

SP 15(i) | SP 25(i) | SP 61(i)



Introduction

Welcome to the eTraining!



In this eTraining, we would like to present the highlights of our slipform pavers SP 15(i), SP 25(i) and SP 61(i).

Additional information can also be found in the corresponding product brochures. Click on one of the models to view the respective brochure:

SP 15(i)

SP 25(i)

SP 61(i)

At the end of the eTraining, you can apply and test your knowledge in our Know-How Check.

We hope you enjoy this eTraining!
Your Product & Sales Training Team

This eTraining consists of 3 learning units.
You can exit the eTraining as often as you like and continue where you left off the next time you open it.

PRINCIPLES



15 min

HIGHLIGHTS



45 min

KNOW-HOW CHECK



15 min

SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers offer a wide range of applications. The fully modular machine design enables it to be flexibly converted, modified to meet customer requirements and adapted to the specific construction site situation. Here you can see some examples of the range of applications for WIRTGEN slipform pavers:



Take a look at the examples of the different applications by clicking on the thumbnails.

SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



No problem: the SP 15(i) is capable of paving with millimetre precision in curves.

OK

inverted, modified to
of the range of



Take a look at the examples of the different applications by clicking on the thumbnails.

SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



Large water gutters manufactured with the SP 15(i)

OK

inverted, modified to
of the range of



Take a look at the examples of the different applications by clicking on the thumbnails.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



Installation of a slotted gutter for rainwater drainage with the SP 15(i).

OK

inverted, modified to
of the range of



Take a look at the examples of the different applications by clicking on the thumbnails.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



SP 15(i) installs concrete safety barriers on the left-hand side with continuous reinforcement.

OK

inverted, modified to
of the range of



Take a look at the examples of the different applications by clicking on the thumbnails.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



When installing concrete safety barriers up to a height of 2.0 m, the SP 25(i) is in its element.

OK



Take a look at the examples of the different applications by clicking on the thumbnails.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



Precise paving of up to 3.5 m wide roads using the
WIRTGEN AutoPilot with the SP 25(i).

OK

inverted, modified to
of the range of



Take a look at the examples of the different applications by clicking on the thumbnails.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



The SP 25(i) paves monolithic offset concrete profiles up to a height of 2.0 m or width of 2.5 m by standard.

OK



Take a look at the examples of the different applications by clicking on the thumbnails.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



Concrete paving using a 3D control system with the SP 25(i).

OK



Take a look at the examples of the different applications by clicking on the thumbnails.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



The SP 25(i) will install rainwater guttering along a sloping incline.

OK

inverted, modified to
of the range of



Take a look at the examples of the different applications by clicking on the thumbnails.

SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



The SP 25(i) is used to produce large water gutters.

OK

inverted, modified to
of the range of



Take a look at the examples of the different applications by clicking on the thumbnails.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



Installation of a special profile for an agricultural operation with the SP 25(i).

OK

inverted, modified to
of the range of



Take a look at the examples of the different applications by clicking on the thumbnails.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Spectrum of Applications

Offset slipform pavers
meet customer require
applications for WIRTG



Construction of a 2.5 m wide cycle path with the SP 25(i).

OK

inverted, modified to
of the range of



Take a look at the examples of the different applications by clicking on the thumbnails.

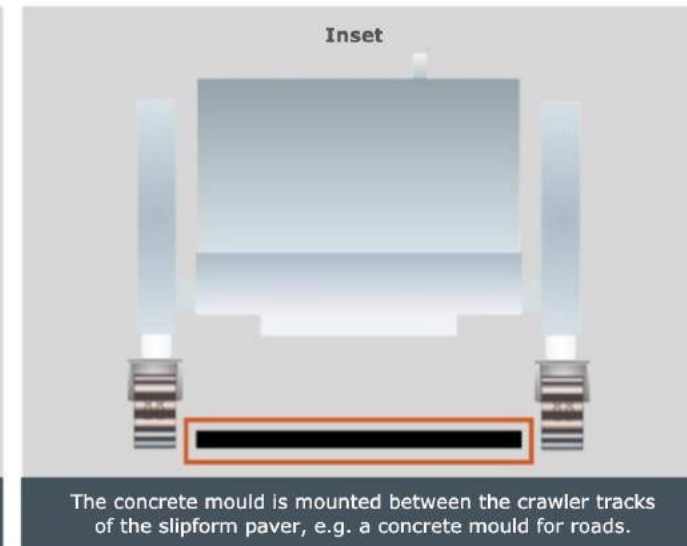
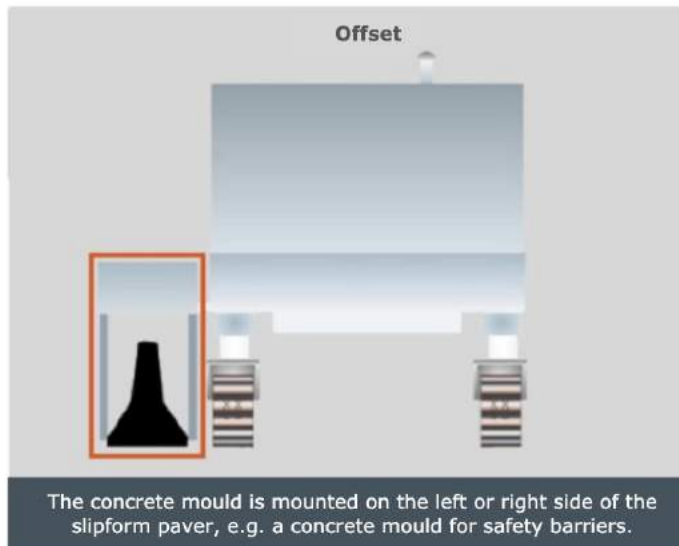
SP 15(i) | SP 25(i) | SP 61(i)



Principles

Differences in the functional principles

When paving concrete with slipform pavers, there are essentially two different methods: Offset and inset. Here you can see the main differences between the two methods.



Click on "Next" to continue with the eTraining.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Compact slipform pavers at a glance

The compact WIRTGEN slipform pavers SP 15(i), SP 25(i) and SP 61(i) cover a wide range of applications and have different technical features. The models differ in size, weight, engine power and equipment. This means they can meet all the demands.

SP 15(i)

[Brochure SP 15\(i\)](#)

SP 25(i)

[Brochure SP 25\(i\)](#)

SP 61(i)

[Brochure SP 61\(i\)](#)

Click on the PDF symbols to view each of the product brochures for the three models.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Main components based on the example of the **Offset** version of the WIRTGEN SP 25(i)

- 1 Walk-through operator's platform offering a good view of both the machine and the construction site
- 2 Concrete feeding system as a conveyor belt or auger conveyor, versatile and adjustable
- 3 Water tank with a capacity of 450 l (on the left and also optionally on the right --> 900 l max.)
- 4 Receiving hopper for delivered concrete
- 5 Height-adjustable, laterally telescoping trimmer unit
- 6 Offset slipform can be mounted on the left and right side of the machine and telescoped to both sides.
- 7 Cross-feeding auger
- 8 Clearly arranged control panel, can be positioned on the left and right-hand side
- 9 Maintenance flap
- 10 Weather canopy



Learn more about the main components of the WIRTGEN SP 25(i) by clicking on the numbers 1 to 10.

SP 15(i) | SP 25(i) | SP 61(i)



Principles

Main components based on the example of the **Inset** version of the WIRTGEN SP 25(i)

- 1 Easy access
- 2 Telescopic machine frame
- 3 Pivoting arm for adapting the crawler track to the site conditions
- 4 Hydraulically driven, separately steerable and height-adjustable front crawler tracks
- 5 Adjustable front part of the chassis
- 6 Modular expandable spreading auger
- 7 Paving mould
- 8 Two laterally telescopic rear crawler tracks
- 9 Levelling system
- 10 Lifting column with hydraulic cylinder for height adjustment
- 11 Drive unit



Learn more about the main components of the WIRTGEN SP 25(i) by clicking on the numbers 1 to 10.

SP 15(i) | SP 25(i) | SP 61(i)



Principles

Highly flexible concrete paving

The modular design of the WIRTGEN slipform pavers enables the machines to be individually configured and adapted to the respective applications and construction site situations. The positioning of the slipform, crawler tracks and concrete feed is extremely important. Here you will find the essential factors for flexible concrete paving:



Click on the numbers to find out more about the essential factors of flexible concrete paving.

SP 15(i) | SP 25(i) | SP 61(i)



Principles

Highly flexible concrete paving

1 Optimum Stability

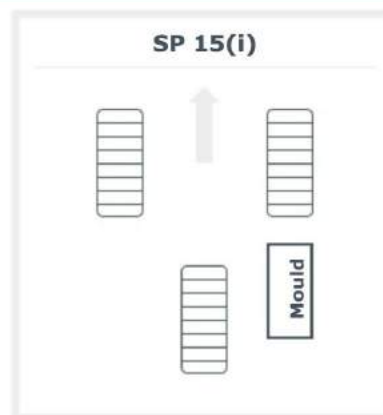
By swivelling and telescoping the crawler tracks and positioning the mould and the moveable front part of the chassis (SP 25), stability is increased, especially under difficult construction site conditions.



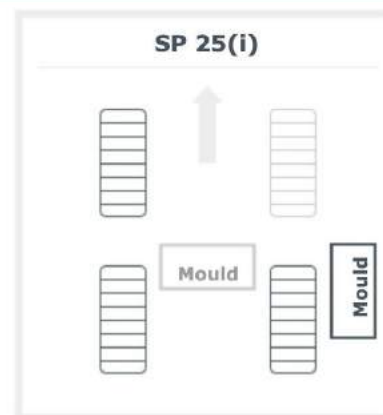
Stability SP 15(i)



Stability SP 25(i)



SP 15(i) as an offset paver with 3 crawler tracks in the plan view



SP 25(i) as an inset or offset paver with 3 or 4 crawler tracks in the plan view

OK



Click on the numbers to find out more about the essential factors of flexible concrete paving.



SP 15(i) | SP 25(i) | SP 61(i)



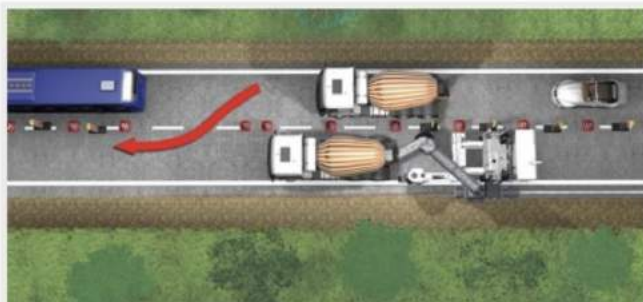
Principles

Highly flexible concrete paving

2 Flexible Configuration

For offset applications, the slipform can be mounted either to the right or to the left. This means that the entire paving process and the logistics required to supply the paver with concrete can always be carried out in the direction of the moving traffic.

On the SP 25(i), the concrete mould can be mounted beneath the machine for inset applications.



Slipform under the machine
(Inset)



Slipform next to the machine
(Offset)

OK



Click on the numbers to find out more about the essential factors of flexible concrete paving.

SP 15(i) | SP 25(i) | SP 61(i)



Principles

Highly flexible concrete paving

3 Flexible Concrete Feeding

The flexible positioning of the belt conveyor or auger conveyor guarantees that the concrete flows continuously into the mould and that the loading logistics run smoothly.

(See Highlight 2 - Concrete Application)



Concrete feeding

Hydraulic cylinders make it possible to turn the belt conveyor or auger conveyor to the side, adjust their angle of inclination and move them longitudinally.

A threaded rod enables you to move the machine manually in the transverse direction.



OK



Click on the numbers to find out more about the essential factors of flexible concrete paving.

SP 15(i) | SP 25(i) | SP 61(i)



Principles

Exercise

Which statement(s) concerning the adjustment of the crawler tracks of the SP 25(i) is/are correct?



The rear crawler tracks can be telescoped hydraulically by 715 mm.



The two front crawler tracks can be moved by 1,400 mm with the optional shifting device of the front chassis part.



The front crawler tracks can be individually adapted to the construction site situation using the pivoting arms.



SP 15(i) | SP 25(i) | SP 61(i)



Principles

Selecting the appropriate machine

Selecting the correct machine model depends on the required dimensions of the concrete profile.

Complete the following table to gain an overview of the maximum mould widths and heights as well as the positioning of the profile in relation to the machine.



		SP 15(i)	SP 25(i)		SP 61(i)
Application		Offset	Offset	Inset	Offset
Number of crawler tracks		3	3/4	4	3/4
	Max. Height	0.4 m			
	Max. Width	1.8 m	2.5 m	3.5 m	3.0 m
	Max. Height	1.3 m	2.0 m		2.2 m
	Max. Width	0.6 m			0.8 m

- Other offset geometry and special applications on request
- Custom widths available on request



Click on the "Good to know" button to find out what the maximum mould width and height is all about. Complete the table by dragging the values to their correct position.



SP 15(i) | SP 25(i) | SP 61(i)

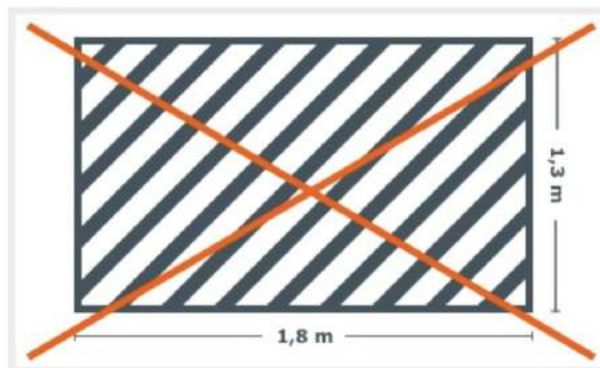


Principles

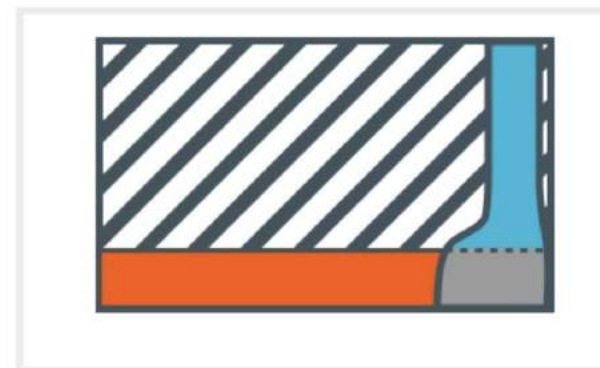
Selecting the appropriate machine

Good to know

PRECISELY!



For offset pavers, the maximum mould height refers to the height of a safety barrier and the maximum mould width to the width of a concrete surface or a monolithic profile.



Depending on the profile type, either the maximum mould width or the maximum mould height can be used.

OK



SP 15(i) | SP 25(i) | SP 61(i)



Highlights

The highlights of the slipform paver at a glance

Highlights of concrete application

- 1 Proven slipform technology
- 2 Variable concrete supply
- 3 Alternative compaction technology
- 4 Optimum base preparation

Highlights of the engine technology and operation

- 8 Perfection in operation and ergonomics
- 9 Latest engine technology



Control system highlights

- 5 High-quality machine control
- 6 Practical steering and drive system
- 7 Automatic levelling and steering



Click on the numbers 1 to 9 to learn more about the highlights of the slipform pavers SP 15(i), SP 25(i) and SP 61(i).

SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Proven slipform technology - components

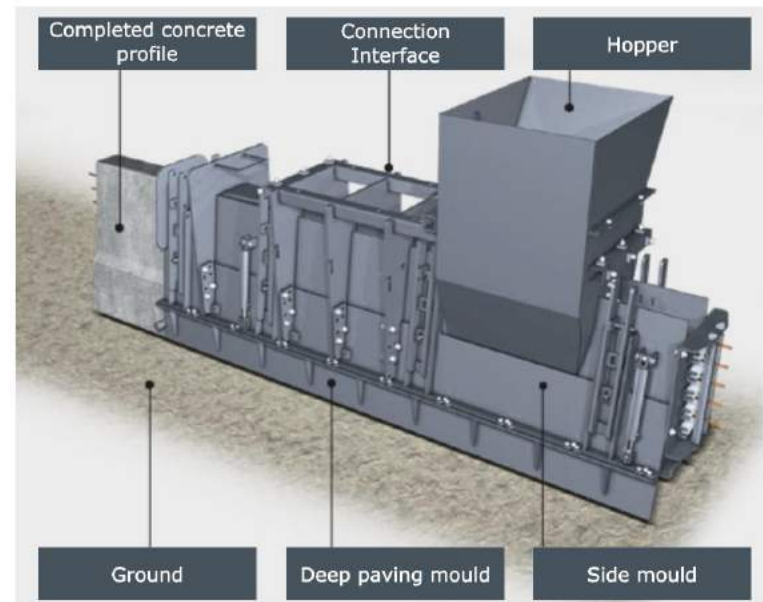
1

The hopper of an offset mould receives the concrete delivered by the feeder in a tidy manner.

The hopper must always be filled to a certain height during the paving process in order to exert static pressure on the concrete.

In offset paving, the concrete is compacted by vibrators and shaped by the forward movement of the slipform paver.

The hydraulic side moulds prevent concrete from leaking and glide across the ground.



Drag the main components of the offset mould to their correct positions in the image.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Proven slipform technology - moulds

1

WIRTGEN offers a wide range of standard slipform profiles that have been tried and tested on construction sites and can be mounted on both sides. Individual slipform moulds can also be quickly produced according to customer specifications. This makes it all the more important for us to accurately and thoroughly collect all the necessary information in advance with the help of our survey.



Curb



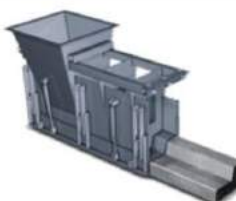
Water gutter



U channel



Concrete safety barrier



Curb gutter



Curb and gutter



V channel



Road surface

Flying
Moulds

Get to know the different standard profile shapes. Please also watch the video on this.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Proven slipform technology - moulds

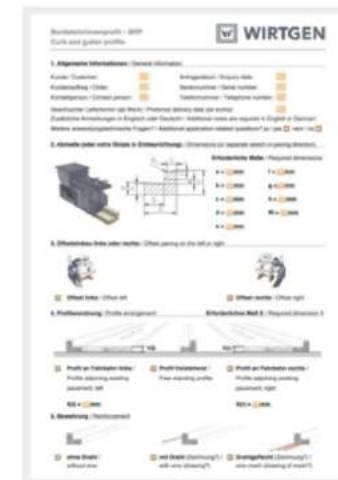
1

Good to know

Individual offset profile data sheets are available for the various offset mould variants. As a result, WIRTGEN is able to quickly process orders internally. They are a useful resource for both sales companies and customers. This means that all the necessary information for the construction work can be provided in the most simple and complete way possible.



Survey on Offset Moulds



OK



Get to know the different standard profile shapes. Please also watch the video on this.



SP 25_FLYING....mp4



SP 15_SP25_....mp4



SP25.mp4



SP15.mp4



Show All



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Proven slipform technology - Quick-change system

1

In order to make optimum use of the immense variety of shapes, it is essential that the moulds can be changed quickly. The WIRTGEN quick-change system developed for this purpose makes it possible to change the moulds directly on the construction site within the shortest possible time and without requiring much effort. This can be done several times a day if necessary.

To do so, the paver pulls to the side of the upright offset mould. The mounting hooks can then be pushed into the receiving guides of the mould. The offset mould can then be fixed to the mould carrier at the push of a button using the hydraulic clamping tool.

**Steps when
changing the paving moulds****Quick-change system in use**

Get to know the WIRTGEN quick-change system by watching the two videos.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Proven slipform technology - Quick-change system

1

Were you paying attention while watching the videos? Then the following exercise should be no problem for you.
Please put the steps of the mould changing process in the correct order.



Step 1:
Drive up to the side
of the offset mould



Step 2:
Lower the
attachment plate with
mounting hooks



Step 3:
Slide the mounting hooks
into the guides



Step 4:
Secure offset mould with
hydraulic cylinders



Put the mould assembly steps in the correct order by assigning the pictures to the correct step.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Proven slipform technology - special situations in concrete paving

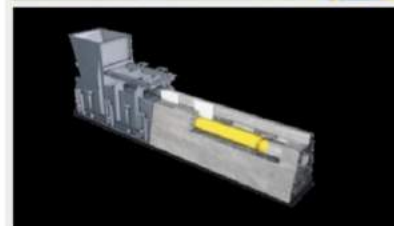
1



Thanks to the hydraulically height-adjustable sideplates, it is easy to set different depths. The sideplates always adapt precisely to the contour of the trench.



This special design with a modified support frame, a counterweight and a chute enables a water canal to be paved far away from the machine (e.g. on a slope).



This application produces a curb with integrated water drainage.



Please pay attention to the additional note.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

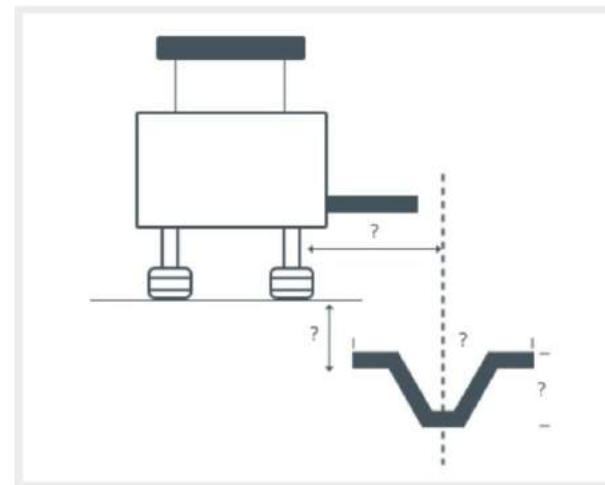
Proven slipform technology - special situations in concrete paving

1

Good to know

Choosing the right machine depends on the following factors, among other things:

- Shape and volume of the profile
- Depth and width of the mould
- Distance and position in relation to the machine



OK

Please pay attention to the additional note.

SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Variable concrete feeding - Types

2

The continuous feeding of homogeneous concrete into the offset mould is the basic requirement for successfully producing monolithic concrete profiles. The powerful and versatile adjustable concrete feeding process is carried out either via a (foldable) belt conveyor or an auger conveyor. A transverse auger can also be fitted for additional flexibility. The delivered material is retrieved via the conveyor system and then transported to a hopper above the mould.

Adjustment options
for concrete feeding

Concrete feeding in operation



Belt conveyor



Auger conveyor



Cross-feeding



Click on the pictures to learn more about the individual methods of concrete feeding. Please also take a look at the videos.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Variable concrete feeding - Types

2

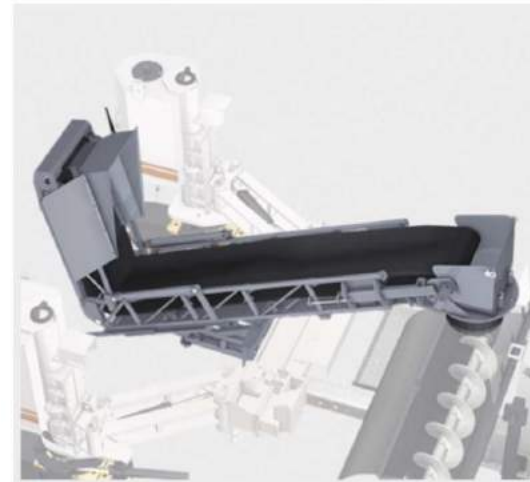
Belt conveyor

The hydraulically operated concrete belt conveyor, with its large width and infinitely variable conveying speed, enables the concrete quantity to be optimally adapted to the size of the profile cross-section and the advance speed of the slipform paver.

There are two options to choose from:

1. Short version
2. Long version with hydraulic folding conveyor
The hydraulic folding design enables it to be transported on small transport vehicles.

The belt conveyor is characterized by its ease of maintenance, as it is easy to clean and subject to low wear.



OK



Click on the pictures to learn more about the individual methods of concrete feeding. Please also take a look at the videos.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Variable concrete feeding - Types

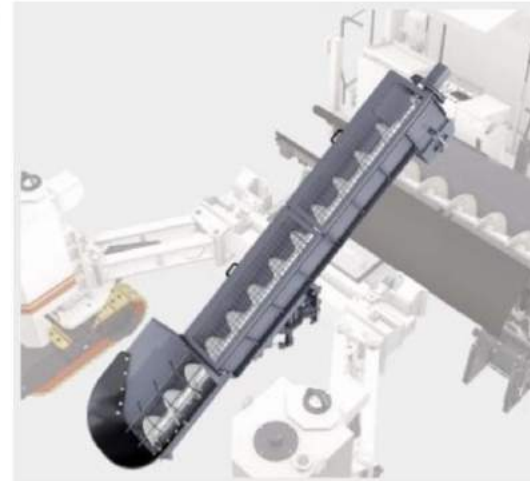
2

Auger conveyor

Unlike the conveyor belt, the auger mixes the concrete thoroughly and evenly again during transport. This is a reliable way of preventing possible segregation (demixing). Segregation occurs when a certain group of the aggregates of a concrete mixture is concentrated in certain areas and underrepresented in others.

The auger conveyor can be adjusted to a steeper incline (45°) when transporting the concrete. This enables high profiles to be paved and work to be carried out on confined construction sites.

Due to its large diameter of 400 mm, the auger conveyor is able to act as a material buffer, offering considerable capacity for even larger quantities of concrete. This ensures a constant material feed without interruption and thus a consistent paving process even in tight corners or while changing the concrete mixer.



OK



Click on the pictures to learn more about the individual methods of concrete feeding. Please also take a look at the videos.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Variable concrete feeding - Types

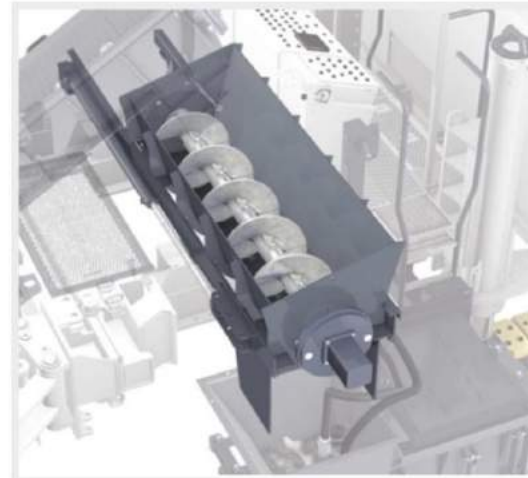
2

Cross-feeding with the SP 25(i)

Certain slipform pavers can be equipped with a cross-feeding auger. This ensures even greater flexibility in monolithic profile paving.

The cross-feeding auger is required if, for example, the offset mould is positioned far away from the chassis and the concrete mixer is only able to move in the paver's lane.

Depending on how the offset mould is arranged, the cross-feeding auger can feed either to the right or to the left. It can be moved hydraulically to the side and can be used as a concrete buffer.



OK



Click on the pictures to learn more about the individual methods of concrete feeding. Please also take a look at the videos.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Variable concrete feeding - Machine assignment

2

All of the types of machines have different connection points for the conveyor units.

	SP 15 SP 15i	SP 25 SP 25i	SP 61 SP 61i
			
Belt conveyor 4.9 m x 0.6 m	☒	☒	☐
Belt conveyor 5.9 m x 0.6 m	☐	☒	☒
Belt conveyor (foldable) 5.5 m x 0.6 m	☒	☐	☐
Belt conveyor (foldable) 6.0 m x 0.6 m	☐	☒	☒
Auger conveyor 4.6 m x 0.4 m	☒	☒	☒
Auger conveyor 5.7 m x 0.4 m	☐	☒	☒
Cross-feeding auger 2.5 m	☐	☒	☐



Click on "Next" to continue with the eTraining.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

3

Alternative compaction technology - Categorization

Depending on its consistency and aggregates, the fresh concrete fed into the offset mould will contain a varying amount of voids. The air-filled voids have to be removed in order to give the fresh concrete the required properties such as suitability for slipforming and strength. Depending on customer requirements, the machine can be equipped with a hydraulic or electric vibrator drive.

Vibrator designs

Types of vibrator drive



Straight vibrators



Curved vibrators



Electric vibrators



Hydraulic vibrators



Click on the vibrators for details on the various designs and drive types.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

3

Alternative compaction technology - Categorization

Depending on its consistency and aggregates, the fresh concrete fed into the offset mould will contain a varying amount of voids. The air-filled voids have to be removed in order to give the fresh concrete the required properties such as suitability for slipforming and strength. Depending on customer requirements, the machine can be equipped with a hydraulic or electric vibrator drive.

Vibrator designs

Straight vibrators are mainly used for offset paving, especially when working with high or upright profiles such as concrete safety barriers or curb / gutter profiles. Due to their smaller, slimmer suspension, straight vibrators guarantee a perfect concrete flow in the hopper area.

Due to their overall lower height, curved vibrators are generally used for concrete slab paving. They are mounted in the compaction chamber in front of the paving mould.

Types of vibrator drive

Electric vibrators have proven themselves in concrete slab paving. Each vibrator can be monitored electrically in the system. If a vibrator fails, a warning message will appear. This ensures an optimum and controlled compaction process. Electric vibrators are driven by a three-phase induction motor, which makes them highly efficient, relatively maintenance-free and economical in operation.

Hydraulic vibration is recommended for offset paving. Particularly when paving profiles of complex geometry, the vibrators have to work the concrete at varying degrees of intensity in the individual zones. Not only can the frequency of hydraulic vibrators be individually adjusted from the operator's platform, but they can also be adjusted to concrete of varying consistency.

Straight vibrators

Curved vibrators

Electric vibrators

Hydraulic vibrators



Click on the vibrators for details on the various designs and drive types.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Alternative compaction technology - Categorization

3

Do you know the main differences between hydraulic and electric vibrators?

Hydraulic vibrators

- Lower frequency
- Power loss due to internal leakage
- Frequency of each vibrator individually adjustable
- Higher maintenance requirements
- Frequent use: Offset
- Energy consumption: approx. 3.5 kW/per vibrator

Electric Vibrators

- Higher frequency
- No power loss due to internal leakage
- Frequency of each group of vibrators adjustable (not individually)
- Reduced maintenance requirements
- Frequent use: Inset
- Energy consumption: approx. 1.5 kW/per vibrator

👉 Get to know the main differences by assigning the missing criteria accordingly.

SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Alternative compaction technology - Number of vibrators

3

The slipform paver models have a varying number of vibrator connections.

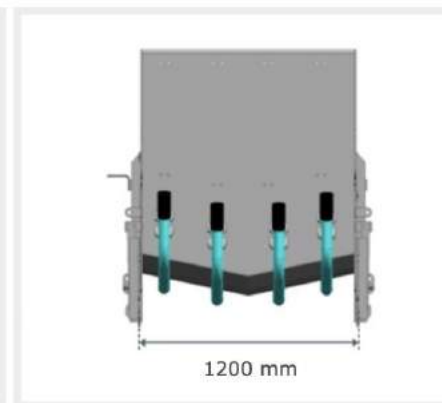
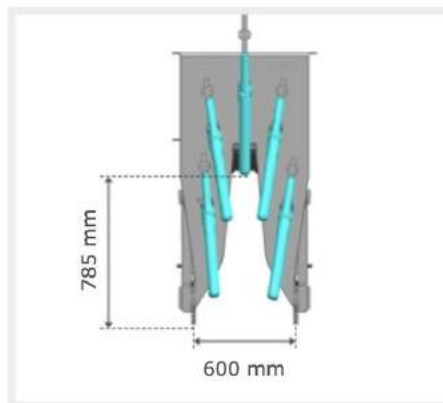
Each machine is usually equipped with a certain number of vibrators (this does not correspond to the maximum number of available connections). The number of vibrators required again depends on the paving mould.

*Additional vibrators can be requested as an individual option.



Inset-arrangement of the vibrators

Model	SP 15(i)	SP 25(i)	SP 61(i)
Max. * hydraulic vibrators	5	5 - 10	6 - 12
Max. * electric vibrators	5	5 - 10	18



Take a look at the different vibrator configurations. Also watch the video about the inset arrangement of the vibrators.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application

Alternative compaction technology - Position of the vibrators

3

The vibrators must be correctly positioned to ensure that the concrete is optimally compacted. They are installed with their longitudinal axis pointing in the direction of the material flow. Number and arrangement depend on profile shape and concrete consistency.



Offset paving



Inset paving

🖱️ Click on the types of paving to find out more about the position of the vibrators.

SP 15(i) | SP 25(i) | SP 61(i)



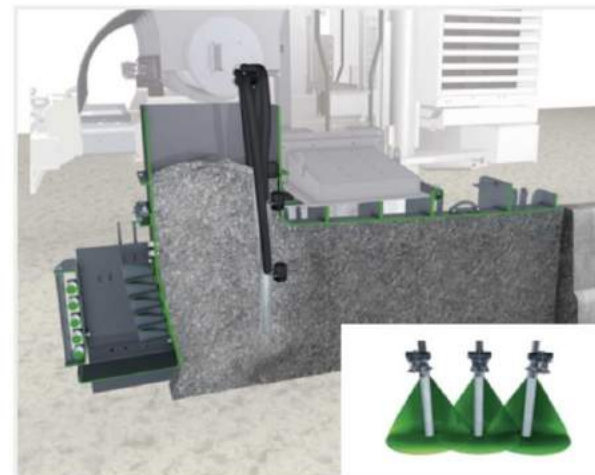
Highlights in concrete application

Alternative compaction technology - Position of the vibrators

3

Offset paving

- Position the vibrators in the offset mould
- Select the number of vibrators in accordance with the cross-section of the profile
- Make sure that the vibrators have overlapping effective radii
- Maintain a consistently high concrete level in the hopper to ensure uniform degrees of compaction and evenness
- Position the vibrators so as to prevent collision with any steel reinforcement



OK

🖱️ Click on the types of paving to find out more about the position of the vibrators.

SP 15(i) | SP 25(i) | SP 61(i)



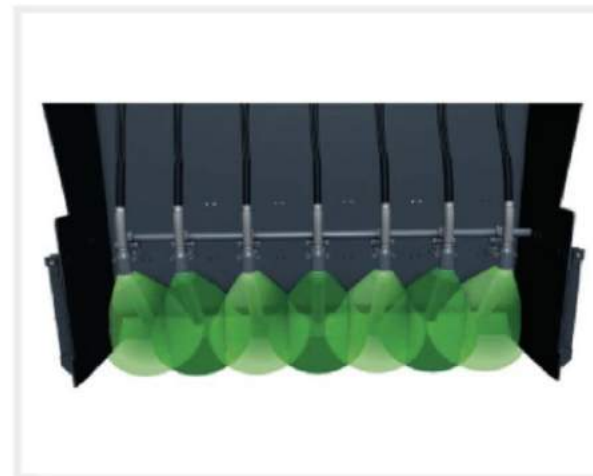
Highlights in concrete application

Alternative compaction technology - Position of the vibrators

3

Inset paving

- Position the vibrators in front of the inset mould
- The concrete needs to be compacted uniformly and fully across the entire cross-section. Therefore, the internal vibrators have to be adjusted to the same height and direction across the entire paving width
- Install the vibrators at regular intervals in order to prevent non-compacted areas from occurring
- The distance from the left and right sides of the inset mould to the first vibrator is usually approx. 125 mm, the distance between the other vibrators should be between 360 and 380 mm
- It is vital to maintain a consistently high filling level of concrete in the compaction zone in order to ensure high quality of compaction and evenness



OK



Click on the types of paving to find out more about the position of the vibrators.



SP 15(i) | SP 25(i) | SP 61(i)

**Highlights in concrete application**
Optimum base preparation

4

One method of preparing the base is to level an inadequately even surface using a flexibly adjustable trimmer. This process ensures uniform concrete paving. The trimmer, which is positioned directly in front of the paving mould, can be adjusted in its height and transverse inclination and telescoped sideways. Starting with a basic width of 600 mm, the unit can be gradually widened up to a maximum of 1,600 mm. The trimmer perfectly prepares the previously paved base up to a working depth of 150 mm.



Trimmer use



Trimmer settings



Watch the videos.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights in concrete application Exercise

Which statement concerning the trimmer is correct?

☐

The trimmer is used for milling off asphalt surfaces.

☒

The trimmer is used to create a subgrade on sandy and stony soils with a working depth of up to 150 mm.

☐

The trimmer has a fixed position on the machine and cannot be moved.

☐

The trimmer runs across the entire width of the machine and is used for both offset and inset operations.



SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

High-quality machine control

5

The slipform pavers of the WIRTGEN Group support the intelligent WITOS® FleetView telematics system. Thanks to the system-supported preparation, transmission, visualisation and evaluation of machine and position data, fleet and service management becomes more efficient in daily use whilst the general overview of the fleet of machines being controlled is also improved.

Advantages of the software and hardware:
Fleet management with the WITOS® FleetView telematics system
Increased machine operational safety
Enables a more flexible and higher level of machine functionality in terms of the range of applications and individual customer requirements
Targeted quick diagnostics using the WIDIAG service diagnostic system
Self-developed software



Brochure WITOS



Click on the brochure for details.

SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Steering and drive system

6

Modern slipform pavers are equipped with automatic height and steering control. Based on a reference, the height control (levelling) regulates the position of the concrete profile. In order to produce curved profiles, for example, the steering control detects any reference changes that occur and then regulates the profile progression. The WIRTGEN slipform pavers offer a number of specifications that enable particularly precise concrete paving:

Exact driving performance is ensured above all by the use of the tried and tested Ackermann steering system.

1. The computer-supported steering system varies the speed of the individual crawler tracks when driving around corners, ensuring that the SP series always follows the specified references with millimetre precision.
2. The steering angle of each crawler track is adjusted fully automatically, depending on the radius and machine geometry. This makes extremely narrow radii also possible.

Stringline and stringless systems provide the reference for the machine control.

 **Monolithic profiles and narrow paths**
(p. 134 ff. machine operation)

 **Driving through the radius**



Please also watch the video on this.

SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Exercise

What features of the WIRTGEN slipform pavers enable them to accurately pave curved concrete profiles in particular?



The exact driving performance of the WIRTGEN slipform pavers is ensured by the tried and tested Ackermann steering system.



The particularly short distances between the individual crawler tracks make it possible to produce particularly narrow radii on concrete profiles.



The speed of the individual crawler tracks is adjusted with the help of computers in order to ensure that the specified references can always be followed with millimetre precision.



The steering angle of all crawler tracks is adjusted fully automatically. This makes extremely narrow radii also possible.



SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Automatic levelling and steering

7

The quality of the concrete profile is only as good as the reference provided. In addition to traditional mechanical scanning by means of a stringline, methods for levelling include using existing objects and profiles or gravitational force for directional orientation, as well as WIRTGEN's economical machine control system for precise, stringless concrete paving.



Stringline

Existing objects
or profiles

Lateral tilt



Digital stringline



Discover the different levelling possibilities.



SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Automatic levelling and steering

7

Stringline

The slipform paver's steering and height sensors precisely follow the previously installed guide line. Any height or steering changes are transmitted precisely to the integrated machine control system. The cross slope of the machine is measured using the integrated cross slope sensor.



Stringline sensor

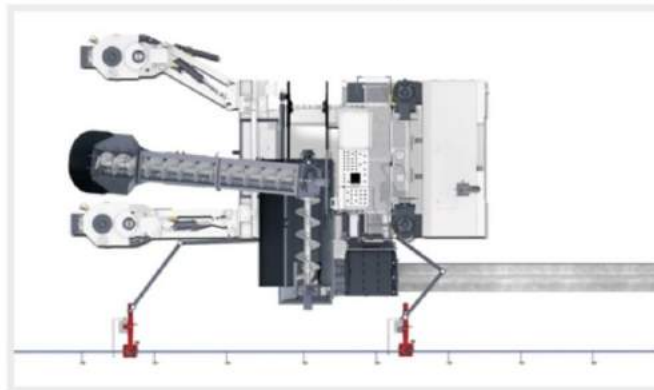


Image 1: Machine with a stringline - good paving result



Image 2: Machine without a stringline - poor paving result

OK



Discover the different levelling possibilities.



SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Automatic levelling and steering

7

Existing objects or profiles

Instead of a stringline, height and direction can also be obtained from existing objects or profiles using a slab tracer or a non-contact ultrasonic sensor.



Slab tracer



Ultrasonic sensor

OK

Discover the different levelling possibilities.

SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

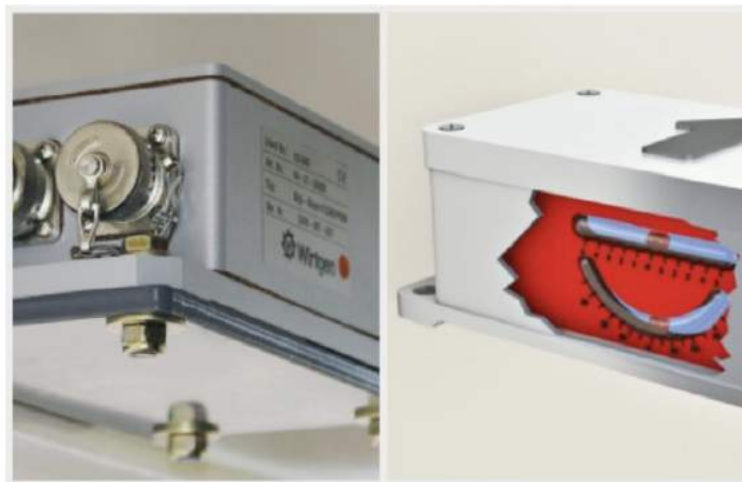
Automatic levelling and steering

7

Lateral tilt

Absolute reference (e.g. gravity)

Measuring is carried out according to the principle of the electronic spirit level: The sensor measures the transverse inclination with respect to the absolute horizontal position. Gravitational force serves as a reference. Any deviations in the gravitational force reference are detected by the sensor and transmitted directly to the machine control system. The actual machine inclination is automatically corrected according to a predetermined machine inclination.



OK

Discover the different levelling possibilities.



SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Automatic levelling and steering

7

Good to know

The electronic slope control system developed by WIRTGEN using the "Rapid Slope" sensor guarantees perfect paving results.

Thanks to optimized control technology, the innovative slope control system achieves unprecedented precision and dynamics. Significantly shorter machine reaction times are reflected in precise concrete paving quality.

The WIRTGEN slope control system quickly and reliably balances out shocks, vibrations and unevenness in the ground.



OK

Discover the different levelling possibilities.

WIRTGEN GROUP SOLUTIONS / eTraining

27 / 32



SP25_Stringli....mp4 ^

SP15_Driving t....mp4 ^

SP25_Trimmer....mp4 ^

SP25_Trimmer....mp4 ^

SP25_Inset-ar....mp4 ^



SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Automatic levelling and steering

7

Digital stringline

On top of conventional mechanical scanning using a stringline, systems that scan a virtual or digital stringline have also proven themselves in recent years. In some cases, this kind of wireless scanning is already a prerequisite when it comes to assigning projects.

On the following pages you will receive an overview of the various systems and their flexible application possibilities.

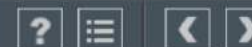


OK

Discover the different levelling possibilities.

WIRTGEN GROUP SOLUTIONS / eTraining

27 / 32



SP25_Stringli....mp4 ^

SP15_Driving t....mp4 ^

SP25_Trimmer....mp4 ^

SP25_Trimmer....mp4 ^

SP25_Inset-ar....mp4 ^



SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Comparison of digital stringline systems

7

What do you think? What are the advantages of stringless systems compared to conventional systems?

☒ Saves time as there is no need to install a stringline

☒ No need to take down the stringline

☒ Multiple use of data models

☐ Significantly lower investment costs

☒ Improved safety



SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Comparison of digital stringline systems

7

The quality of the concrete profile is only as good as the reference provided. The economical machine control system developed by WIRTGEN for precise, stringless concrete paving comes in handy here.



Self-developed "AutoPilot Field Rover"



Interfaces for external systems

Get to know the systems that are used.

SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Comparison of digital stringline systems

7

Self-developed "AutoPilot Field Rover"

The WIRTGEN AutoPilot Field Rover is a satellite-based system for automated machine operation. Seeing as this system always has to maintain contact with the satellites, it cannot be used, for example, in tunnel projects!

The satellite data is only used for the direction and position (steering) of the machine. Depending on the application, the paving height (levelling) is adjusted by means of an optical measuring system, e.g. a reference laser, or by scanning existing objects and profiles using an ultrasonic sensor or a slab tracer.

The Autopilot system is available for the SP 15(i) and SP 25(i) in different frequency ranges. This enables the various requirements of the infrastructure in question to be fulfilled. The system is not yet available for SP 61(i).



Field Rover



OK



Get to know the systems that are used.



SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Comparison of digital stringline systems

7

Good to know

- 1 Field Rover for measuring lines and curves or for the final inspection
- 2 Handheld data collector for data input
- 3 GNSS Reference Station for Real-Time Machine Control
- 4 GNSS sensors for determining the position and direction of travel
- 5 Laser receiver for height control
- 6 Intuitive operating display
- 7 Intelligent software for automatic curve calculation
- 8 USB stick for data exchange



OK

Click on the numbers 1 to 8 and get to know the autopilot machine operation.

SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Comparison of digital stringline systems

7

Interfaces for external systems

The WIRTGEN slipform pavers offer a certified standard interface for reliable communication with common 3D systems.

The tried and tested interface ensures compatibility with 3D control systems of leading suppliers.



**PaveSmart 3D
Total station**
(Version 5.01)



**3D MC
with mmGPS**
(SW Version 12.1)



PCS900
(Version 2.1 with
total station)



OK



Get to know the systems that are used.

SP 15(i) | SP 25(i) | SP 61(i)



Control system highlights

Comparison of digital stringline systems

7

Good to know

Depending on the application, various optical measuring systems are used for precise, stringless concrete paving. For example, rotary lasers with the appropriate receivers are used to level the machine. In the picture you can see another stringless version used for both automatic levelling and steering:

Total stations are electrical angle and distance measuring devices, so-called tachymeters. They are both transmitters and receivers of a laser beam that is reflected by a target point on the machine, the so-called prism. A geodetic terrain model is used as a reference for comparing the target and actual value. Using several total stations has the advantage that concrete paving operations can be carried out faster and with no interruptions.



OK



Get to know the systems that are used.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights of the engine technology and operation

Perfection in operation and ergonomics

8

The optimally positioned, clearly arranged control panel is identical on all machines (SP 15(i), SP 25(i), SP 61(i) and the large slipform pavers of the latest generation). This makes it much easier to switch to another model.



The ergonomically designed operator's platform with its self-explanatory operating concept ensures productive working.

**Comfort**

The graphic display is located centrally on the clearly arranged control panel. Thanks to the use of clear symbols that do not depend on the national language, the paver is easy to operate.



The ergonomic design of the walk-through, spacious operator's platform is what ensures that the operator feels comfortable and is able to be highly productive. Depending on the job at hand, the control panel can be positioned to the right or left, thereby providing an optimum view of the machine, paving process and environment from both sides.



The height of the convenient access ladder can be adjusted manually.



Click on the images to learn more about the advantages of the WIRTGEN operating concept.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights of the engine technology and operation Latest engine technology

9



The engine power "Eco Mode", which is automatically adapted to the current power requirements, ensures reduced diesel consumption and low noise emissions.



ECO mode



SP 15(i)



SP 25(i)



SP 61(i)



Click on the models and learn about their features. Please also watch the video on this.

SP 15(i) | SP 25(i) | SP 61(i)



Highlights of the engine technology and operation

Latest engine technology

9



The engine power "Eco Mode", which is automatically adapted to the current power requirements, ensures reduced diesel consumption and low noise emissions.



ECO mode

Engine power SP 15:

92 kW / 123 HP / 125 PS

Exhaust emissions category:

EU Stage 3a / US Tier 3

Engine power SP 15i:

95 kW / 127 HP / 129 PS

Exhaust emissions category:

EU Stage 4 / US Tier 4f

SP 15(i)

Engine power SP 25:

118 kW / 158 HP / 160 PS

Exhaust emissions category:

EU Stage 3a / US Tier 3

Engine power SP 25i:

115 kW / 154 HP / 156 PS

Exhaust emissions category:

EU Stage 4 / US Tier 4f

SP 25(i)

Engine power SP 61:

155 kW / 208 HP / 211 PS

Exhaust emissions category:

EU Stage 3a / US Tier 3

Engine power SP 61i:

180 kW / 241 HP / 245 PS

Exhaust emissions category:

EU Stage 4 / US Tier 4f

SP 61(i)



Click on the models and learn about their features. Please also watch the video on this.



SP 15(i) | SP 25(i) | SP 61(i)



Highlights of the engine technology and operation Exercise

What statement concerning the machines' Eco mode is correct?

- ☐ The Eco mode automatically controls how fast the machine goes.
- ☐ The Eco mode automatically controls the speed of the conveyor system depending on the concrete quantity.
- ☐ The Eco mode indicates engine faults.
- ☒ The Eco mode automatically regulates the engine speed depending on the machine functions.



SP 15(i) | SP 25(i) | SP 61(i)



Test your knowledge

Know-How Check

You have now reached the end of the eTraining for the models SP 15(i), SP 25(i) and SP 61(i).

You have learned a great deal about the highlights, features and details of the new machines. The next step concerns how you can present the product successfully to your customer.

For this, we have prepared a knowledge check as a way of helping you to remember what you learned.

The best of luck!



START KNOWLEDGE CHECK >>

<< Quit Training

SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check

Question 1 / 10

Which applications are possible with the SP 25?

☒ Concrete safety barriers

☐ Asphalt roadways

☒ Concrete water gutters

☒ Rural road construction

Very good. Please move on to the next question.

WIRTGEN GROUP SOLUTIONS / eTraining



SP25_ECO M....mp4 ^

SP25_VẬN HÀ....mp4 ^

SP25_Field Ro....mp4 ^

SP25_Stringli....mp4 ^

SP15_Driving t....mp4 ^

Show All x

SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check

Question 2 / 10

Which information regarding the mould variants can be clarified in advance using the profile data sheets?

☒ Required profile dimensions

☐ Concrete feeding (Belt or auger)

☐ Offset paving left or right

☐ Engine power

Unfortunately that was incorrect. Please move on to the next question.

SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check

Question 3 / 10

Take another look at the applications and dimensions of the SP models here. Correctly arrange the terms and dimensions in the table.

		SP 15(i)	SP 25(i)		SP 61(i)
Application		Offset	Offset	Inset	Offset
Number of crawler tracks		3	3/4	4	3/4
	Max. Height	0.4 m			
	Max. Width	1.8 m	2.5 m	3.5 m	3.0 m
	Max. Height	1.3 m	2.0 m		2.2 m
	Max. Width	0.6 m			0.8 m

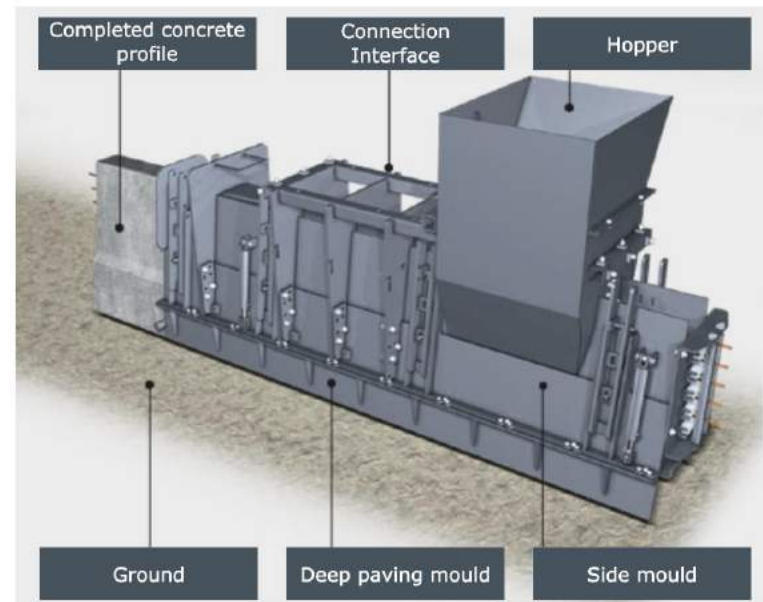
 Very good. Please move on to the next question.

SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check Question 4 / 10

Assign the terms!



👏 Very good. Please move on to the next question.

SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check

Question 5 / 10

What types of variable concrete feeding are there for the SP 15(i), SP 25(i) and SP 61(i)?



Auger conveyor



Foldable belt conveyor



Mixing directly in the paver - In place



Recycling of existing material



Very good. Please move on to the next question.



SP25_ECO M....mp4



SP25_VẬN HÀ....mp4



SP25_Field Ro....mp4



SP25_Stringli....mp4



SP15_Driving t....mp4



Show All



◀ Quit Training

SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check

Question 6 / 10

What statements concerning the Eco mode are correct?

- ☐ Achieves higher performance levels
- ☐ Enables machine to be turned quicker
- ☒ Offers automatic speed control
- ☐ Lowest possible fuel consumption and emissions

Unfortunately that was incorrect. Please move on to the next question.

WIRTGEN GROUP SOLUTIONS / eTraining



SP25_ECO M....mp4 ^

SP25_VẬN HÀ....mp4 ^

SP25_Field Ro....mp4 ^

SP25_Stringli....mp4 ^

SP15_Driving t....mp4 ^

Show All x

<< Quit Training

SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check Question 7 / 10

Assign the terms!



👏 Very good. Please move on to the next question.

WIRTGEN GROUP SOLUTIONS / eTraining



SP25_ECO M....mp4 ^

SP25_VẬN HÀ....mp4 ^

SP25_Field Ro....mp4 ^

SP25_Stringli....mp4 ^

SP15_Driving t....mp4 ^

Show All X

SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check

Question 8 / 10

What ergonomic and user-friendly advantages do the models SP15(i), SP 25(i) and SP 61(i) offer?



The control panel can be positioned to the right or left depending on the task.



The symbols used on the display depend on the national language.



The operator's platform features a self-explanatory operating concept.



The ladder is fixed and cannot be adjusted in height.



Very good. Please move on to the next question.



SP25_ECO M....mp4 ^



SP25_VẬN HÀ....mp4 ^



SP25_Field Ro....mp4 ^



SP25_Stringli....mp4 ^



SP15_Driving t....mp4 ^

Show All



SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check

Question 9 / 10

What has to be considered when using vibrators for the offset process?

- ☒ The number of vibrators must be adapted to the profile cross-section.
- ☐ In order to achieve an even compaction, the level of the concrete must vary.
- ☐ The vibrators must be positioned so that they are in constant contact with the steel reinforcement.
- ☒ The effective radii of the vibrators have to overlap.

 Very good. Please move on to the next question.

SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check

Question 10 / 10

What should you pay attention to when selecting the right machine?

- ☐ Distance and position of the mould in relation to the machine
- ☐ Height and width of the profile
- ☐ Shape and volume of the profile
- ☐ Ratio between available engine power and the number of vibrators required for the profile

 Unfortunately that was incorrect. Please move on to the next question.



SP 15(i) | SP 25(i) | SP 61(i)



Know-How Check

Your result

7 correct answers out of 10 Fragen!

Congratulations!

You have successfully passed the knowledge check.

Your eTraining Team in the Wirtgen Group

