

TECHNICAL DATA		BS 65-V
Length x Width x Height mm	673 x 343 x 965	
Shipping dimensions (L x W x H) mm	690 x 380 x 990	
Ramming shoe size (W x L) mm	280 x 336	
Operating weight kg	68	
Transport weight (complete with packaging) kg	73	
Stroke on the ramming shoe mm	8 - 81	
Max. percussion rate 1/min	700	
Operating speed m/min	9.5	
Surface capacity m ² /h	159.6	
Rammer insert 280 mm wide	-	
Rammer insert 330 mm wide	-	
Drive	Air-cooled single cylinder two-cycle gasoline engine	
Engine manufacturer	Wacker Neuson	
Model	WM 80	
Displacement cm ³	80	
Max. performance (DIN ISO 3046) kW (HP)	1.9 (2.5)	
At speed rpm	4,400	
Gasoline/oil mixture	100:1	
Fuel consumption l/h	0.9	
Tank capacity (fuel) l	3.0	
Power transmission	From engine via centrifugal clutch, gearbox, crank mechanism, connecting rods, guide pistons, double spring system, spring cylinder to ramming shoe. Gears are engaged during acceleration.	

TECHNICAL DATA		DS 70
Length x Width x Height mm	725 x 370 x 1,000	
Shipping dimensions (L x W x H) mm	735 x 395 x 1,050	
Ramming shoe size (W x L) mm	280 x 330 or 330 x 330	
Operating weight kg	83	
Transport weight (complete with packaging) kg	91	
Stroke on the ramming shoe mm	75	
Max. percussion rate 1/min	700	
Operating speed m/min	13	
Surface capacity m ² /h	218	
Rammer insert 280 mm wide	257	
Rammer insert 330 mm wide	257	
Drive	Air-cooled single cylinder diesel engine	
Engine manufacturer	Yanmar	
Model	L 48	
Displacement cm ³	211	
Max. performance (DIN ISO 3046) kW (HP)	3.1 (4.1)	
At speed rpm	3,600	
Fuel consumption l/h	0.9	
Tank capacity (fuel) l	4.2	
Power transmission	From engine via centrifugal clutch, gearbox, crank mechanism, connecting rods, guide pistons, double spring system, spring cylinder to ramming shoe. Gears are engaged during acceleration.	

In the year 1930 Hermann Wacker invented the rammer and thus set standards for development. To this day Wacker Neuson customers can absolutely rely on the following values when it comes to Wacker Neuson products and services: **reliability, trustworthiness, quality, a fast response, flexibility and innovation.**



Vibratory rammers

The original. By the inventor and world market leader.



0987976/02/2010/Headmail/Print 31a

Please note: The product range of the Wacker Neuson Group comprises more than 300 different product groups in the light and compact equipment areas. In the light equipment area the product range comprises various device types – according to different voltage and frequency conditions, local regulations, market specifics and operating conditions. Not all Wacker Neuson products listed or shown here are therefore available or approved in all countries. Modifications reserved in the interest of continuous further development. The Wacker Neuson Group does not accept any liability whatsoever for the correctness and completeness of the data given in this brochure. Reprints permissible only with prior approval in writing by the Wacker Neuson Group, Munich. © Wacker Neuson SE 2010. All rights reserved.



**WACKER
NEUSON**



**WACKER
NEUSON**

Our base for high quality soil compaction.



TECHNICAL DATA		BS 30
Length x Width x Height mm		540 x 340 x 1,000
Shipping dimensions (L x W x H) mm		570 x 370 x 1,040
Ramming shoe size (W x L) mm		150 x 280
Operating weight kg		32
Transport weight (complete with packaging) kg		37
Stroke on the ramming shoe mm		42
Max. percussion rate 1/min		830
Drive		Air-cooled single cylinder two-cycle gasoline engine
Engine manufacturer		Wacker Neuson
Model		WM 80
Displacement cm ³		80
Max. performance (DIN ISO 3046) kW (HP)		2.3 (3.1)
At speed rpm		4,400
Gasoline/oil mixture		50:1
Fuel consumption l/h		0.45
Tank capacity (fuel) l		2.2
Power transmission		From engine via centrifugal clutch, gearbox, crank mechanism, connecting rods, guide pistons, double spring system, spring cylinder to ramming shoe. Gears are engaged during acceleration.

TECHNICAL DATA		BS 50-2	BS 60-2	BS 70-2
Length x Width x Height mm		673 x 343 x 940	673 x 343 x 965	673 x 343 x 965
Shipping dimensions (L x W x H) mm		690 x 380 x 990	690 x 380 x 990	690 x 380 x 990
Ramming shoe size (W x L) mm		250 x 337 or 280 x 337	280 x 336	280 x 336 or 330 x 342
Operating weight kg		58/59	66	74
Transport weight (complete with packaging) kg		64/65	71	80
Stroke on the ramming shoe mm		64.3	80	65
Max. percussion rate 1/min		700	700	650
Operating speed m/min		9.5	9.8	8.9
Surface capacity m ² /h				
Rammer insert 250 mm wide		142.5	–	–
Rammer insert 280 mm wide		159.6	164.6	149.5
Rammer insert 330 mm wide		–	–	176.2
Drive		Air-cooled single cylinder two-cycle gasoline engine		
Engine manufacturer		Wacker Neuson	Wacker Neuson	Wacker Neuson
Model		WM 80	WM 80	WM 80
Displacement cm ³		80	80	80
Max. performance (DIN ISO 3046) kW (HP)		1.7 (2.2)	1.8 (2.4)	2.0 (2.7)
At speed rpm		4,400	4,400	4,400
Gasoline/oil mixture		100:1	100:1	100:1
Fuel consumption l/h		1.0	1.2	1.3
Tank capacity (fuel) l		3.0	3.0	3.0
Power transmission		From engine via centrifugal clutch, gearbox, crank mechanism, connecting rods, guide pistons, double spring system, spring cylinder to ramming shoe. Gears are engaged during acceleration.		

The self-explanatory model guide:

2	Two-cycle engine	V	Variable stroke	i	Separate lubrication (oil injection) for the two-cycle engine
4	Four-cycle engine	30-70	Weight class		
B	Gasoline	WM	Wacker Neuson engine		
D	Diesel	s	Automatic low oil shutoff for the four-cycle engine		
S	Rammer / vibratory rammer				

TECHNICAL DATA		BS 50-2i	BS 60-2i	BS 70-2i
Length x Width x Height mm		673 x 343 x 940	673 x 343 x 965	673 x 343 x 965
Shipping dimensions (L x W x H) mm		690 x 380 x 990	690 x 380 x 990	690 x 380 x 990
Ramming shoe size (W x L) mm		250 x 337 or 280 x 337	280 x 336	280 x 336 or 330 x 342
Operating weight kg		58/59	66	74
Transport weight (complete with packaging) kg		64/65	71	80
Stroke on the ramming shoe mm		64.3	80	65
Max. percussion rate 1/min		700	700	650
Operating speed m/min		9.5	9.8	8.9
Surface capacity m ² /h				
Rammer insert 250 mm wide		142.5	–	–
Rammer insert 280 mm wide		159.6	164.6	149.5
Rammer insert 330 mm wide		–	–	176.2
Drive		Air-cooled single cylinder two-cycle gasoline engine		
Engine manufacturer		Wacker Neuson	Wacker Neuson	Wacker Neuson
Model		WM 80	WM 80	WM 80
Displacement cm ³		80	80	80
Max. performance (DIN ISO 3046) kW (HP)		1.7 (2.2)	1.8 (2.4)	2.0 (2.7)
At speed rpm		4,400	4,400	4,400
Gasoline/oil mixture		120:1	120:1	120:1
Fuel consumption l/h		1.0	1.2	1.3
Tank capacity (fuel) l		3.0	3.0	3.0
Tank capacity (oil) l		0.70	0.70	0.70
Power transmission		From engine via centrifugal clutch, gearbox, crank mechanism, connecting rods, guide pistons, double spring system, spring cylinder to ramming shoe. Gears are engaged during acceleration.		

TECHNICAL DATA		BS 50-4s	BS 60-4s
Length x Width x Height mm		673 x 343 x 940	673 x 343 x 965
Shipping dimensions (L x W x H) mm		690 x 380 x 990	690 x 380 x 990
Ramming shoe size (W x L) mm		280 x 337	280 x 336
Operating weight kg		63	71
Transport weight (complete with packaging) kg		71	78
Stroke on the ramming shoe mm		39.6	71
Max. percussion rate 1/min		660	690
Operating speed m/min		7.9	7.8
Surface capacity m ² /h			
Rammer insert 250 mm wide		–	–
Rammer insert 280 mm wide		132.7	131
Rammer insert 330 mm wide		–	–
Drive		Air-cooled single cylinder four-cycle gasoline engine	
Engine manufacturer		Wacker Neuson	Wacker Neuson
Model		WM 90	WM 100
Displacement cm ³		86	97
Max. performance (DIN ISO 3046) kW (HP)		2.1 (2.8)	2.4 (3.2)
At speed rpm		4,200	4,200
Fuel consumption l/h		1.2	1.2
Tank capacity (fuel) l		3.0	3.0
Power transmission		From engine via centrifugal clutch, gearbox, crank mechanism, connecting rods, guide pistons, double spring system, spring cylinder to ramming shoe. Gears are engaged during acceleration.	

RAMMING
SYSTEMS
FOR SOIL
COMPACTION



Page 6

TWO-CYCLE ENGINE

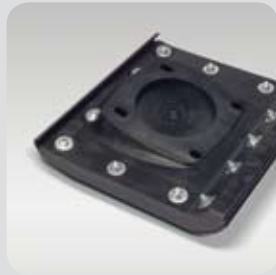
- WM 80



Page 10

RAMMERS

- BS 30
- BS 50-2
- BS 60-2
- BS 50-2i
- BS 60-2i
- BS 50-4s
- BS 60-4s
- BS 65-V
- BS 70-2
- BS 70-2i
- DS 70



Page 26

ACCESSORIES

- Ramming shoes, transport device



Page 30

SERVICE

- Wacker Neuson Premium Service

The vibratory rammers by Wacker Neuson lead the market. **Worldwide.**

- Highly developed ramming system.
- Extremely powerful.
- Very robust and long-life device concept.
- 11 different model variants.
- Low hand-arm vibrations due to an optimized design of the guide handle.
- Worldwide unique: The low emission ramming engine WM 80 – the engine of the future for extreme continuous operations.
- Operationally proven: more than 50 % of all rammers purchased worldwide come from Wacker Neuson.



Only from
Wacker Neuson:
**THE
TWO-CYCLE
RAMMER**



Rammers

Numerous engine options available:

- Two-cycle engine with patented oil injection.
- Two-cycle engine for mixture fuelling.
- Four-cycle engine.
- Diesel engine.

The new WM 80: The improved two-cycle engine for Wacker Neuson rammers.

WACKER NEUSON



THE ORIGINAL
from
Wacker Neuson!

Low exhaust gas emissions.
The world's cleanest gasoline-powered rammer engine!
Low consumption.
High performance.

A small feed pump on the Walbro carburetor ensures that the WM 80 starts up particularly quickly and immediately provides its full performance capacity.



Everything you need for the efficient, economic and environmentally protective operation of a rammer: WM 80 – the engine of the future.

- Specific development and production.
- New automatic choke simplifies start-up and makes it possible to start in idle mode. This prevents the rammer from moving uncontrollably as soon as the engine is started.
- Useable in any tilt position. In the case of a four-cycle engine, by comparison, maximally 20° inclination are permissible.
- Extremely robust, even for the most extreme operational environments.
- More slender design helps protect components against damage when compacting in trenches.
- Only a few but very high quality components which function reliably and safely even over very extended time periods.
- Multi-stage air cleaner system which cleans the intake air efficiently and thus ensures the operational readiness of the rammer for a very long time.
- Nickel-silicon coating of the cylinder running surfaces for low friction values of the piston/cylinder pairs and thus for an extended service life of the engine.



The slim design makes compacting in trenches more comfortable.

An engine which has everything:

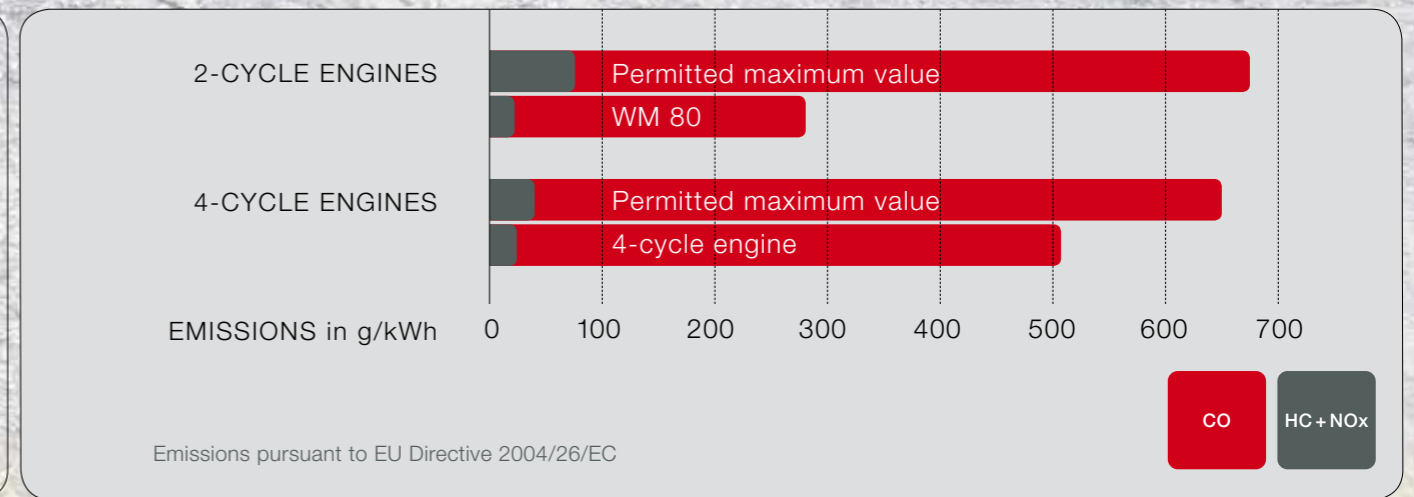
- Power.
- Lowest emissions.
- Best power to weight ratio.
- Long service life.
- Optimum matching of the engine to the ramming system.

The WM 80: Clean power.



- 1 The exhaust complete with catalytic converter has an impact resistant rounded form.
- 2 The cylinder features inlet and outlet channels optimized for the lowest emissions and the latest surface technology.

Completely revised technology.
LOWEST EMISSION VALUES.



Design and construction of the two-cycle engine WM 80 are convincing ... and provide for particularly low emissions.

- Thanks to its low combustion temperature, the WM 80 produces only small quantities of nitrogen oxide (NOx).
- The new WM 80 emits much lower levels of hydrocarbons and nitrogen oxides (HC + NOx).
- Unsurpassed power density (kW/kg).
- Insensitive to lack of oil.
- The WM 80 features an exhaust gas catalytic converter proven a million times over, as known from the automotive industry.
- The emission levels of the WM 80 two-cycle engine lie well below current emission standards, making the WM 80 the world's most environmentally friendly and powerful gasoline engine for rammers.



The catalytic converter: Proven a million times over in the automotive industry.

Wacker Neuson BS 30: The largest among the small.



Whether under pipes, in the edge zones of sidewalks and cycle tracks, in the case of installed drainages, drain shafts or embankments: **the BS 30 proves its quality anywhere.**



The BS 30 two-cycle engine impresses with major benefits over four-cycle engines, which may only be tilted a maximum of 20°:

- Proven special rammer for the competent pipe compaction in edge zones and within the area surrounding or along the bottom of the pipe.
- Angle-independent use due to the practical two-cycle engine – can be used even in the most compact space such as e.g. in the critical areas surrounding or along the bottom of the pipe.
- Powerful and space-saving flanged-on Wacker Neuson WM 80 two-cycle engine.
- Low weight: therefore easy to control.
- Robust and proven ramming system.
- Robust ramming shoe with wear resistant steel shoe.

The classical unit
among rammers:

BS 50-2

BS 60-2



The two-cycle series.

- This series of rammers combines all advantages of the reliable WM 80 two-cycle engine with the proven Wacker Neuson ramming system.
- With a long stroke for heavy cohesive soils.
- Easier start-up in idle thanks to new automatic choke.
- Slim design ensures optimal user comfort, for example when compacting in trenches.
- The unique three-stage air filter system provides for very clean intake air.
- The low emissions of the WM 80 lie far below all emission regulations, preventing the user from exposure to excessive levels of pollution.
- Maximum ease of control and productive operation even across extended periods of time by means of reduced hand-arm vibrations.

The two-cycle engine with
separate oil lubrication:

BS 50-2i

BS 60-2i

BS 50-2i
BS 60-2i

With patented
**OIL
LUBRICATION
SYSTEM**



The i-series with patented oil lubrication system.

The two-cycle vibratory rammers of the i-series feature a separate oil lubrication: Simply fill the two separate tanks with gasoline or two-cycle oil – **and forget the pre-mixing!**

The patented oil lubrication system provides for an optimum mixing ratio. It also reduces deposits of combustion residues in the combustion chamber.

A single filling of the oil tank suffices for up to 65 hours of operation. In the event of a lack of oil, the rammer is shut down automatically, as it would after an idling period of 20 minutes.

In addition, all i-series rammers also feature all the proven advantages of the classic series described on pages 12/13.

Two separate tanks make refuelling easy. The patented oil lubrication system provides for the perfect mixture.

The four-cycle engine:

BS 50-4s

BS 60-4s



Unique:
CHECKS THE OIL LEVEL
after start-up when the engine is running – and shuts off the engine if levels are too low.



- 1 The integrated red LED indicates whether there is a lack of oil. The sensor fitted to the underside of the crankcase for this purpose is free from wear and thus reliable and durable.
- 2 The four-cycle WM 100 engine by Wacker Neuson.

The 4s-series complete with integrated low oil shutoff.

- The new four-cycle WM 100 gasoline engine (BS 60-4s) is 10 % more powerful than the WM 90 (BS 50-4s). Both engines feature considerable power reserves, ideal for tough conditions on site.
- The improved gearing of the BS 60-4s provides for higher ramming frequency, greater lift, and therefore higher productivity.
- The integrated automatic low oil shut-off LOSO protects the engine by means of a worldwide unique technology: After starting a capacitive quantity sensor indicates the current oil level by LED whilst the engine is still running. If the oil level is too low, the LED flashes and the engine shuts off within 10 seconds. The engine running for a short time only immediately indicates to the operator that the rammer is not broken but that the oil level is low.
- The unique crankcase ventilation and the three-part oil scraper ring on the piston guarantee a lower oil consumption.
- The three-stage air filter system provides for very clean intake air.
- New ease of operation: With start-stop function and integrated fuel tap, just like the 2-cycle model (see page 18).

Rammer details which convince.



Ramming shoe extension



Throttle lever

Ramming system with oil level control

Air cleaner

Guide handle

Ramming shoe

Walbro carburetor with ventilation

The throttle lever: All in one. All under control.

- Engine START-STOP: In the stop position the ignition and fuel supply are turned off.
- Integrated fuel tap which opens automatically as soon as the throttle lever is operated.
- Throttle adjustment for individually selectable percussion rate.

Robust ramming system for a particularly efficient impact:

- Complete encapsulation.
- Visual oil level check using a specific inspection glass.
- Wear resistant, flexible special bellows.

Always clean intake air ... the best guarantor for performance and value maintenance:

- Easy to control dirt indicator.
- Cyclone prefilter plus foam and paper filters with a large filtration surface.
- Minimum cleaning and maintenance effort.
- Protection against any damage.
- During an air cleaner change the loosening dirt falls automatically onto the "unclean" air cleaner side.

Specially vibration-cushioned guide handle:

- Newly developed vibration damping for reduced hand-arm vibrations.
- Good, safe and precise control of the rammer.
- Working free from fatigue.

Extreme load capacity due to high strength synthetic material:

- Low noise emission.
- Carrying handle for easy transportation fitted as standard.

Optimum start behavior for fast operation:

- The carburetor ventilation function pumps air out of the carburetor hose until the fuel reaches the carburetor.
- A flooding of the carburetor is excluded.

The rammer with adjustable stroke height: BS 65-V



**PATENTED
STROKE
ADJUSTMENT!**

Variable speed and four compaction levels.

The BS 65-V combines the advantages of the classic Wacker Neuson two-cycle engine with the option to select four different compaction levels. In this way, a single machine can be used to compact all types of soil without having to use an additional equipment.

On the grounds of reality: Analysis comes before the use of a ramming shoe.

The maximum achievable compaction quality depends on the material concerned, its compactability, and on the compaction machine.



Four adjustable stroke heights.

Position 1
For smooth closing in the case of repair work on asphalt or for the fitting of interlocking paving stones.

Position 2
For a dimensionally precise compaction and smoothing work during edge compaction. Also very suitable for sandy soils.

Position 3
For an optimum compaction performance in the case of grainy to cohesive soils. Also for gravel, split, slag, lean concrete and rocks.

Position 4
For a particularly good compaction of cohesive but also wet soils.

When working on the asphalt layer, low stroke operation is advantageous.



Rammers for all types of soil.

Non-cohesive soils consist of coarse grains (rock debris, stones, gravels and sands). An ideal area of operation for the Wacker Neuson rammers of all operating weights.

Cohesive soils consist of "fine grains" and cannot be compacted that well by vibratory action. In such a case, light to medium-heavy rammers can be used.

Mixed grain soils consist of a mixture of fine grained, cohesive and coarse grain or medium grain material. Working fields for light, medium to heavy rammers.

Enormous power to weight ratio:

BS 70-2

BS 70-2i



Powerful in operation: BS 70-2 and BS 70-2i.

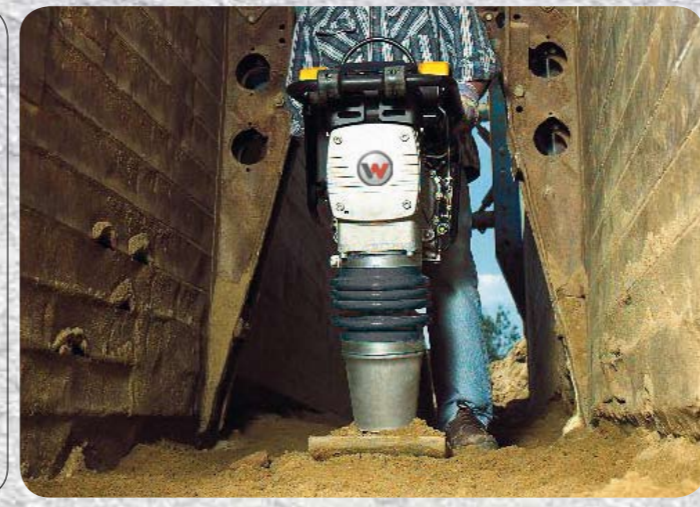
- Weight class around 70 kg: The heaviest rammer in the Wacker Neuson program with an extended stroke for heavy cohesive soils.
- Available as a mixture two-cycle or as an i-series with a separate oil lubrication. More details about the classic series and i-series are given on pages 12 to 15.
- Ideal when high compaction performance is required.
- The specially developed venting of the carburetor removes air from the fuel line to provide for easier engine start-up.
- Very clean intake air due to the integrated three-stage air cleaner system.
- Maximum ease of control due to reduced hand-arm vibrations.



The Diesel vibratory rammer: DS 70



The DS 70 is a well-balanced machine with the most environmentally friendly rammer drive unit. Due to its very low CO output it is above all used in narrow and poorly ventilated trenches. The DS 70 is an excellent completion of the Wacker Neuson fleet of ramming devices.



- The Diesel vibratory rammer for extreme compaction work.**
- Ideal for demanding compaction such as are demanded by cohesive, mixed and coarse grain soils and in the case of a narrow space environment.
 - Corrosion resistant fuel tank complete with integrated cleaning filter.
 - Noise reducing cover for damping the noise emissions of engine and ramming shoe.
 - Three-stage air cleaner system for very clean intake air.
 - Extremely comfortable to control: Start-up, speed and shutdown of the engine can be controlled by means of a single lever.
 - Beats all current worldwide emission standards.
 - Maximum ease of control due to reduced hand-arm vibrations.
 - First class Diesel engine with a long service life, low consumption and low CO output.



Single-hand throttle lever:
Single-handed operation possible.

First class accessories.

Wacker Neuson original quality, which you can trust unreservedly: proven, practical and robust. A real increase in value for all rammers.

Utilize the versatility of the rammers to the maximum. Increase your efficiency. Expand function and mobility. Ensure quality. Always a good decision.

- With ramming shoes and extensions for special uses.
- With a wheel set for moving with ease on site.
- With a transport device.
- Complete with a USDA-approved spark arrester for rammer use in sensitive areas.



Accessories

Versatile accessories for perfect operations.



Original accessories: The Wacker Neuson quality is always guaranteed. In every detail.

Accessories are to make operations easier, applications more specifically targeted, and improve the results. Therefore, the subject of accessories is not incidental for Wacker Neuson but a very central component within the comprehensive product and system quality.

ACCESSORIES	BS 30	BS 50-2 BS 50-2i BS 50-4	BS 60-2 BS 60-2i BS 60-4	BS 65-V	BS 70-2 BS 70-2i	DS 70
RAMMING SHOES AND EXTENSIONS						
150 mm wide Steel shoe complete with wooden insert	●	○	○	○	○	○
150 mm wide Steel shoe complete with plastic insert	○	○	○	○	○	○
150 mm wide Nodular cast iron foam-filled	○	●	○	○	○	○
150 mm wide With extension 300 mm**	○	○	●	●	●	○
200 mm wide Steel shoe complete with plastic insert	○	○	●	●	●	●
250 mm wide Nodular cast iron foam-filled	○	●*	○	○	○	○
250 mm wide Steel shoe complete with plastic insert	○	○	○	○	○	○
280 mm wide Steel shoe complete with wooden insert	○	○	○	●	○	●
280 mm wide Nodular cast iron foam-filled	○	●*	●*	●*	●*	●*
280 mm wide Steel shoe complete with plastic insert	○	●	●	●	●	●
330 mm wide Steel shoe complete with plastic insert	○	○	○	●	●	●
330 mm wide Nodular cast iron foam-filled	○	○	○	○	●*	●*
Wheel set	○	●	●	●	●	●
Transport device	○	●	●	●	●	●
Spark arrester (USDA-approved)	○	●	●	●	●	○

* Supplied as standard.

** Steel shoe complete with wooden insert.

● Attachments possible. ○ Attachments not possible.

Service is a component part of superior technology. It provides reliability, availability at any time and stability in value for many years. **Sustainability as a principle of success.**

- With trained and experienced personnel.
- With low cost maintenance packages.
- With repair kits for DIY.
- With services from application advice via financing to leasing.
- With the comprehensive competence of a large and international brand.



Service



Maximum service life,
minimum failure times –
**Service which increases
the value.**



**WE ARE
AT YOUR SERVICE!**

The Wacker Neuson service network is so tightly knit that customers will find fast and competent support almost everywhere and at any time. When purchasing a Wacker Neuson rammer you will receive our premium service package automatically – no matter which model you select. This premium service package comprises a large number of individual services aimed at maintaining your equipment in a ready to operate condition at any time.

- Branches nationwide with fully equipped specialist workshops.
- Competent and helpful local service staff.
- Repairs on site.
- Customized service packages.
- Support from application advice to financing.



- 1 The Wacker Neuson maintenance packages:**
Everything you really need specifically for the respective rammer type.
- 2 The Wacker Neuson repair kits:**
Easy DIY repairs. The technology professionals at Wacker Neuson have assembled kits containing everything you really need.



Technical Data.

