing clamp*	2295.00.3	without edge rail
Fixing clamp	2295.00.3.1	with edge rail

* The number of fixing clamps is to be determined, to match the application and conveyor belt dimensions.

Available to order:

- Stripping unit
- funnel
- Belt speed monitor



Dimensions:

Length of belt* 500-5000 mm (500-1500 mm=50 mm increment)
(>1500 mm =100 mm increment)

Belt width** 80, 100-250 mm (25 mm increment)
300-600 mm (50 mm increment)

* tolerance ±1 mm
** tolerance ±0,5 mm

Belt width = conveyor width –31 mm
Other lengths & widths to order

Note:

If you work with parts smaller than 10 mm diameter, or smaller then 80 mm², please contact us for advice.

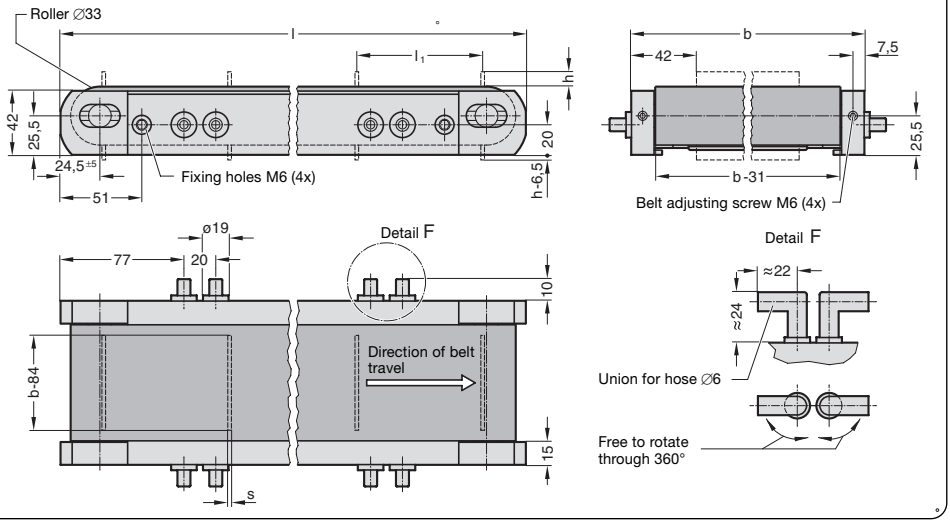
Available travel and minimum conveyor belt length:

Stroke length	Conveyor belt length	Stroke length	Conveyor belt length
A = 25 mm	500 mm	H = 200 mm*	850 mm
B = 40 mm	500 mm	J = 250 mm	950 mm
C = 50 mm	550 mm	K = 300 mm	1050 mm
D = 80 mm	600 mm	L = 320 mm	1100 mm
E = 100 mm	650 mm	M = 400 mm	1250 mm
F = 125 mm	700 mm	N = 500 mm	1450 mm
G = 160 mm	800 mm		

Number of cylinders:

Width of belt	Number
≤200 mm	1
>225 mm	2

* standard stroke



2295.4.

b	l: 500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600-5000	>5000
080	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
125	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
175	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
200	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
225	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
250	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
300	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
350	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
400	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
450	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
500	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
550	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
600	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

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Belt versions (transverse profiles available from widths of 100 mm upwards):

10 Standard: G18 needled felt belt, smooth, black, t=2.5 mm, temperature range: ≤ 80 °C

20 Polyurethane belt, PU03, smooth, blue/green, t = 1.7 mm

21 Polyurethane belt, PU03, with polyurethane transverse profile, transp. S = 2 mm, h = 5 mm

22 Polyurethane belt, PU03, with polyurethane transverse profile, transp. S = 2 mm, h = 10 mm

23 Polyurethane belt, PU03, with polyurethane transverse profile, transp. S = 2 mm, h = 15 mm

31 Polyurethane belt, PU03, with polyurethane transverse profiles, transp. S = 3 mm, h = 5 mm

32 Polyurethane belt, PU03, with polyurethane transverse profiles, transp. S = 3 mm, h = 10 mm

33 Polyurethane belt, PU03, with polyurethane transverse profiles, transp. S = 3 mm, h = 15 mm

44 Polyurethane belt, PU03, with polyurethane transverse profiles, blue/green S = 3 mm, h = 20 mm

45 Polyurethane belt, PU03, with polyurethane transverse profiles, blue/green S = 3 mm, h = 25 mm

46 Polyurethane belt, PU03, with polyurethane transverse profiles, blue/green S = 3 mm, h = 30 mm

49 Polyurethane belt, PU03, special

50 Polyurethane belt, PUM2, light blue, t = 1.6 mm, anti-static

58 Polyurethane belt, PUM2, light blue, t = 1.6 mm, with polyurethane profiles, V60 light blue, s = 3 mm, h = 50 mm (V60 = inclined forwards at 60°) l_1 = ≥55 mm

59 Polyurethane belt, PUM2, special

70 Polyurethane belt, PU07 coarse structure, white, (reduces the contact area of the of the machine part on the belt).

76 Polyurethane belt, PU07, with polyurethane transverse profiles, straight S = 3 mm, h = 30 mm

79 Polyurethane belt, PU07, special

Temperature range: Polyurethane belt ≤60°C. Polyester fabric (PET). The number of profile sections or dimensions l_1 should be stated when ordering.

Width across profiles l_1 (mm)

40	50	80	100	125	160	200	250	300	320	400	500	Special	None
B	C	D	E	F	G	H	J	K	L	M	N	S	X

80 NBR belt, HAT 8P. Rubberised high friction surface, green, t = 2 mm.

Temperature range: ≤100°C. Heavy duty, extremely abrasion-resistant. Polyamid fabric. Oil resistant.

90 PVC belt, SAQ8E, with mesh structure for high friction, grey, t = 2.1 mm.

Temperature range: ≤60°C. Polyester fabric (PET). Other belt specifications upon request.

Belt specifications for a range of applications:

2295.4. can be fitted with various belts.

The compact design of the conveyor assumes that the belt will work with 33 mm diameter rollers.

Technical specifications	G18	PU03	PUM2	PU07	NBR	PVC
Oil resistance	●	●	●	●	●	
Abrasion resistance	●	●	●	●	●	●
Friction	Medium	Medium	Low	Medium	High	High
Anti-static	Hoch	Low	High	Low	Medium	Medium
Application						
Sheet metal work	●	●	●	●	●	
Punch	●	●	●	●	●	
Hydraulic press	●	●	●	●	●	
Wood and paper industries	●	●	●	●	●	
Plastics industry		●	●		●	
Machining centres (coolant)	Finished parts	●	●	●	●	
Assembly line, conveying dry products within industry	●	●	●	●	●	●

Comment: All details and information are recommendations only. Whilst they are given in good faith we cannot give any assurances or guarantee that they are accurate or applicable in particular applications.

We also offer conveyor belts for use in the foodstuffs and pharmaceuticals industries.
For such applications we can supply stainless steel and acid resistant components to order.

Ordering Code (example)

see fold-out page J 23.

2.185792005-1 ◦

Control:

0 Standard 2 air ports, control by customer for forward and reverse movement or in conjunction with an external control system.

4 Fully pneumatic: Logic elements incorporated in the belt [2) 3) 4)]

External control units (accessories):

2295.00.11

Electro-pneumatic: 24 V DC, sensors/actuators in separate casings (IP65).[1)]

2295.00.12

Electro-pneumatic: 230 V AC, sensors/actuators in separate casings (IP65).[1)]

2295.00.13

Fully pneumatic: Logic elements in separate casing (IP 65). [3) 4)]

[1)] The frequency (work/pause time) is set using a timing relay.
[2)] Suitable for belt width $ 200 mm Belt length + 200 mm.
[3)] The stroke speed is set with 2 one-way restrictors.
[4)] Minimum operating pressure: 6 bar.

Position of compressed air ports:

W Front, right (standard)

X Front left

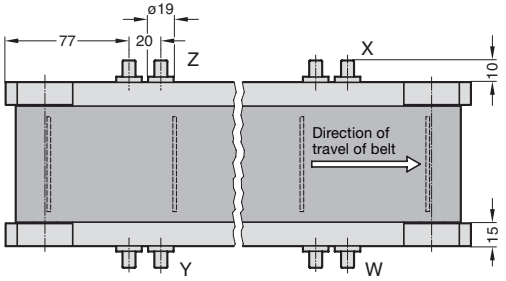
Y Back right

Z Back left

L9 L-Profil, h=Sonder

G9 G-Profil, h=Sonder

H9 H-Profil, h=Sonder



Edge rails:

The edge rails are manufactured from 1.5 mm stainless steel sheet.

L1 L profile, h=10 mm

L2 L profile, h=20 mm

L3 L profile, h=30 mm

L9 L-Profil, h=Sonder

G3 G profile, h=30 mm

G9 G-Profil, h=Sonder

X Without edge rail

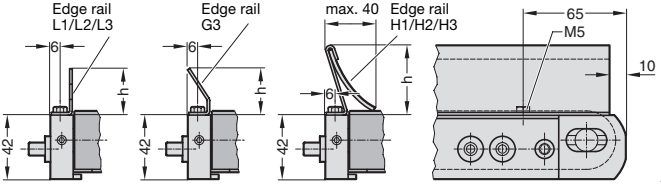
H1 H profile, h = 45 mm with belt tensioner (felt), (oil resistant)

H2 H profile, h = 45 mm with belt tensioner (PVC), (not oil resistant)

H3 H profile, h = 90 mm with belt tensioner PU03, (oil resistant)

H9 H-Profil, h=Sonder

S1 Longitudinally slit edge of polyurethane belt, h = 30 mm, s = 5 mm, white.
Kann auch für Teilung des Transportbandes verwendet werden. (Nur auf PU-Band).



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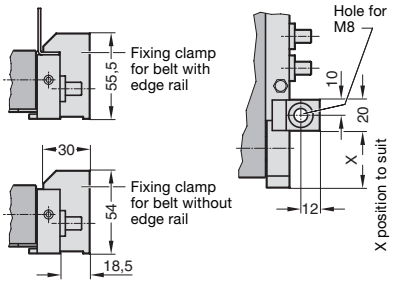
Accessories:

Fixing clamp*	2295.00.4	without edge rail
Fixing clamp	2295.00.4.1	with edge rail

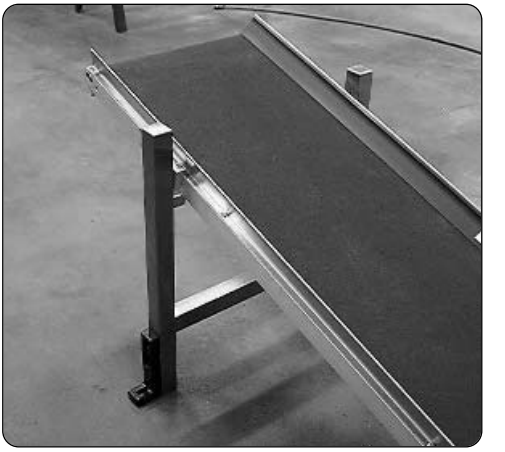
* The number of fixing clamps is to be determined, to match the application and conveyor belt dimensions.

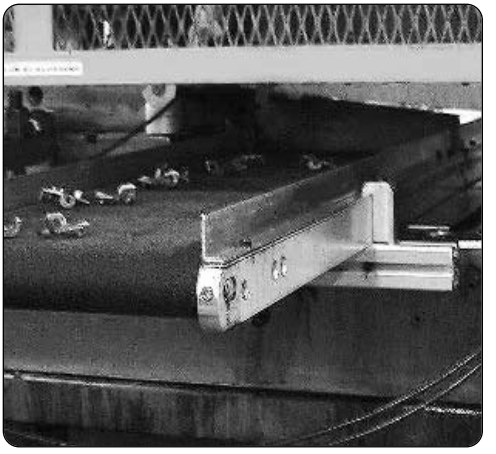
Available to order:

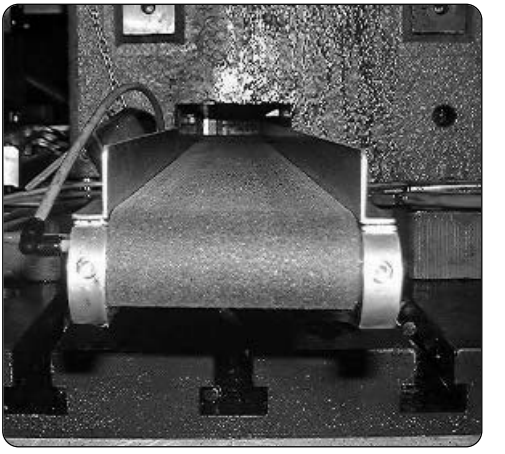
- Stripping unit
- Funnel
- Angle belt, 40 mm high (30°/45°)
- Belt speed monitor

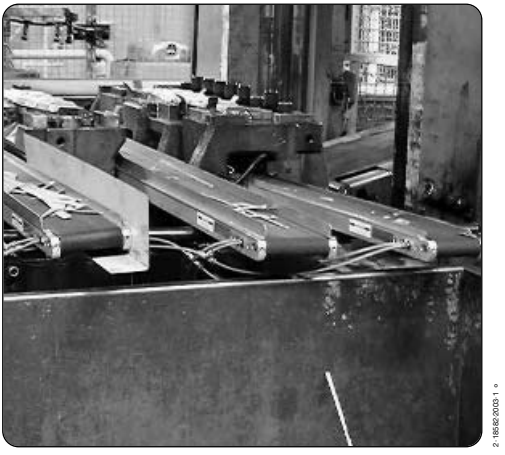


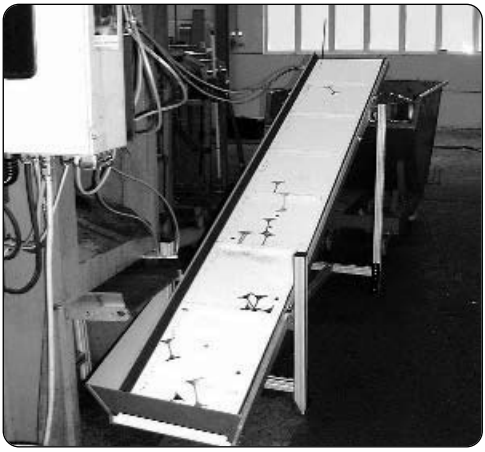
Typical Applications

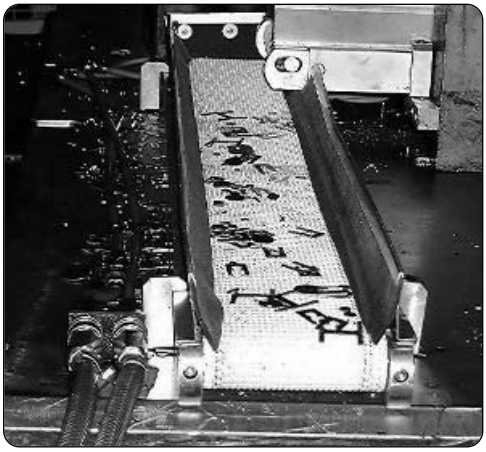


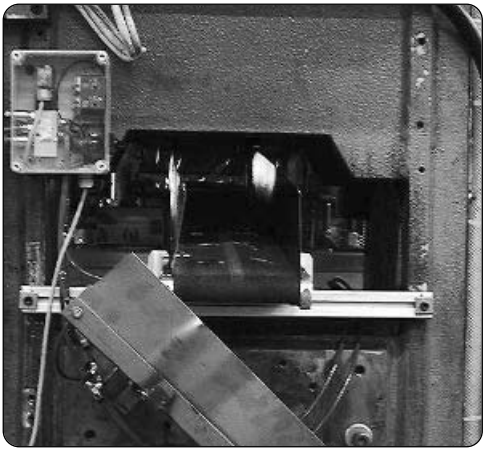


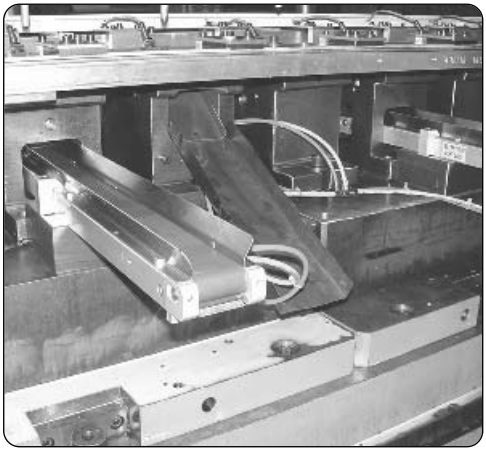












Questionnaire
Pneumatic Conveyor Belts

Pneumatic Conveyor Belts

Weight per part: _____ g

max. weight per running metre of belt: _____ kg/m

Part dimensions Length _____ mm

Width _____ mm

Height _____ mm

Material: _____

Is the surface of the part delicate? Yes: ☐ No ☐

If "Yes" please specify: _____

_____

_____

The part is: rectangular ☐

round ☐

has sharp edges ☐

Other factors _____

_____

_____

How do the parts arrive on the belt?

If they drop on to it, please specify: _____

_____

_____

Function (control): _____

_____

_____

Should the belt work at the same rate as the machine? Yes: ☐ No ☐

Is the belt only in operation at the same time as the machine? Yes: ☐ No ☐

Will the belt be at an angle? Yes: ☐ No ☐

If "Yes" please specify: _____

_____

_____

Stroke length: approx. _____ mm (standard: 160/200 mm)

Number of strokes per minute: approx. _____ 1/min

Speed: approx. _____ m/min.

Should the belt be oil resistant? Yes: ☐ No ☐

Other questions:

Conveyor material: aluminium, anodised (standard version) Yes: ☐

Stainless steel (only U profile) Yes: ☐

Is compressed air available at not less than 6 bar? Yes: ☐ No ☐ _____ bar

Other details:

_____

_____

_____

_____

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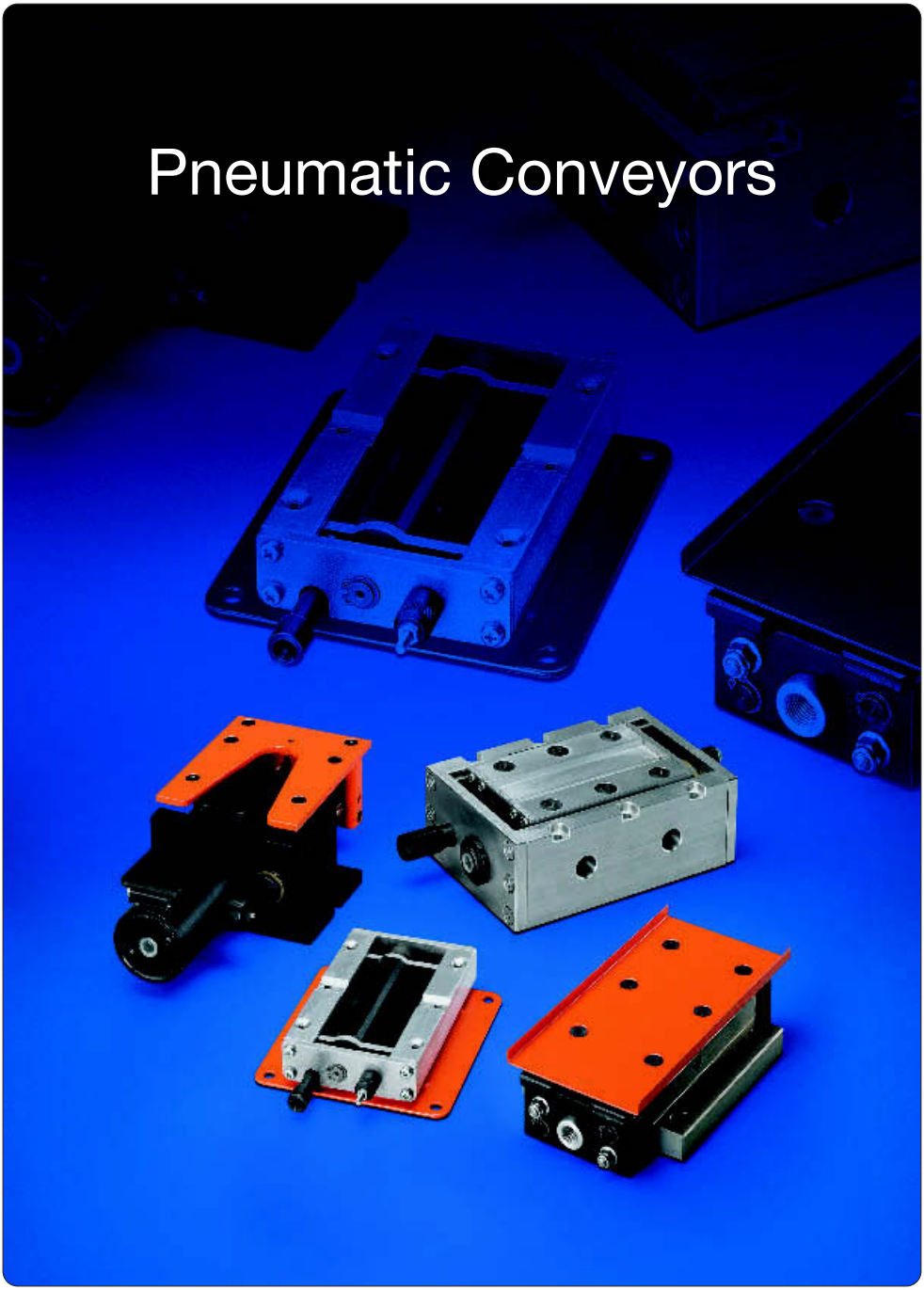
Pneumatic Conveyors



2.18279.2003.1 e

Description

This pneumatic conveyor is unique and is patented. It was designed to provide an effective and affordable solution to the problems of conveying parts and disposing of waste.
This beltless system conveys stampings and waste from the tool area by vibration alone.

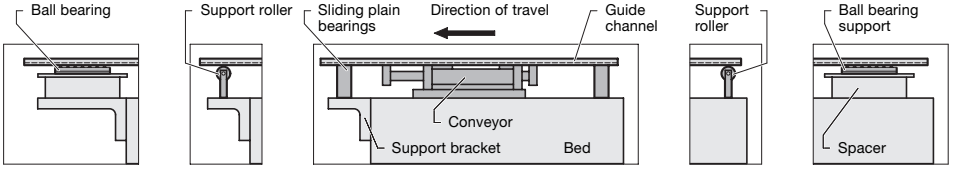
A specially designed guide channel which is screwed to the body of the conveyor vibrates rhythmically slowly forwards and fast backwards The mass inertia of the parts is used to move them forwards. In this way the parts in the guide channel progress gently towards the storage containers.

The conveyor is maintenance-free and has a very low air consumption so is extremely economical in operation.
The pneumatic conveyor is quiet running and very user friendly.

The conveyor was originally designed for press room use but can be used as a conveyor with any tool. Blockages are a thing of the past whether the conveyor is feeding parts for assembly or removing and disposing of stampings and waste parts.

Guides

We recommend three options for supporting a long guide channel:
1) Ball bearings 2) Roller supports 3) Sliding plain bearings



Technical data:

Model	load, max. (kg)	air consumption (l/min.)	sound level (db-A)	stroke length (mm)	guide channel weight max. (kg)	despatch weight (kg)
2199.03	3	14	68	20	1,4	1,4
2199.10	10	20	68	25	2,7	2,8
2199.40	40	42	70	27	5,4	7,2
2199.70	70	40	70	27	11,3	5,5

1. Recommended rate of vibration: 120 per minute · 2. Speed of travel: 8–10 m / min. · 3. Operating pressure: 4–5.5 bar
4. Slope of guide channel: max. 8°

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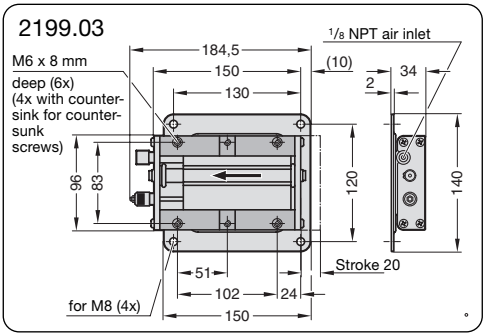
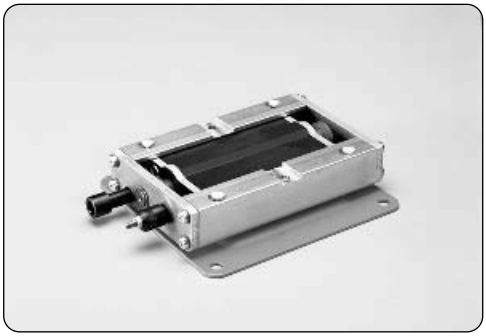
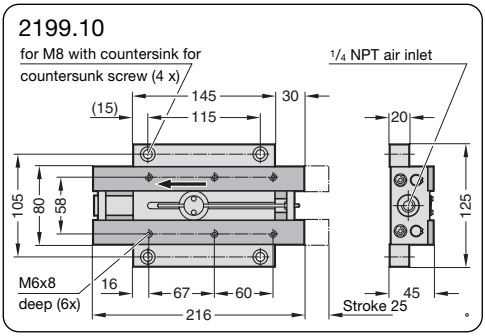
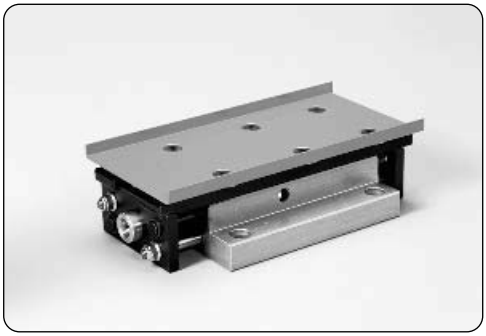
2199.03



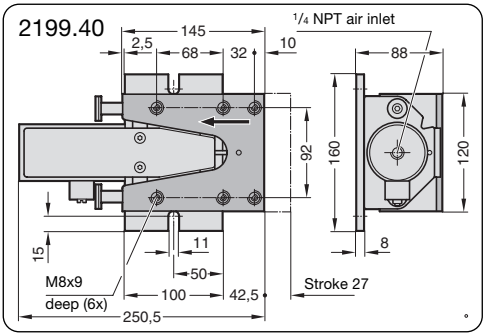


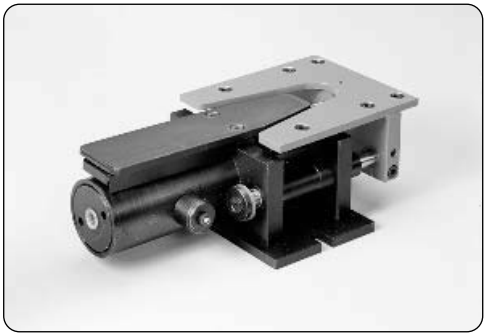
2199.10



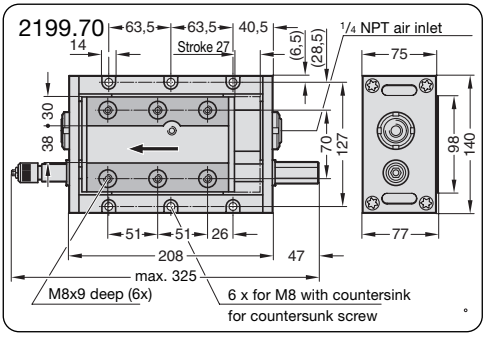


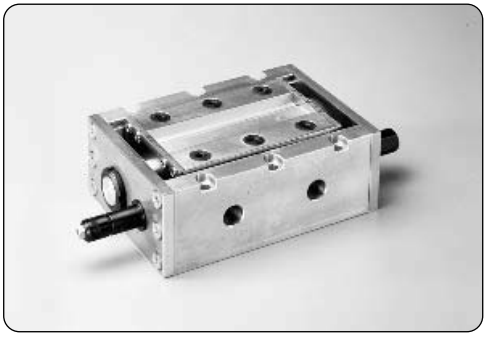
2199.40





2199.70





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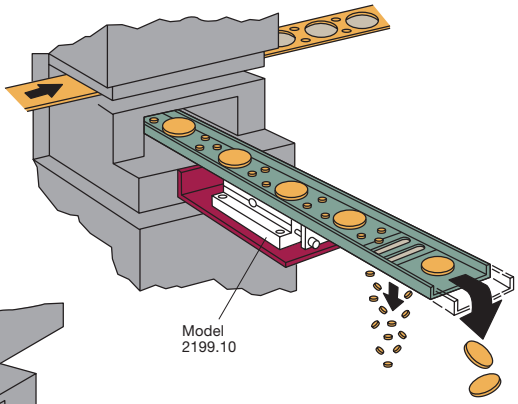
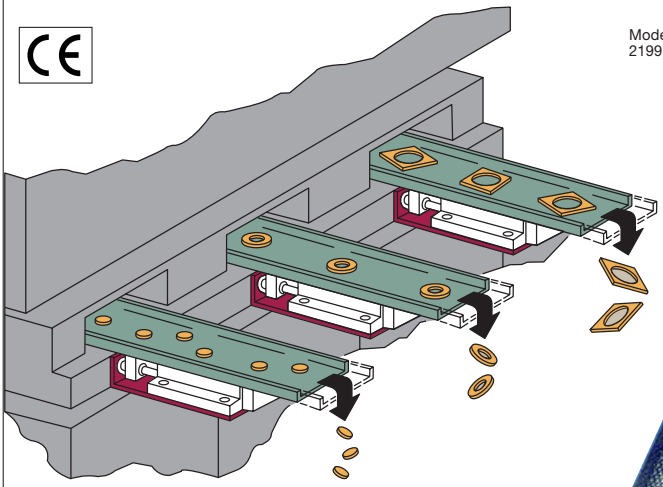
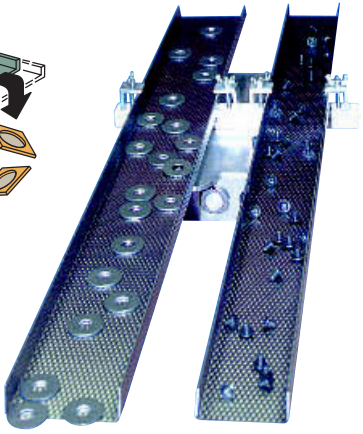
2199.03/.10/.40/.70

How does the pneumatic conveyor work?

This compact pneumatic conveyor is driven by compressed air. The vibrating rhythmic motion conveys stampings and stamping waste whilst reducing your costs. Guide channels can be matched to any tool opening and used for sorting various types of waste.







The guide channels are highly adaptable.