

# POCKETLIFT<sup>®</sup>

The innovation in highend  
vertical conveying.

**ContiTech**

# POCKETLIFT®

The new solution for  
underground mining  
and continuous shaft  
conveying.

## ContiTech Conveyor Belt Group

We are a leading manufacturer of conveyor belts, integrated in the ContiTech AG organization and thus part of Continental AG and the Continental Corporation. We offer complete solutions - from textile and steel cable conveyor belts to special products and service materials. With our locations close to our customers, we are able to provide comprehensive support for your conveyor belts and systems - worldwide. With high-end conveyor belt technology from ContiTech, materials handling systems run reliably and cost effectively and are environmentally friendly. As a leading development partner with innovative conveyor belt technologies, we support the mining, machinery and equipment construction industries, as well as a host of other industries.

**ContiTech. Non-stop conveyor belts. Non-stop service.**



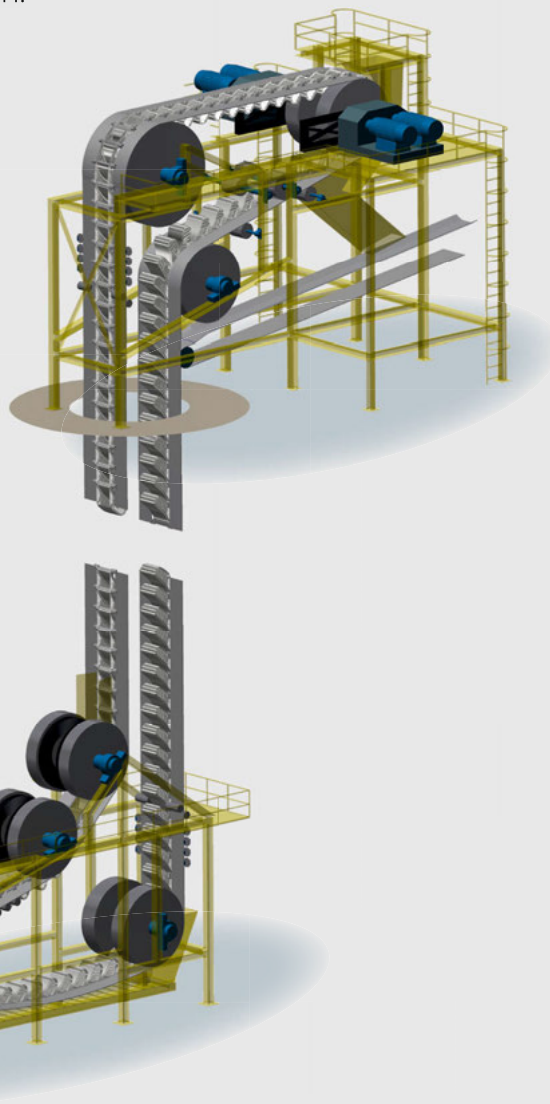
The most recent innovation in the field of vertical conveying for the bulk materials handling industry is the Pocketlift. Based on the Flexowell technology and the high capacity bucket elevator, the Pocketlift system was developed for deep shaft underground applications in mining and tunneling industry with a lifting height up to 700 m in one flight.

Since September 1996, when the vertical Pocketlift S-Shape Conveyor was installed for the New York water tunnel project, the system has established itself in many other projects, mainly in the coal and gypsum underground mining industry. Due to the outstanding features Pocketlift has many advantages in comparison to the traditional skip hoist or slope system.

#### Easy choice for continuous conveying

Pocketlift technology is giving mining engineers and operators the opportunity for a continuous mass flow over several hundred meters lift height, providing additional benefits as:

- ▶ Low energy consumption
- ▶ Small shaft diameter
- ▶ Quick installation
- ▶ Low maintenance cost
- ▶ No underground bunker system
- ▶ Light steel structure for feeding section and headframe
- ▶ Environmentally friendly
- ▶ no mechanical parts in the vertical shaft



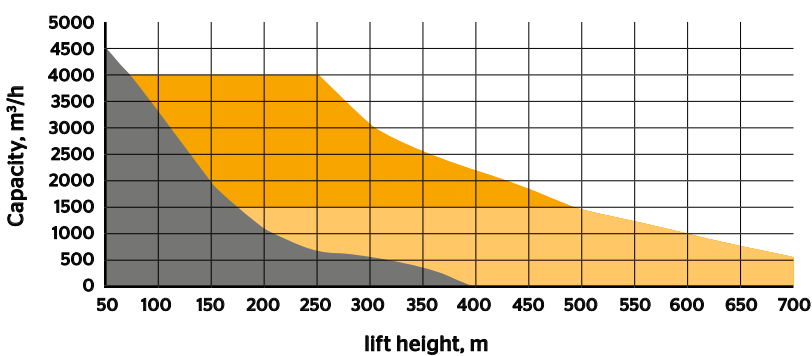
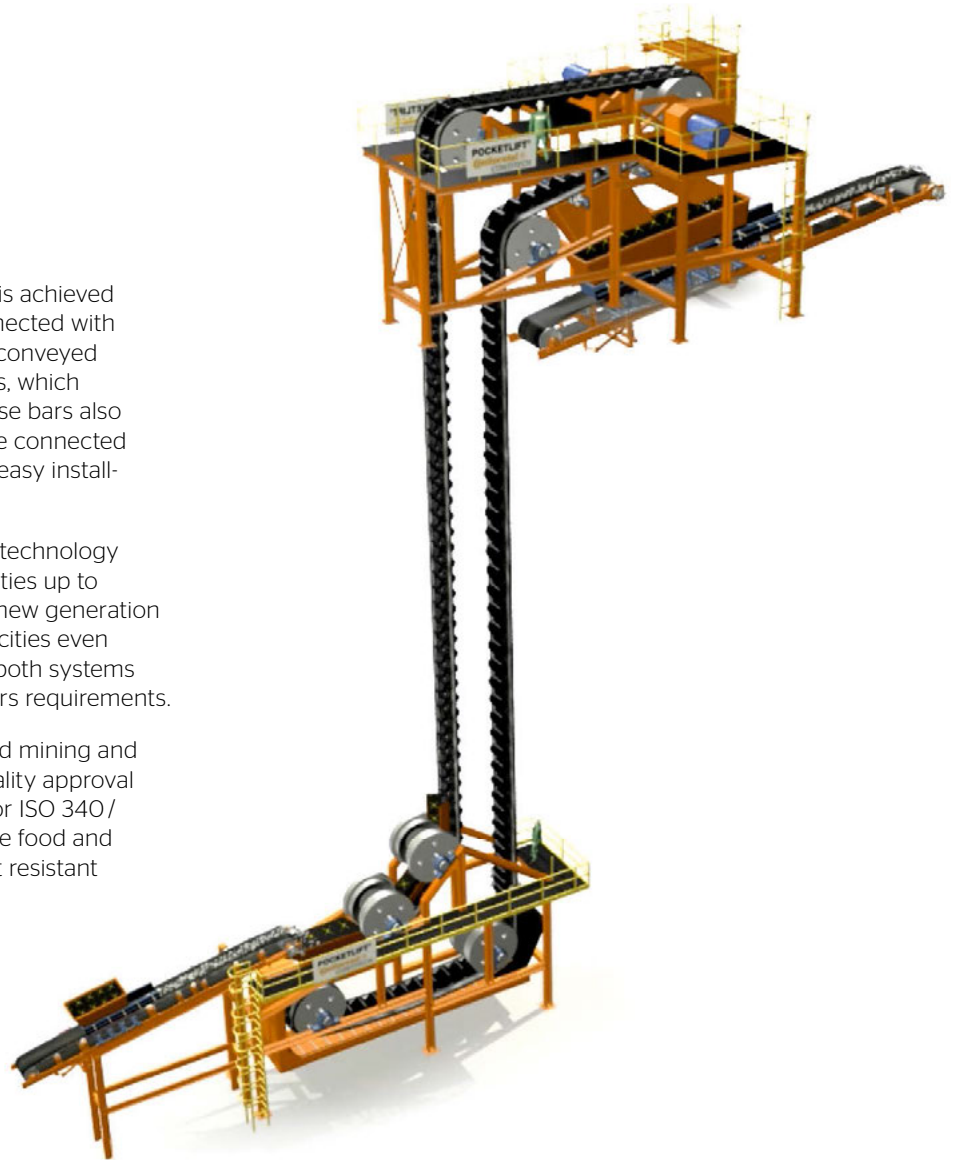
# POCKETLIFT®

## Technical Details

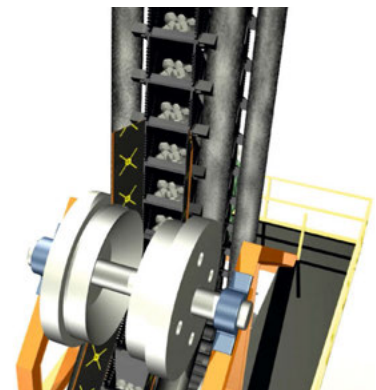
With Pocketlift the function of power transfer is achieved by two narrow steel cord belts which are connected with rigid triangular cross bars. The material to be conveyed is fed into the fabric reinforced rubber pockets, which are bolted at the center of the cross bars. These bars also have a guiding function. All three elements are connected detachable and allow separate shipment and easy installation on site.

Being a further development of the Flexowell technology the standard Pocketlift Type III reaches capacities up to 1500 m³/h and lift heights up to 700 m while new generation Pocketlift type II was developed for high capacities even up to 4000 m³/h. Different pocket widths for both systems allow a tailor made design exactly to customers requirements.

As the main application fields are underground mining and tunneling it is mandatory that we hold the quality approval from all major mine inspectorates like MSHA or ISO 340 / EN 20340. For high capacity silo feeding in the food and cement industry oil- and fat resistant and heat resistant rubber compounds are available.



■ FLEXOWELL® ■ POCKETLIFT® Type II ■ POCKETLIFT® Type III



## POCKETLIFT® Type III

### Installation at Knauf Gips, Novomskovsk/Russia

#### Project Details:

<b>Base belt:</b>	ST 4500 Y
<b>Base belt stripe width:</b>	2x400 mm
<b>Total system width:</b>	1800 mm
<b>Pocket width:</b>	800 mm
<b>Pocket pitch:</b>	500 mm
<b>Material density:</b>	1,4 t/m <sup>3</sup> , gypsum
<b>Capacity:</b>	643 m <sup>3</sup> /h -900 t/h
<b>Max. lump size:</b>	150 mm
<b>Speed:</b>	2,09 m/sec
<b>Lifting height:</b>	138 m
<b>Req. power:</b>	2x176 KW
<b>Specific belt weight</b>	110 kg/m



## POCKETLIFT® Type II

### White County Coal, LLC, Pattiki Mine, Carmi/Illinois, USA

#### Project Details:

<b>Base belt:</b>	ST 6300 MSHA
<b>Base belt stripe width:</b>	2x710 mm
<b>Total system width:</b>	2420 mm
<b>Pocket width:</b>	800 mm
<b>Pocket pitch:</b>	750 mm
<b>Material density:</b>	0,90 t/m <sup>3</sup> , ROM Coal
<b>Capacity:</b>	2000 m <sup>3</sup> /h -1815 t/h
<b>Max. lump size:</b>	200 mm
<b>Speed:</b>	3,75 m/sec
<b>Lifting height:</b>	276 m
<b>Req. power:</b>	4x500 KW



# POCKETLIFT® Type III and Type II

## Technical Information



All forces resulting from dead weight and carried material are transmitted by high tensile strength steel cord belts with nominal rates up to 10.000 N/mm. Although an increase in belt speed allows a decrease in belt width and tension, high belt speeds may result in excessive wear and will reduce the overall lifetime of the components. According to the type of material to be conveyed ContiTech engineers will select the most efficient speed for each application. All Pocketlifts are calculated with a minimum safety factor of 10.

System	Type III				Type II		
pocket width	500	600	800	1000	800	1000	1200
Iv (m³/h) v=1m/s; f=100%	252	302	418	533	816	1032	1248
triangular bar width	900	1000	1200	1400	1200	1400	1600
pitch longitudinal	500				750		
min. pulley diameter	2000				3000		
lump size	150 mm max. 10% up to 200 mm				200 mm max. 10% up to 250 mm		

### System details

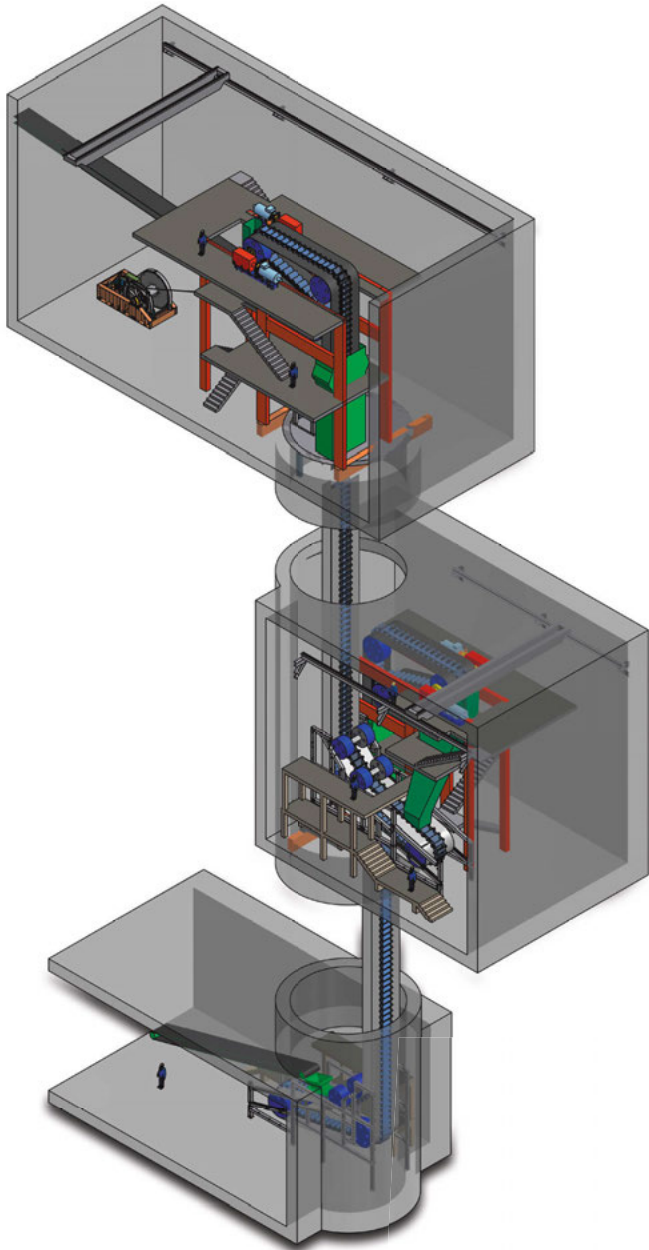


**Crossbar, POCKETLIFT® Type III**

**Pocket, POCKETLIFT® Type III**

**Crossbar, POCKETLIFT® Type II**

**Pocket, POCKETLIFT® Type II**

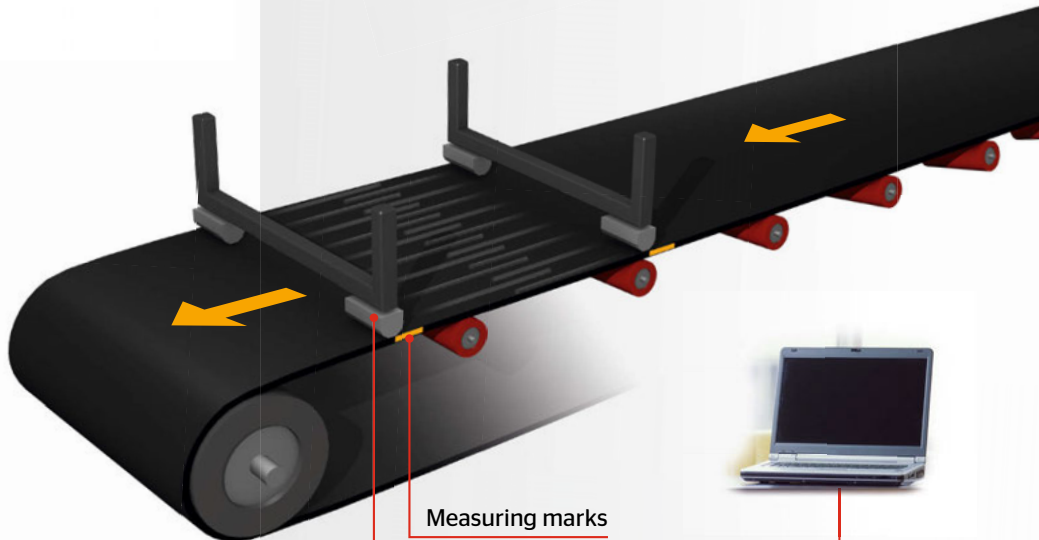
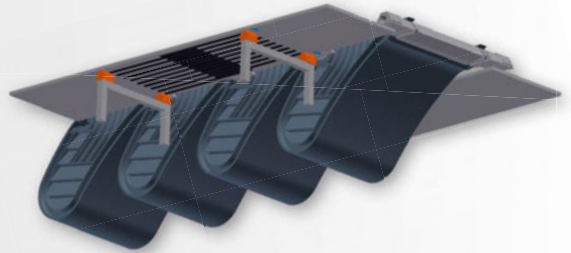


### Challenge of the future

In our latest feasibility study ContiTech shows that by placing one Pocketlift on top of the other it is possible to reach a vertical lift of 1000 m with a capacity of 1500 t/h. Additional excavation for the material transfer point can be minimized to standard bunker size.

### Belt Monitoring Systems

Besides other monitoring systems the "Splice Elongation System" is one of the latest developments which allow operators real time monitoring of the splice, which is the most sensitive part of the belt. The system can be easily integrated in an existing PLC.



Measuring marks

Receiver/Sensor

# ContiTech

## Conveyor Belt Group

Market segment

Engineered Products

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The ContiTech division of the Continental Corporation is a development partner and original equipment supplier to numerous industries for high-quality functional parts, components and systems. With its know-how in rubber and plastics technology, ContiTech contributes significantly to industrial progress and mobility that is safe, comfortable and eco-friendly.

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