Versatile high-performance milling machine for professional applications

Cold Milling Machine W 210
By the pros for the pros

The W 210 is compact, versatile and economically efficient

State-of-the-art construction machines need to cope with ever higher demands. Contractors expect high performance levels and economic efficiency without wanting to compromise on maximum flexibility. The W 210 perfectly meets these requirements: milling performance and versatility in application are tremendous, and the intelligent WIDRIVE machine management system cuts operating costs. WIDRIVE has automated many functions that are normally performed by the machine operator in a separate step, thus ensuring low diesel fuel consumption and enabling an environmentally compatible milling process. Further highlights of the W 210 include the PTS parallel alignment system, ISC crawler track control, FCS Light quick-change system for milling drums, LEVEL PRO automatic levelling system and new dual-engine design that is unprecedented in cold milling machine technology.
The innovative drive design of the W 210 featuring two engines offers maximum economic efficiency regardless of the working situation.

“Parallel To Surface” – PTS revolutionizes the automatic alignment of the machine parallel to the road surface in both longitudinal and transverse direction.

The newly developed ISC track control system provides optimized advance rate, traction control and adjustment of the crawler track speed in bends.

The milling drum speeds can be adjusted in accordance with the job at hand, guaranteeing optimal milling performance across a wide range of applications.

The innovative W 210 is a role model in performance and economy.
High productivity tailored to accurate fit

A broad range of applications in the 2-m class

The lightweight W 210 is considered a role model in performance capacity – and an ideal candidate in a broad range of applications. While its high engine power caters to all needs on large milling sites, its high milling performance, outstanding manoeuvrability and compact design ensure swift and professional completion also on small to medium-sized construction sites. Extremely useful features for meeting the high performance requirements are the intelligent WIDRIVE control system, the use of two powerful diesel engines, and a choice of different engine and milling drum speeds.
The W 210 rehabilitates all kinds of large areas with maximum efficiency – from the milling of surface courses to the complete removal of individual motorway lanes at full depth.

The W 210 lets performance speak for itself even when space is limited, for example, in the area of a road junction or on urban milling sites.

The tremendous power of the two diesel engines provides the large milling machine with ample reserve capacity.

Regardless of whether a milling drum assembly with a working width of 1.5 m, 2.0 m or 2.2 m is used, the unrivalled milling depth enables the removal of complete pavements in a single pass.
Three different milling drum speed options

Our design engineers know how to fully utilize the potential a cold milling machine has to offer. They have succeeded in presenting a true innovation that enables ideal milling outputs to be achieved not only under frequently varying and highly demanding conditions but also in a wide variety of different applications. The W 210 usually runs at the medium milling drum speed, whereas the high speed is selected for large-scale fine milling jobs. The low speed is chosen to achieve maximum milling performance levels at reduced fuel consumption rates per cubic metre of milled material and low cutting tool wear and tear. To put it in a nutshell: minimum cost and maximum productivity – made by Wirtgen.
A selector switch in the operator’s platform serves to set three different speed levels of the engine and/or the milling drum.

Low speed is recommended if high milling performance levels are required at low milling cost, for instance, when removing complete pavements at full depth.

Medium speed ensures a favourable particle size of the milled material and should be selected for standard milling jobs.

High milling drum speed and high machine advance rate will ensure a good surface texture in fine milling jobs.
Ease of operation permits full control of the W 210 right away

Climb the operator’s platform, and here goes! It takes no more than a short training period to be able to operate the W 210 just as intuitively as a milling pro. True to the saying that “less is more”, the operator needs to familiarize himself with a small number of controls only as the WIDRIVE machine management system will take care of many functions fully automatically. The clearly arranged controls are labelled in a language-neutral fashion, enable perfect handling and help to prevent fatigue during work. In addition, the clearly structured colour control screen keeps the operator informed of key machine and operating parameters. Crew members on the ground have an easy job, too: external panels can be used to operate the machine quickly and easily from the ground.
The control screen clearly displays operation parameters and maintenance details.

Innovative, user-friendly diagnostic tools enable any operator to easily diagnose the condition of the machine.

The large number of features provided includes continuous logging of events during the entire milling process.

The high level of information is supported by clearly structured, unambiguous diagrams.
Fully focused on the milling job

Perfect visibility in a comfortable working posture

Milling machine operators want to operate their machines at maximum performance levels, yet come down from the operator’s platform at the end of the working day feeling well and fit. The W 210 combines both requirements as it offers a truly perfect ergonomic design. One of the main features is the slender wasp waist of the W 210 which enables an unobstructed view of the milling edge, crawler track system and protective side plates. It is complemented by individually adjustable dual control panels and height-adjustable driver’s seats. The seats can be positioned between the control panel and guard rail on a swivel arm. All of these features combine into a perfect panorama design, and milling in both upright and seated position can proceed with the greatest ease.
The intelligent panorama design of the W 210 enables the operator to remain fully focused on the job while working in an ideal ergonomic body posture.

Working in upright or seated position, good visual contact to the control panel and a permanent view of the operating area are ensured.

Individually adjustable comfort seats on both sides promote the health and well-being of the machine operator.

The fully vibration-isolated operator’s platform and elastically supported engine minimize the impact of vibrations on the operator.
Gaining ground quickly with outstanding flexibility

Fully equipped operator’s platform

Solid, lockable covers provide effective protection against vandalism

Control screen and LEVEL PRO panel can be adjusted towards the operator

Fully prepared for all eventualities

Regardless of whether branches, traffic signs or crash barriers are blocking the way ahead on the job site, or inclement weather is making work difficult – the W 210 has the right answer to these difficulties. It elegantly negotiates any obstacles at the height of the operator’s platform by simply moving the entire protective canopy to the left or the right. This feature is just as effective in shielding the operator from exposure to sun, rain or storm, thus providing protection while ensuring an ideal view of the milling edge. And what’s more: collisions with beacons or crash barriers can be prevented by simply folding in the access ladder on the right-hand side.
The practical adjustment options offered by the W 210 provide lots of comfort and pay off quickly by an increase in productivity.

The operator’s platform can be accessed conveniently via access ladders fitted on both sides.

Electrically adjustable, fold-in exterior mirrors simplify the work of the operator.

A hot-air blower in the floor area of the operator’s platform ensures comfortable working conditions on cold days.
LEVEL PRO – state-of-the-art levelling technology

Wirtgen has developed an ultra-precise, proprietary levelling system including a software specifically designed for cold milling machines – LEVEL PRO. The overall system includes the clearly structured LEVEL PRO panel, a controller and several sensors. The graphics-enabled LEVEL PRO panel provides a clear readout of key parameters. Set and actual values for the left and right milling depth as well as slope parameters are clearly shown on the displays as work progresses. In addition, the memory feature is very useful to program, store and invoke set values.
Two lifting cylinders with displacement sensors measure the milling depth at the protective side plates left and right.

A great variety of sensors can be integrated into the automatic levelling system, such as hydraulic milling depth, slope and ultrasonic sensors.

LEVEL PRO can be easily extended, for instance, by the multiplex system, laser levelling, or 3D levelling which uses the interface included in the system.

The multiplex system analyses the output of three sensors on each side of the machine, which is very useful to ensure perfectly level surfaces.
All ends meet in the WIDRIVE control centre

Operating costs are highly dependent on consumables and milling performance. To minimize these costs, we have subjected more to the test than just the engine technology of our machines. All major machine functions have been linked to the operation of the diesel engines, including the travel drive, milling drum drive and conveyor drive, water spray system, 4-fold full-floating axle system and LEVEL PRO levelling system. The result is WIDRIVE – the intelligent machine management system. WIDRIVE quickly becomes the operator’s invaluable assistant, managing numerous previously manual steps in the control of the W 210. The automated functions are thus carried out much more quickly, which results in maximum daily production rates and incredible fuel savings of up to 25%.
In case of pronounced engine lugging, the advance rate is adjusted so that the engines run in the optimal, automatically controlled load range.

WIDRIVE automatically controls the interaction between the two engines, adjusts the engine and conveyor belt speeds, or activates the ISC mode.

Water consumption is reduced by switching the water system on and off automatically and adjusting the spray pressure to the milling output.

WIDRIVE also lowers the environmental impact by further reducing exhaust gas emissions and noise levels of the ECO diesel engines – which have been designed with low fuel consumption in mind anyway.
Two engines drive saving potential to the max

Why operate a machine at full power – and full cost – all the time when half the power is sometimes all that is needed? The answer to this question is the use of two separate engines, with the second engine being switched on or off as needed in accordance with the working situation. The W 210 cold milling machine is equipped with two powerful, economical ECO diesel engines. The fully electronic WIDRIVE machine management system ensures that both engines always work in the optimal performance and torque ranges. This minimizes fuel consumption, directly results in low operating cost, and protects the environment. It goes without saying that both engines comply with the exhaust emission standards according to EPA Tier III and Directive 2004/26/EC, Stage III a.
The state-of-the-art engines enable consistently high milling performance levels even when working at full load.

The machine operator is protected from vibration, as the engine station is held in place and isolated from vibration by silent blocks.

The low-noise engines and effective sound insulation of the engine compartment guarantee low noise emission levels.

Both engines can be operated at three different speed levels to perfectly respond to the specific job requirements.

The optimal speed range can be adjusted in line with job requirements.
It takes two to boost economic efficiency

Revolutionary dual-engine design

Wirtgen is the first cold milling machine manufacturer worldwide to offer uncompromising performance characteristics and maximum efficiency by connecting two diesel engines by means of a multiple V-belt. Taken together, the two engines provide tremendous power, enabling the W 210 to achieve unmatched performance levels. Engine 1 only is in operation in those conditions where the performance level required to achieve the specified results is low. This offers significant advantages: deactivation of engine 2 results in lower noise emission levels, the operator is exposed to fewer vibrations, and lower exhaust gas emission levels cause less harm to the environment. It goes without saying that diesel fuel consumption rates are also lowered to a significant extent.
While engine 1 drives all functional groups, engine 2 is switched on automatically or at the flick of a switch for full milling power.

Engine 2 is switched off automatically in certain situations, for example, when initiating the transport mode or when stopping the traction drive for three minutes or longer.

The operator decides for himself whether to switch engine 2 on or off when milling at partial engine load or during fine milling applications.
PTS – always parallel to the road surface

Compensate any surface irregularities quickly

The machine always aligns parallel to the pavement surface automatically

Precise milling results even with pronounced surface irregularities

Parallel alignment of the W 210 milling machine

It takes quite a lot to throw the W 210 off balance. Its stability is based on PTS: the intelligent automatic system aligns the machine parallel to the road surface in a dynamic process without requiring major manual adjustments by the operator. The front and rear track systems are lowered evenly and in parallel to each other. In addition, the 4-fold full-floating axle that forms part of the PTS system quickly and reliably balances out any irregularities transverse to the direction of travel. The effective stability control of the W 210 pays off quickly – it ensures precise maintenance of the milling depth and speeds up the entire work process without the operator having to intervene manually.
Surface irregularities are compensated via the machine’s four lifting columns, which are interlinked hydraulically.

The machine adheres to a course parallel to the road surface in both milling and transport mode.

The optimized machine balance relieves the operator and enhances the stability of the W 210.

PTS additionally comprises a supporting automatic function for commencing the milling operation at the set milling depth.

If one of the crawler track units hits an obstacle (such as an elevated milling edge) during the milling operation, the other three units contribute to compensating the height offset: this design ensures that height compensation occurs much more rapidly.
ISC – gaining ground quickly the intelligent way

Automatic rear axle tracking ensures highly accurate milling even in narrow bends.

Electronic system for optimal traction and manoeuvrability

Work on milling sites is often made difficult by rough and uneven terrain. The magic word is – traction. Optimal, uniform traction is ensured by the intelligent ISC track control system: electronic traction control minimizes the slip of individual crawler track units even in difficult milling situations. In addition, ISC keeps the machine’s advance rate within the optimal engine load range, and electronically aligns the cornering speeds of the inner and outer crawler tracks, thus minimizing track pad wear. The W 210 has even more to offer: small turning radii, freely selectable steering functions and height-adjustable crawler tracks offer excellent driving properties.
Feeling at home on any kind of ground

Four large crawler track units and a smooth hydraulic all-track steering system guarantee excellent manoeuvrability of the machine.

The high-lift, separately height-adjustable crawler tracks result in ideal ground clearance and permit difficult driving manoeuvres.

The machine’s advance rate can be continuously adjusted from zero to maximum speed in both milling and travel gear.

For perfect milling results, the steering angles of the front and rear axles are coordinated, and the rear axle is tracked automatically.

Amazingly small turning circles because of the large steering angles of all four crawler tracks

Working independently of the level selected, the parallel sliding block guide ensures precise steering

Crab steering enables the machine to precisely approach existing milled cuts
High milling power originates from cutting-edge technology

Milling drums geared towards high productivity

Cutting technology is a science in its own right that we from Wirtgen have mastered to perfection – from the use of high-quality, highly wear-resistant materials to extensive manufacturing expertise and highly precise, application-specific positioning of the cutting tools. The broad range of different types of milling drums enables an equally broad range of applications. Wear and tear has been minimized in favour of extended durability so that heavy-duty milling drums from Wirtgen will ultimately always prevail in tough everyday conditions on the job site.
Optimized toolholder arrangement ensures excellent milling performance, a precise milling texture and low-vibration operation of the machine.

Special edge segments or edge tools ensure clean milling edges, in particular when driving through bends.

Centrally arranged ejectors ensure reliable transport of the milled material from the drum housing to the primary conveyor.

The ejectors can be turned by 180° and thus be used twice as wear occurs exclusively in the upper area.

The heavy-duty ejectors made of highly wear-resistant steel are suitable for multiple use.

Heavy-duty design and intelligent tooling.

Quality made in Germany.
HT11 makes the W 210 even more economical

Long service life in even the toughest jobs

Our heavy-duty HT11 quick-change toolholder system has been designed for tough everyday use on the construction site and minimizes breaks in operation. This is ensured by the use of particularly wear-resistant materials, perfect tool rotation and easy tool replacement – to name just a few of its many advantages. In addition, tool replacement can be facilitated by means of a hydraulic drum turning device and an additional seat mounted between the rear crawler tracks. Cutting tools can be replaced manually or using the pneumatic tool extractor. Tool replacement can be optimized further by means of hydraulic or battery-operated hydraulic tool extractors, which can be used to extract cutting tools effortlessly when the engine is switched off.
The W 210 comes with a 2.0-m milling drum assembly in the standard package, with 1.5-m or 2.2-m wide assemblies being available as equipment options.

At a working width of 2.2 m, a 4.35 m wide road surface (first lane and median strip) is milled off in two passes while a working width of 2.0 m would require three passes.

The 2.0-m and 2.2-m milling drum assemblies are suitable for use with the FCS Light system so that milling drums of equal width can be changed without difficulty.

All milling drum assemblies are welded from highly wear-resistant, heavy-duty materials.
FCS Light increases flexibility and machine utilization

High levels of utilization are a key factor in the profitable operation of large cold milling machines. The W 210 fully meets this requirement when equipped with the FCS Light Flexible Cutter System: milling drums of equal working widths – but with different tool spacings – can be changed with only little effort. The system’s real-life design and supporting tools, such as a special mounting carriage, allow the drums to be changed in an extremely short period of time. In that way, a single cold milling machine can remove wheel ruts on a country road, prepare a surface for the application of a thin pavement layer by means of fine milling, or remove the coating from an asphalt or concrete pavement when equipped with a micro-fine milling drum. FCS Light is available for the 2.0-m and 2.2-m wide milling drums.
The ECO cutters equipped with a reduced number of point-attack tools ensure the highest possible area performance.

Standard milling drums are ideally suited to the removal of one or more pavement layers, ensuring a good interlock between the milled surface and the new pavement.

Fine milling drums create finely textured surfaces ideally suited as a base for the application of thin pavement layers.

Micro-fine milling drums can be used to roughen road pavements and to improve their evenness and skid resistance.
An intelligently designed, unified whole

Tried and tested milling drum assembly

The milling drum assembly of the W 210 offers an extremely high degree of flexibility. The hydraulically height-adjustable protective side plates left and right permit precise milling along road fixtures. The scraper blade is raised and lowered hydraulically in order to load all or part of the milled material, or to leave it behind in the milled cut. To prevent any collisions during manoeuvring, the graduation control beam, scraper blade and side plates are raised automatically together with the lifting columns when in transport mode. To ensure optimal tool cooling, pressure in the two separate water spray bars is adjusted in accordance with the machine’s performance, and the amount of water is continuously variable. This feature increases tool durability and reduces the generation of dust.
Always the maximum milling depth

The right-hand side plate can be raised by a total of 450 mm.

Accurate milling along kerbs is possible even at maximum milling depth.

Milling flush to kerb down to the full working depth.

Dimensions in mm:

The side plate on the right side of the machine can be raised by 450 mm.

Accurate milling flush to kerb is thus also possible at great working depths, enabling the side plate to move over the kerb for the purpose of level detection.

This feature is perfectly suited to the removal at full depth of road pavements that extend right up to the kerb.
Highly efficient mechanical milling drum drive

The power of the W 210 is provided by the machine’s mechanical milling drum drive. Its strong point is the exceptionally high degree of efficiency. An automatic belt tensioner ensures uniform power transmission, while the power belts absorb peak loads and reduce the load exerted on the various components of the drive system. Additional marks in favour of the tried and tested drive design are reduced fuel consumption rates, high wear resistance and ease of maintenance.
The innovative automatic system used to initiate the milling process ensures that the surface can be milled to the maximum depth of 330 mm from the very first metre.

When the automatic levelling system is engaged, the lifting columns and rotating milling drum are lowered automatically at maximum speed.

Once the side plates reach the ground, the lifting columns continue lowering in slow mode; the lowering rate is adjusted further in the milled cut if required.

The milling machine retains its parallel alignment – no time is wasted on complex manual lowering operations front and rear.
Vacuum cutting system offers a pleasant working environment

When developing the W 210, particular attention was paid to the health and well-being of the operating crew. For this reason, the cold milling machine can be fitted with the Vacuum Cutting System to extract fine material particles. Its principle is simple: by creating a negative pressure in the drum housing, the mix of air and water vapour is evacuated and then fed back into the flow of milled material transported on the conveyor via a hose system. It goes without saying that better air quality and visibility in the working environment of the machine operator and ground crew members significantly improve the working conditions and boost staff performance.
With its innovative extraction technology, the vacuum cutting system ensures perfect visibility of the milling edge during the day and at night.

Reduced soiling of components, such as the engine or air filter, results in savings in the replacement of spare parts.

The extraction system pays off quickly also because less effort needs to be put into cleaning the machine.

Further benefits of the innovative extraction system are adjustable suction power and easy access for servicing and maintenance.

The centrifugal fan can be turned on conveniently at the flick of a switch.

The centrifugal fan is unaffected by contamination and can be adjusted in speed.
Clearing job sites the professional way

Making short work of the milled material

Prompt transport of the milled material from site significantly contributes to the smooth completion of large milling projects. Accordingly, as many trucks as possible need to be loaded within the shortest possible time. Our W 210 large milling machine has no problem at all with mastering this job, as its conveyor system easily copes with clearing many tons of milled material due to extremely high conveyor capacity and drive power.
The conveyor system is equipped with automatic, continuously adjustable belt speed control.

The belt speed can also be adjusted manually to achieve perfect distribution of the milled material on the truck by setting a variable discharge range.

The operator’s platform of the W 210 provides a good view of the discharge conveyor and the truck driving in front.

A stoplight system incorporated in the electric mirrors enables a visual mode of communication with the truck driver without needing to revert to audible signals.
Operations on a milling site are often held up only because the loading system is lacking in flexibility. Large slewing angles of 60° to both sides are an essential flexibility criterion of the conveyor system installed in the W 210. It enables highly demanding loading procedures to be effected smoothly in narrow bends or sections where space is limited. High daily production rates can thus be easily achieved in those areas as well. Reliable conveying of the milled material is ensured by the 850 mm wide belt with rugged cleat profile.
The heavy-duty gradation control beam prevents the formation of large slabs, promotes favourable particle sizes and protects the belt from damage.

The hydraulically folding discharge conveyor design significantly reduces the transport length of the W 210.

The conveyor capacity remains constant even in the event of engine lugging.

The WIDRIVE machine management system reduces costs by stopping the conveyor automatically during reversing and in transport mode.

Huge slewing range: slewing angles of 60° to both sides …

Hydraulically operated folding conveyor with intelligent locking system for added safety.

Large slewing range
Intelligent maintenance pays off

Enabling the operator to complete maintenance procedures quickly and reliably is a major criterion for ensuring the optimal availability of a machine on the construction site. The engine compartment of the W 210 opens at the push of a button, and the service panels can be slewed wide open. The few points of maintenance are arranged in a clear pattern and offer easy access from the ground or from the operator’s platform. Maintenance procedures on the filters, engine or hydraulic system are completed in a few simple steps. As a result, the W 210 is always in top shape and prepared to deliver top milling results. And the operator is happy, too.
The hydraulically opening, hinged engine cowling and wide-opening service panels on each side ensure full access to all points of maintenance.

The automatic on-board diagnostics system of the machine independently monitors valves, sensors and control components.

The water system and hydraulic high-pressure cleaner enable thorough cleaning of the W 210 regardless of the machine’s location.

Ample space for storing the comprehensive tool kit, wearing parts and high-pressure cleaner.
Ready for operation – whatever the time of day

Road construction projects are often carried out under tremendous time pressure, making it impossible for milling jobs to care about adverse weather conditions, darkness or even night time. This is where the generous lighting equipment of our versatile large milling machine comes into play. Numerous adjustable spotlights are attached quickly and easily to fully illuminate the main working areas of the W 210. In addition, lighting balloons are available to light up extensive parts of the construction site. At the end of the day, the first-class lighting system is a prime component when it comes to extending the capacity of the W 210.
Machine transport without detours

The folding conveyor design reduces the overall transport length of the W 210 and permits the use of smaller transport vehicles.

Removable supplementary weights enable transport of the W 210 on vehicles with a low maximum permissible payload.

Easy transport of the W 210 on a low-bed trailer

The canopy can be folded down hydraulically for transport

Strong loading and lashing lugs enable the machine to be safely lashed down on a trailer or loaded by crane.

Our range of equipment options includes conveyor support legs for machine transport on a low-bed trailer.
Setting the standard in active environmental protection

The W 210 is leading the way

Wirtgen product innovations have been systematically implemented in the development of the W 210 to minimize fuel consumption rates and environmental emission levels. WIDRIVE is the key to the high degree of environmental compatibility: the intelligent machine management system not only achieves a significant reduction in diesel fuel consumption but also reduces exhaust gas emissions, noise levels and vibrations from the engine. This is complemented by the efficient dual-engine design as the intelligent interplay of the two economical diesel engines increases the environmental friendliness of the W 210 even further.
The effective VCS extraction system used to evacuate fine material particles reduces dust emission in the area of the milling drum housing.

Noise emission is reduced further by the efficient sound insulation of the engine compartment and anti-vibration engine support.

Different speeds of the engine and/or the milling drum, which can be selected in line with the milling application, ensure exceptionally low fuel consumption.

The stoplight system used to communicate with the truck driver replaces the loud horn when working at night.