FEIN. Unverwüstliche
Elektrowerkzeuge.

The FEIN high-frequency range 2012 / 2013.

More than 50 years of working in continuous use: High-frequency grinders from FEIN.

As one of the first and world's leading manufacturers of high-frequency power tools, we are fully aware of the requirements which apply in the world of industry. FEIN has been producing durable, powerful and usage-focused grinders for industry and manual trades since 1953. In various performance classes and for tough continuous use, for example in foundries, steel or shipbuilding. From small compact angle grinders to extremely powerful and large angle grinders and a wide range of straight grinders the FEIN high-frequency range satisfies your every grinding need.

This brochure will show you what the FEIN high-frequency range has to offer.

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FEIN high frequency – a real boost to industrial production.

In electrical engineering, frequencies above 10 kHz are described as high-frequency. But for power tools this term is commonly used to describe all frequencies above the standard mains frequency of 50/60 Hz. Modern high-frequency power tools usually operate at a frequency of 300 Hz.

But why is the current from the socket at a higher frequency? One reason is the need for enhanced performance. By increasing the frequency, you can achieve a higher speed. The motor's output power increases as a direct proportion of increased frequency: at 300 Hz, performance is six times better because the frequency is six times greater than at 50 Hz. The frequency converters required for this, that bring the power up to the higher frequency, are connected to the national three-phase grid.

There are also many benefits to using high-frequency power tools in an industrial setting. the productivity increase is extremely noticeable, thanks to the increased power, ideal speeds, constant speed stability even under load and the associated very high grinding performance. Tool wear is minimised. FEIN high-frequency power tools are also designed for maximum load capacity and with minimum maintenance in mind. This results in longer service lives, shorter downtimes and reduced maintenance and repairs. In industrial continuous use, for example in multi-shift operation, choosing FEIN high-frequency technology also delivers better cost-effectiveness.

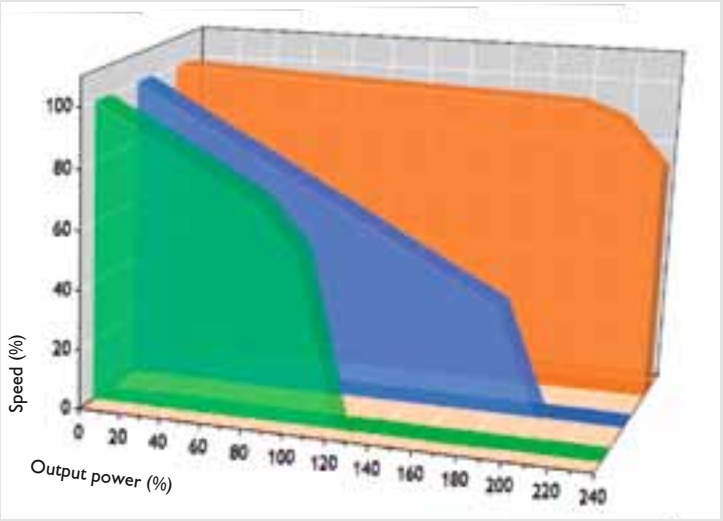
Maximum performance in continuous use.

Higher frequency, constant speeds, higher performance. The superior tool concept of FEIN high-frequency power tools makes them particularly well suited to use in metalwork, for heavy-duty grinding and continuous use when roughing-down or cutting under the toughest working conditions.

Thanks to design-related measures like induction motors and the fact that wearing power-transmitting parts are not used, FEIN high-frequency power tools satisfy very high robustness and service life requirements. They have power reserves, on average a good 100 % higher than normal. In everyday use, this translates into constant speed across the entire load range. For efficient working with a high grinding performance and lower levels of disc wear.

The FEIN high-frequency range includes a wide selection of angle grinders and straight grinders for tradespeople and professional users in industry.

FEIN high-frequency power tools can also be used as portable devices on the construction site or on stationary grinding stations.



Comparison of characteristic curves depending on the power of different tool types.
Green: Pneumatic system
Blue: Standard frequency
Orange: High frequency

A durable system.

In many areas of industry and manual trades where tools are expected to deliver maximum performance permanently, FEIN high-frequency tools prove to be superior. Compared with pneumatic tools and also power tools with a universal motor, their design brings them a number of benefits which deliver huge potential for cutting costs and therefore makes them the most sensible choice in many areas of metalwork.

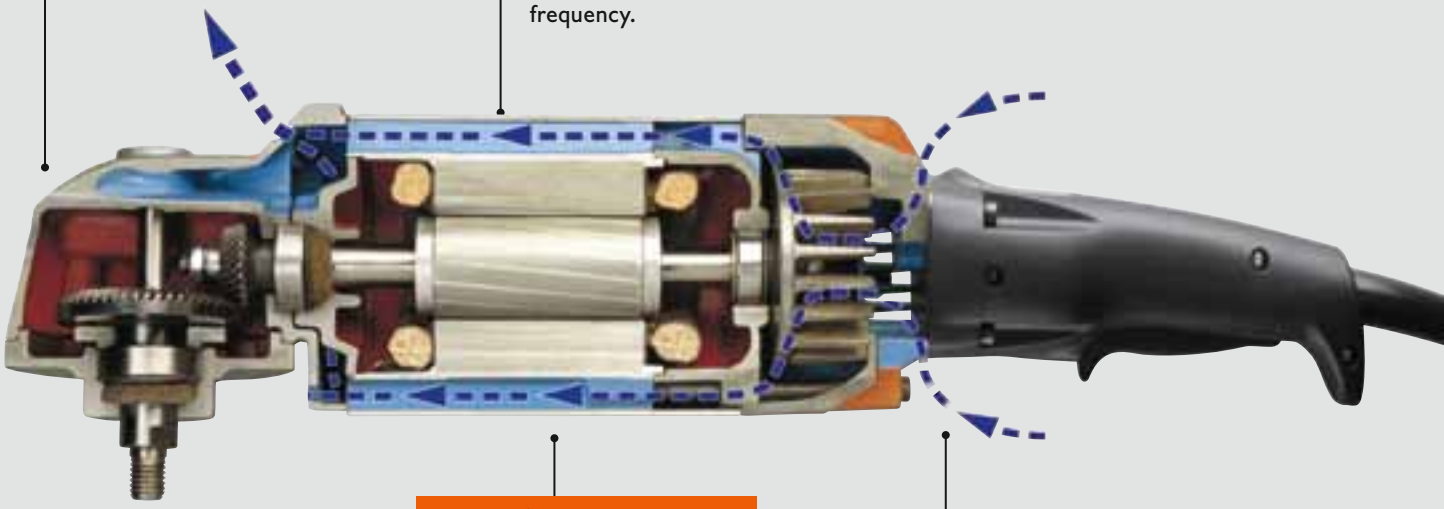
Both the construction and quality of the products have been designed to very high standards. The FEIN quality you would expect of a product made in Germany and more than 50 years of experience in developing and producing high-frequency power tools guarantees absolute reliability and a superior service life for industrial continuous use under the toughest conditions.

Durable

Designed for extreme conditions of use, with high mechanical stability for unique load capacity for continuous industrial use.

Powerful

By increasing the frequency, you can achieve a higher motor speed. The motor's output power increases in direct proportion to frequency.



Cost-effective

Significantly longer tool service life and maximum grinding power from great speed stability even under load.

Low-maintenance

No rotating windings or power-transmitting elements such as carbon brushes or collectors, resulting in minimal wear.

Wear-free

No ingress of aggressive, abrasive swarf thanks to the encapsulated, dust-proof motor with surface cooling.

High-frequency cost-effective working.

In terms of investment, energy and maintenance costs, high-frequency power tools are much more cost-effective than comparable standard-frequency or pneumatic tools. The sample calculations below show a comparison of the systems.

The result with pneumatic grinders is based on a study by a technical university which compared the performance and cost-effectiveness of both drive types.

High frequency compared with standard frequency.

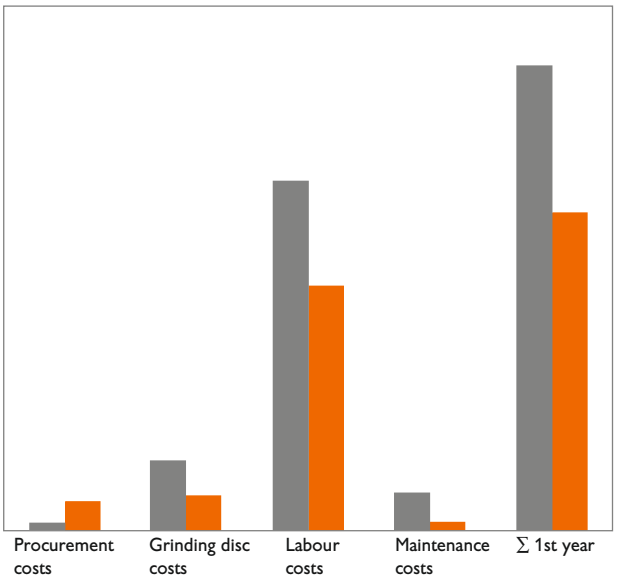
A higher frequency means a higher speed which increases the motor's output power. Increasing the frequency from 50 Hz to 300 Hz therefore increasing power sixfold while retaining the same size and weight. The optimum power/weight ratio is reached at 300 Hz. Outstanding speed stability over the entire load range ensures optimum peripheral speeds which impacts positively on grinding performance, productivity and an appreciable reduction in grinding disc wear.

The induction motors of the high-frequency power tools with squirrel cage rotors feature no wearing power-transmitting parts. They don't need powerful ventilation, just surface ventilation, which allows them to be fully encapsulated and gives the motors complete dust protection. High-frequency tools have simple structures, making them easy, fast and cheap to maintain. Stationary frequency converters require virtually no service – with the exception of ball bearing maintenance (roughly every 20,000 operating hours).

Benefits of FEIN high frequency compared with standard frequency:

Up to
- 50% less grinding disc consumption
- 33% lower labour costs for a defined job (increased material removal = greater productivity)
- 75% lower maintenance costs
- 32% lower overall costs

The cost of purchasing a FEIN high-frequency tool with single-station converter will be paid off in just one year.[1)]



[1)] The comparison was based on the following basic conditions:
- 1 grinder workstation
- 250 working days per year, two-shift operation, 8-hour shifts
- 50% tool use, i.e. 8 hours a day or 2,000 hours a year
- 3 standard-frequency angle grinders (WSG 25-180) per year
- 1 high-frequency angle grinder (MSfo 869-1d) for 2 years + 1 converter (HFS 27-300) for > 5 years

High frequency compared with pneumatic system.

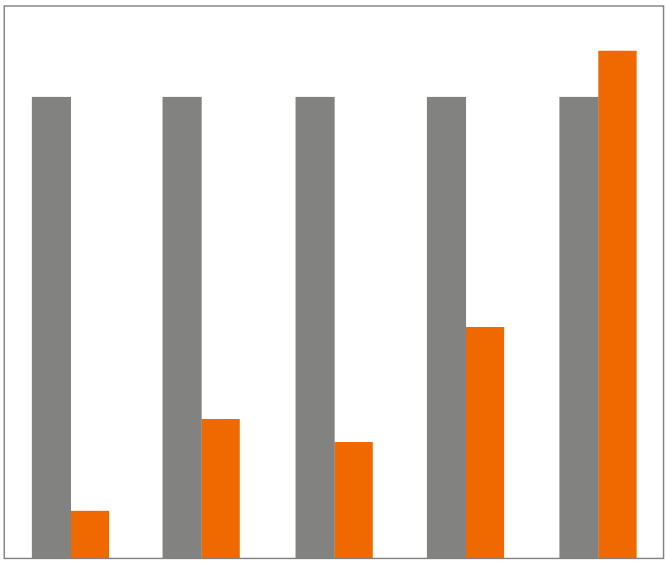
The power distribution system for high-frequency power tools has virtually no energy losses, while with pneumatic systems the heat produced when compressing air results in greater energy losses. In reality, an additional 10 to 20 % more energy is needed due to leaks – if the systems are poorly maintained, this figure may even rise to 30% and above. The performance of the pneumatic motors also depends on the condition of their components, which are subject to wear (for example, cylinder, rotor, thrust washers, flaps). This translates into continuous performance losses which in turn results in falling efficiency and rising energy consumption. High-frequency power tools on the other hand continue to perform with full power after many hours of work: the performance of the robust induction motors remains constant at all times – regardless of wear.

FEIN high frequency: benefits compared with pneumatic system

Up to
- 90% lower energy costs
- 70% lower investment costs
- 75% lower maintenance costs
- 50% less grinding disc consumption
- 10% more material removal, i.e. greater work productivity

Investing in a high-frequency system from FEIN will pay off very quickly.[1)]

[1)] The study was based on the following basic conditions:
- 15 grinding workstations
- 250 working days per year, two-shift operation, 8-hour shifts
- 60% tool use, i.e. 9.6 hours a day or 2,400 hours a year



Two converters – one benefit: high-frequency grinding for mobile applications.

If you're looking for an introduction to high frequency, you can choose from two single-station converters: HFS 17-300 or HFS 27-300. They make industrial high-frequency grinding with FEIN easy, cost-effective and mobile for everyone. They enable the use of individual high-frequency grinders in continuous use where stationary high-frequency solutions are uneconomical or unfeasible. Location like construction sites, but also in small foundries, shipbuilding plants, steelworks and boiler and tank construction facilities. Benefit from the advantages of high-frequency technology for all types of industrial grinding work with the new FEIN single-station converters.

HFS 17-300

HFS 27-300

Technical data		HFS 17-300	HFS 27-300
			
Input voltage	V	220–230	220–230
Output voltage (3 ~)	V	200	200
Input frequency	Hz	50–60	50–60
Output frequency	Hz	300	300
Power consumption	W	1830	2900
Power / output	W	1700	2700
Operator protection		PSU	PSU
Protection class		IP44	IP44
Cable with plug	m	3	3
Connection socket (CEE)		16 A, 10h, 3 P+E	16 A, 10h, 3 P+E
Weight according to EPTA	kg	5,9	8,3
Order number		**9 330 01**	**9 330 02**

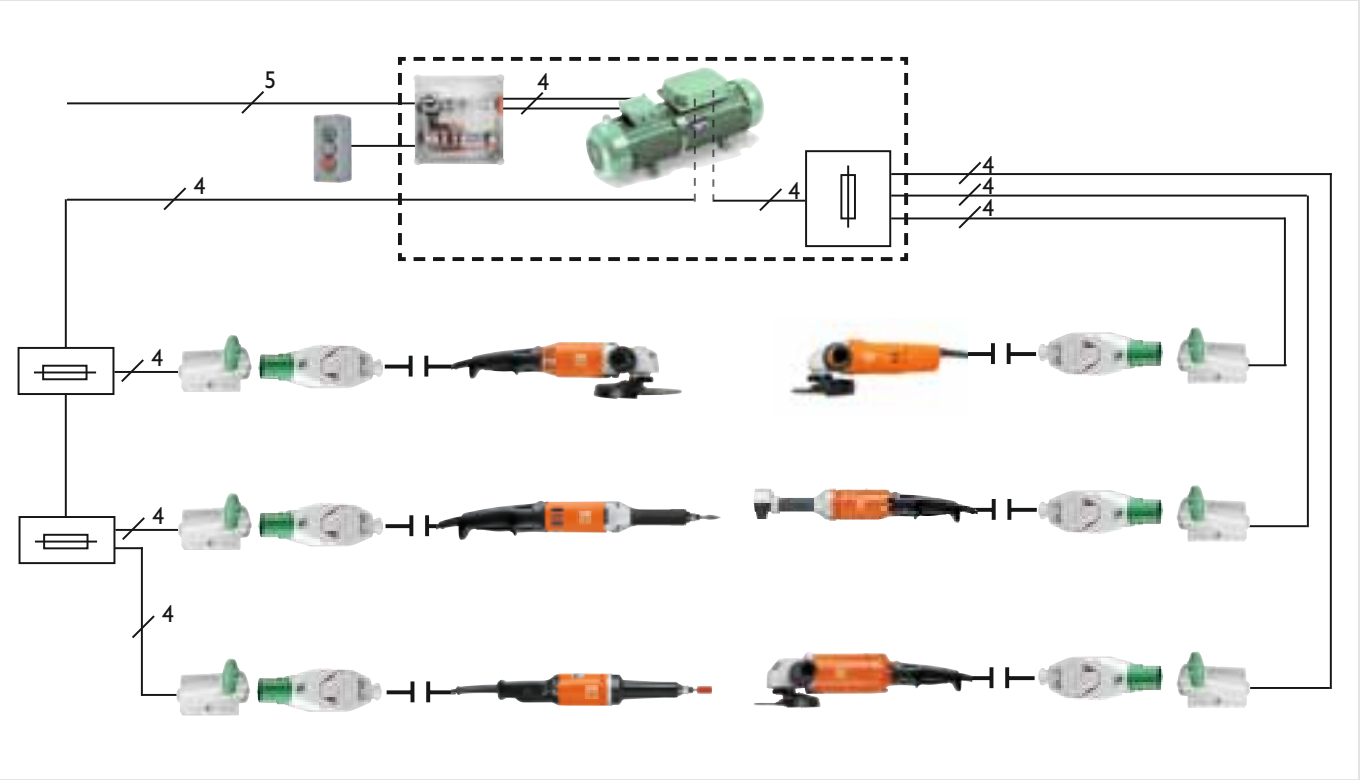
FEIN benefits of mobile systems

- Can be used anywhere provided there is a 230 V grid.
- No installation required.
- Pays for itself quickly and offers clear investment costs.
- Easy to transport, flexible in use.
- Robust housing, sealed construction elements.
- Impressive service life.
- Protection class IP 44.

Stationary high-frequency systems.

If several workstations have to be fitted into a given space, we would recommend a permanent installation with one larger frequency converter and permanent cables. FEIN KSR frequency converters are asynchronous-synchronous frequency converters. The output voltage only deviates by ± 1% from the set idling voltage, even under load. The converters are short-circuit-proof. It is standard practice to connect several KSR converters of similar types and sizes in parallel.

The FEIN frequency converters feature protection class IP 54. They are virtually maintenance-free. As a guide, the maintenance interval for the ball bearings is approximately 20,000 operating hours. When installing the frequency converters, the site simply requires good ventilation (max. air temperature + 40° C). FEIN recommends fitting anti-vibration buffers to minimise vibrations during operation.



Technical data		MO 83 - 7,5 KSR	MO 83 - 11 KSR	MO 83 - 15 KSR	MO 83 - 20 KSR	MO 83 - 25 KSR	MO 83 - 30 KSR	MO 83 - 45 KSR
Voltage on secondary side	V	200	200	200	200	200	200	200
Output power	kVA	7,5	11	15	20	25	30	45
Motor	kVA	8	11,6	15	20	24	28	41
Motor current (400 V)	A	16	21,4	26,6	34,2	44,2	49,4	75,1
Power consumption	kVA	11,1	14,9	18,5	23,8	30,7	34,4	52,1
Idling power	kVA	1,1	1,4	2,4	2,8	3,3	3,7	5,4
Scope of services factor	cos φ	0,8	0,8	0,8	0,8	0,8	0,8	0,8
Weight	kg	75	110	164	176	200	240	360
Length x width x height	mm	794 x 258 x 360	844 x 258 x 360	1 058 x 310 x 416	1 058 x 310 x 416	1 058 x 310 x 416	1 058 x 310 x 416	1 252 x 348 x 463
Order number		**9 28 19**	**9 28 21**	**9 28 22**	**9 28 28**	**9 28 29**	**9 28 24**	**9 28 26**

Appropriate FEIN genuine accessories can be found on page 25.

Once installed and started up, system

- Once installed and started up, system requires virtually no maintenance.
- No special structural work is needed to install the frequency converter.
- Low voltage peaks, distortion factor < 1%.
- All components designed for maximum load capacity in industrial use.
- Maximum tool output when operating with a stationary system.
- Prevents the power tools used from being thermally overloaded and therefore extends the service life.

Cost-effective work – FEIN high-frequency power tools.

Compact angle grinders

Model		
HFW 9-125	Handy high-frequency compact angle grinder for light-duty grinding and deburring work.	
MSf 843-1c	Powerful high-frequency compact angle grinder for medium-duty grinding and deburring work.	

Large angle grinders

Model		
MSfov 852-1	Long-neck high-frequency angle grinder for hard-to-reach places.	
MSfo 849-1c	Powerful high-frequency angle grinder for medium-duty grinding work.	
MSfo 852-1d	Powerful high-frequency angle grinder for medium- to heavy-duty grinding and brushing work.	
MSfo 869-1d	Powerful high-frequency angle grinder for heavy-duty grinding work.	
MSfo 870-1d	The most powerful FEIN high-frequency angle grinder for extreme grinding work.	
MSfo 852-1c	Powerful high-frequency angle grinder for medium- to heavy-duty grinding and brushing work.	
MSfo 869-1c	Powerful high-frequency angle grinder for heavy-duty cutting and grinding work.	
MSfo 870-1c	The most powerful FEIN high-frequency angle grinder for extreme cutting and grinding work.	

Straight grinders

Model		
MShyo 869-1a	The most powerful FEIN high-frequency straight grinder for satin-finishing work with large tools.	
MShyo 852-3a	Powerful high-frequency straight grinder for medium- to heavy-duty grinding work.	
MSho 840-2	Handy high-frequency straight grinder for light-duty grinding work.	
MSh 843-1	Lightweight and handy high-frequency straight grinder for milling work.	
MSho 849-1 Z	Powerful high-frequency straight grinder for medium-duty grinding work with pin tools.	
MSho 852-1	Powerful high-frequency straight grinder for medium-duty to heavy-duty high-speed grinding work.	

All FEIN high-frequency power tools are fitted with 5 m cables without plugs.
Please refer to page 25 for appropriate connectors.

Application			Technical attributes										Order number			
Roughing-down	Deburring	Dividing	Frequency	Voltage/type of current (V3 ~)	Power consumption (W)	Power output (W)	Idling speed (rpm)	Cable (m)	Weight according to EPTA (kg)	Flange	Grinding disc diameter (mm)	Elastic backing pad diameter (mm)	Tool without plug for stationary converter	Tool with 16A plug for mobile converter HFS	HFS 17-300	HFS 27-300
▲	▲▲		300	200	850	650	7 100	5	2,5	M 14	125	125	7 820 86	7 820 86 95	●	●
▲▲	▲	▲	300	200	1 100	700	6 500	5	3,6	M 14	125	125	7 820 85	7 820 85 95	●	●

Application				Technical attributes										Order number			
Roughing-down	Deburring	Dividing	Brushing	Frequency	Voltage/type of current (V3 ~)	Power consumption (W)	Power output (W)	Idling speed (rpm)	Cable (m)	Weight according to EPTA (kg)	Flange	Grinding disc diameter (mm)	Elastic backing pad diameter (mm)	Tool without plug for stationary converter	Tool with 16A plug for mobile converter HFS	HFS 17-300	HFS 27-300
▲▲	▲			300	200	1 900	1 400	8 800	5	5,2	M 14	125	–	7 820 83	7 820 83 95		●
▲▲	▲			300	200	1 500	1 075	6 150	5	5,1	M 14	180	180	7 820 80	7 820 80 95	●	●
▲▲	▲	▲		300	200	1 900	1 400	8 500	5	5,9	M 14	180	180	7 820 73	7 820 73 95		●
▲▲	▲	▲	▲▲	300	200	3 100	2 450	8 500	5	7,4	M 14	180	180	7 820 65	7 820 65 95		●
▲▲	▲	▲	▲▲	300	200	3 700	2 800	8 600	5	8,2	M 14	180	180	7 820 77			
▲▲	▲	▲	▲▲	300	200	1 900	1 400	6 400	5	6,3	M 14	230	180	7 820 71	7 820 71 95		●
▲▲	▲	▲▲	▲▲	300	200	3 100	2 450	6 400	5	7,7	M 14	230	180	7 820 62	7 820 62 95		●
▲▲	▲	▲▲	▲▲	300	200	3 700	2 800	6 600	5	8,5	M 14	230	180	7 820 75			

Application				Technical attributes										Order number		
Roughing-down	Deburring	Satin-finishing	Cutting	Frequency	Voltage/type of current (V3 ~)	Power consumption (W)	Power output (W)	Idling speed (rpm)	Cable (m)	Weight according to EPTA (kg)	Flange	Collet diameter (mm)	Sanding wheel max. diameter (mm)	Tool without plug for stationary converter	Tool with 16A plug for mobile converter HFS	HFS 17-300	HFS 27-300
		▲▲		300	200	3 100	2 450	5 000	5	8,9	M 16	8		7 824 37			
▲▲				300	200	1 900	1 400	10 200	5	5,6	M 12	–		7 824 39	7 824 39 95		●
▲	▲▲			300	200	410	290	18 000	5	2,1	–	6	50	7 823 03			
			▲▲	300	200	1 100	700	18 000	5	3,0	–	6	40	7 823 19	7 823 19 95	●	●
▲▲				300	200	1 500	1 050	18 000	5	3,9	–	8	50	7 823 20	7 823 20 95	●	●
▲▲	▲	▲		300	200	1 900	1 400	18 000	5	5,2	M 12	–		7 824 42			

▲ suitable
▲▲ very suitable
● appropriate

All technical details relate to a frequency of 300 Hz. Other frequencies and voltages available on request.

Compact angle grinder Ø 125 mm

HFW 9-125

Handy high-frequency compact angle grinder for light-duty grinding and deburring work.

Technical data

Model		HFW 9-125
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	900
Power output	W	690
Idling speed	rpm	7100
Cable	m	5
Weight according to EPTA	kg	2,5
Tool mounting		
Flange		M 14
Grinding disc diameter	mm	125
Elastic backing pad diameter	mm	125
Order number		**7 820 86**

Included in price

1 safety hood, 1 pair of flanges, 1 anti-vibration handle, 1 wrench set

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Highly efficient compact angle grinder with the highest grinding capacity on the market.
- Dust-proof, fully encapsulated switch for maximum service life.
- Very thick-walled metal gearbox head made from cast aluminium for maximum stability and service life.
- Perfect ergonomics with 2 handle zones and the smallest handle size for optimum handling even in continuous use.
- Powerful ventilation for effective motor ventilation.
- Air escapes to the bottom.
- High effective output.
- Great speed consistency.
- Low weight.

FEIN genuine accessories

Safety hood
125 mm in diameter

Order number 3 18 10 278 02 0

Wheel guard cover for cutting work
125 mm in diameter

Order number 6 38 11 008 01 0

Anti-vibration handle
M 8, vibration absorbing, to reduce the vibrations during longer jobs.

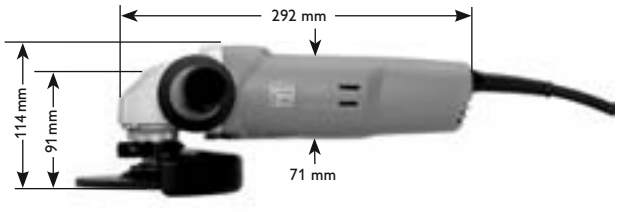
Order number 3 21 19 124 01 0

Inner flange

Order number 6 38 01 120 00 6

Threaded flange
M 14, for roughing discs, cutting wheels, serrated grinding discs and round twist brushes.

Order number 6 38 02 052 00 0



Compact angle grinder Ø 125 mm

MSf 843-1c

Powerful high-frequency compact angle grinder for medium-duty grinding and deburring work.

Technical data

Model		MSf 843-1c
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	1100
Power output	W	700
Idling speed	rpm	6500
Cable	m	5
Weight	kg	3,6
Tool mounting		
Flange		M14
Grinding disc diameter	mm	125
Elastic backing pad diameter	mm	125
Order number		**7 820 85**

Included in price

1 safety hood, 1 pair of flanges, 1 anti-vibration handle, 1 wrench set

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Metal motor and gearbox housing for maximum load capacity in continuous industrial use.
- Powerful ventilation for effective motor cooling.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.

FEIN genuine accessories

Safety hood
125 mm in diameter

Order number 3 18 10 281 02 0

Safety hood for cutting work
125 mm in diameter

Order number 6 38 11 008 01 0

Anti-vibration handle
M 10, vibration absorbing, to reduce the vibrations during longer jobs.

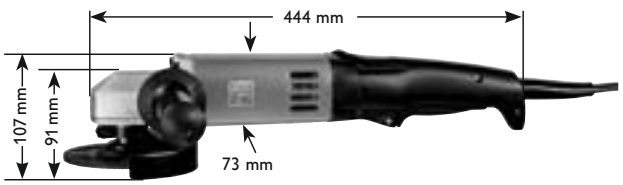
Order number 3 21 19 118 01 3

Inner flange

Order number 6 38 01 120 00 6

Threaded flange
M 14, for roughing discs, cutting wheels, serrated grinding discs and round twist brushes.

Order number 6 38 02 052 00 0



Angle grinder Ø 125 mm

MSfov 852-1

Long-neck high-frequency angle grinder for hard-to-reach places.

Technical data

Model		MSfov 852-1
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	1 900
Power output	W	1 400
Idling speed	rpm	8 800
Cable	m	5
Weight according to EPTA	kg	5,2
Tool mounting		
Flange		M 14
Grinding disc diameter	mm	125
Elastic backing pad diameter	mm	-
Order number		**7 820 83**

Included in price

1 safety hood, 1 pair of flanges, 1 wrench set

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Low profile gearbox head 65 mm in height, including grinding disc.
- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Fully encapsulated motor, 100% dust protection with surface cooling for maximum stability and service life even under extreme conditions of use.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.

FEIN genuine accessories

Safety hood
125 mm in diameter

Order number	3 18 10 277 00 0

Threaded flange
M 14, for discs up to 6 mm

Order number	6 38 02 084 00 9

Inner flange

Order number	6 38 01 120 00 6

Angle grinder Ø 180 mm

MSfo 849-1c

Powerful high-frequency angle grinder for medium-duty grinding work.

Technical data

Model		MSfo 849-1c
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	1 500
Power output	W	1 050
Idling speed	rpm	6 150
Cable	m	5
Weight according to EPTA	kg	5,1
Tool mounting		
Flange		M 14
Grinding disc diameter	mm	180
Elastic backing pad diameter	mm	180
Order number		**7 820 80**

Included in price

1 safety hood, 1 pair of flanges, 1 wrench set, 1 anti-vibration handle

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Fully encapsulated motor, 100% dust protection with surface cooling for maximum stability and service life even under extreme conditions of use.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.

FEIN genuine accessories

Safety hood
Ø 180 mm in diameter

Order number 3 18 10 269 02 0

Safety hood for cutting work
180 mm in diameter

Order number 6 38 11 009 01 0

Anti-vibration handle
M 10, vibration absorbing, to reduce the vibrations during longer jobs.

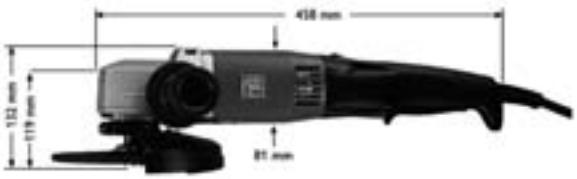
Order number 3 21 19 117 01 5

Inner flange

Order number 6 38 01 120 00 6

Threaded flange
M 14, for roughing discs, cutting wheels, serrated grinding discs and round twist brushes.

Order number 6 38 02 052 00 0



Angle grinder Ø 230 mm

MSfo 852-1c Powerful high-frequency angle grinder for medium- to heavy-duty cutting and grinding work.
MSfo 852-1d Powerful high-frequency angle grinder for medium- to heavy-duty grinding and brushing work.

Technical data

Model		MSfo 852-1c	MSfo 852-1d
Frequency	Hz	300	300
Voltage/type of current	V(3~)	200	200
Power consumption	W	1 900	1 900
Power output	W	1 400	1 400
Idling speed	rpm	6 400	8 500
Cable	m	5	5
Weight according to EPTA	kg	6,3	5,9
Tool mounting			
Flange		M 14	M 14
Grinding disc diameter	mm	230	180
Elastic backing pad diameter	mm	180	180
Order number		**7 820 71**	**7 820 73**

Included in price
1 anti-vibration handle, 1 pair of flanges, 1 wrench set, 1 safety hood

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Fully encapsulated motor, 100% dust protection with surface cooling for maximum stability and service life even under extreme conditions of use.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.

FEIN genuine accessories

Safety hood

	Order number
Ø 180 mm	3 18 10 273 02 0
Ø 230 mm	3 18 10 275 02 0

Safety hood for cutting work

	Order number
Ø 180 mm	6 38 11 009 01 0
Ø 230 mm	6 38 11 010 01 0

Anti-vibration handle
M 14, vibration absorbing, to reduce the vibrations during longer jobs.

	Order number
Order number	3 21 19 117 01 5

Inner flange

	Order number
Order number	6 38 01 120 00 6

Threaded flange
M 14, for roughing discs, cutting wheels, serrated grinding discs and round twist brushes.

	Order number
Order number	6 38 02 052 00 0

Angle grinder Ø 230 mm

MSfo 869-1c Powerful high-frequency angle grinder for heavy-duty cutting and grinding work.
MSfo 869-1d Powerful high-frequency angle grinder for heavy-duty grinding work.

Technical data

Model		MSfo 869-1c	MSfo 869-1d
Frequency	Hz	300	300
Voltage/type of current	V(3~)	200	200
Power consumption	W	3100	3100
Power output	W	2410	2410
Idling speed	rpm	6500	8600
Cable	m	5	5
Weight according to EPTA	kg	7,7	7,4
Tool mounting			
Flange		M14	M14
Grinding disc diameter	mm	230	180
Elastic backing pad diameter	mm	180	180
Order number		**7 820 62**	**7 820 65**

Included in price

1 anti-vibration handle, 1 pair of flanges, 1 wrench set, 1 safety hood

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Fully encapsulated motor, 100% dust protection with surface cooling for maximum stability and service life even under extreme conditions of use.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.

FEIN genuine accessories

Safety hood

	Order number
Ø 180 mm	3 18 10 273 02 0
Ø 230 mm	3 18 10 275 02 0

Safety hood for cutting work

	Order number
Ø 180 mm	6 38 11 009 01 0
Ø 230 mm	6 38 11 010 01 0

Anti-vibration handle

M 14, vibration absorbing, to reduce the vibrations during longer jobs.

Order number 3 21 19 117 01 5

Inner flange

Order number 6 38 01 120 00 6

Threaded flange

M 14, for roughing discs, cutting wheels, serrated grinding discs and round twist brushes.

Order number 6 38 02 052 00 0

Angle grinder Ø 230 mm

MSfo 870-1c The most powerful FEIN high-frequency angle grinder for extreme cutting and grinding work.
MSfo 870-1d The most powerful FEIN high-frequency angle grinder for extreme grinding work.

Technical data

Model		MSfo 870-1c	MSfo 870-1d
Frequency	Hz	300	300
Voltage/type of current	V(3~)	200	200
Power consumption	W	3700	3700
Power output	W	2800	2800
Idling speed	rpm	6600	8600
Cable	m	5	5
Weight according to EPTA	kg	8,5	8,2
Tool mounting			
Flange		M14	M14
Grinding disc diameter	mm	230	180
Elastic backing pad diameter	mm	180	180
Order number		**7 820 75**	**7 820 77**

Included in price
1 anti-vibration handle, 1 pair of flanges, 1 wrench set, 1 safety hood

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Fully encapsulated motor, 100% dust protection with surface cooling for maximum stability and service life even under extreme conditions of use.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.

FEIN genuine accessories

Safety hood

	Order number
Ø 180 mm	3 18 10 273 02 0
Ø 230 mm	3 18 10 275 02 0

Safety hood for cutting work

	Order number
Ø 180 mm	6 38 11 009 01 0
Ø 230 mm	6 38 11 010 01 0

Anti-vibration handle
M 14, vibration absorbing, to reduce the vibrations during longer jobs.

Order number 3 21 19 117 01 5

Inner flange

Order number 6 38 01 120 00 6

Threaded flange
M 14, for roughing discs, cutting wheels, serrated grinding discs and round twist brushes.

Order number 6 38 02 052 00 0

Straight grinder 18,000 rpm

MSho 840-2

Handy high-frequency straight grinder for light-duty grinding work.

Technical data

Model		MSho 840-2
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	410
Power output	W	290
Idling speed	rpm	18000
Cable	m	5
Weight according to EPTA	kg	2,1
Tool mounting		
Collet diameter	mm	6
Sanding wheel max. diameter	mm	50
Order number		**7 823 03**

Included in price

1 collet (6 mm in diameter), 1 wrench set

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Extremely handy for universal use.
- Split grinding spindle with multiple mountings for absolutely precise and vibration-free concentricity.
- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Fully encapsulated motor, 100% dust protection with surface cooling for maximum stability and service life even under extreme conditions of use.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.

FEIN genuine accessories

Work arbour
for grinding disc

Order number	6 38 03 058 01 1

Collets
Insertion depth 30 mm

mm	Order number
8	6 32 07 069 00 5
6	6 32 07 059 00 6
3	6 32 07 087 00 1
¼	6 32 07 088 00 9

Straight grinder 18,000 rpm

MSh 843-1

Lightweight and handy high-frequency straight grinder for milling work.

Technical data

Model		MSh 843-1
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	1100
Power output	W	700
Idling speed	rpm	18000
Cable	m	5
Weight according to EPTA	kg	3,0
Tool mounting		
Collet diameter	mm	6
Sanding wheel max. diameter	mm	40
Order number		**7 823 19**

Included in price

1 collet (6 mm in diameter), 1 wrench set

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Split grinding spindle with multiple mountings for absolutely precise and vibration-free concentricity.
- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Powerful ventilation for effective motor cooling.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.

FEIN genuine accessories

Collets

Insertion depth 30 mm

mm	Order number
8	6 32 07 069 00 5
6	6 32 07 059 00 6
3	6 32 07 087 00 1
¼	6 32 07 088 00 9

Straight grinder 18,000 rpm

MSho 849-1Z

Powerful high-frequency straight grinder for medium-duty grinding work with pin tools.

Technical data

Model		MSho 849-1z
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	1 500
Power output	W	1 050
Idling speed	rpm	18 000
Cable	m	5
Weight according to EPTA	kg	3,9
Tool mounting		
Collet diameter	mm	8
Sanding wheel max. diameter	mm	50
Order number		**7 823 20**

Included in price

1 collet (8 mm in diameter), 1 wrench set

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Powerful for high grinding capacity.
- Split grinding spindle with multiple mountings for absolutely precise and vibration-free concentricity.
- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Powerful ventilation for effective motor cooling.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.

FEIN genuine accessories

Work arbour
for grinding disc

Order number	6 38 03 058 01 1

Collets
Insertion depth 30 mm

mm	Order number
8	6 32 07 069 00 5
6	6 32 07 059 00 6
3	6 32 07 087 00 1
¼	6 32 07 088 00 9

Straight grinder 18,000 rpm

MSho 852-1

Powerful high-frequency straight grinder for medium-duty to heavy-duty high-speed grinding work.

Technical data		
Model		**MSho 852-1**
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	1 900
Power output	W	1 400
Idling speed	rpm	18 000
Cable	m	5
Weight according to EPTA	kg	5,2
Tool mounting		
Flange		M 12
Sanding wheel max. diameter x width	mm	85 x 32/26
Order number		**7 824 42**

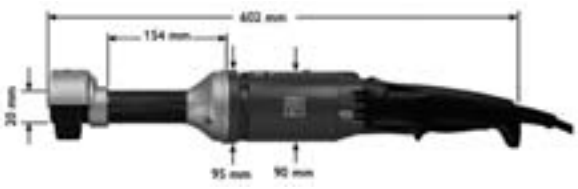
Included in price

1 safety hood, 1 wrench set, 1 pair of flanges

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Ideal power/weight ratio and excellent efficiency.
- Extremely quiet running.
- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Fully encapsulated motor, 100% dust protection with surface cooling for maximum stability and service life even under extreme conditions of use.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.



Straight grinder 10,200 rpm

MShyo 852-3a

Powerful high-frequency straight grinder for medium- to heavy-duty grinding work.

Technical data

Model		MShyo 852-3a
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	1 900
Power output	W	1 400
Idling speed	rpm	10 200
Cable	m	5
Weight according to EPTA	kg	5,6
Tool mounting		
Flange		M 12
Sanding wheel max. diameter x width	mm	125 x 32/28
Order number		**7 824 39**

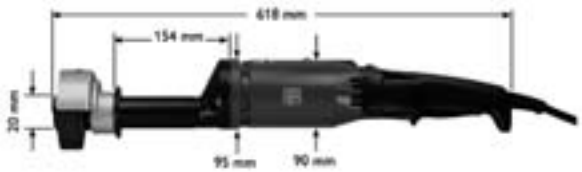
Included in price

1 safety hood, 1 wrench set, 1 pair of flanges

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Ideal power/weight ratio and excellent efficiency.
- Extremely quiet running.
- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Fully encapsulated motor, 100% dust protection with surface cooling for maximum stability and service life even under extreme conditions of use.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.



Straight grinder 5,000 rpm

MShyo 869-1a

Powerful high-frequency straight grinder for medium- to heavy-duty grinding work.

Technical data

Model		MShyo 869-1a
Frequency	Hz	300
Voltage/type of current	V(3~)	200
Power consumption	W	3 100
Power output	W	2 450
Idling speed	rpm	5 000
Cable	m	5
Weight according to EPTA	kg	8,9
Tool mounting		
Flange		M 16
Sanding wheel max. diameter x width	mm	175 x 40
Order number		**7 824 37**

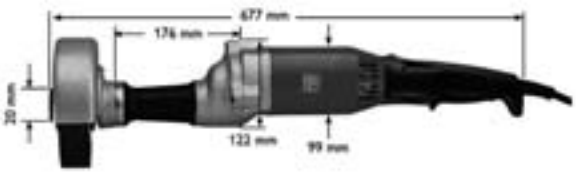
Included in price

1 safety hood, 1 wrench set, 1 pair of flanges

Emission values (sound/vibration) can be found at www.fein.com/vibration

FEIN BENEFITS

- Ideal power/weight ratio and excellent efficiency.
- Metal motor and gearbox housing for maximum load capacity in industrial continuous use.
- Fully encapsulated motor, 100% dust protection with surface cooling for maximum stability and service life even under extreme conditions of use.
- Low-wear and low-maintenance.
- Maximum reliability and outstanding service life.
- High effective output.
- Great speed consistency.
- Extremely quiet running.



CEE connectors

Male connector
via 50 V, 16 A, 100–300 Hz, 10 h, 3 P+E

Order number	3 07 28 123 00 7

via 50 V, 32 A, 100–300 Hz, 10 h, 3 P+E

Order number	3 07 28 124 00 5

Sleeve plug
via 50 V, 16 A, 100–300 Hz, 10 h, 3 P+E

Order number	3 07 28 130 00 0

via 50 V, 32 A, 100–300 Hz, 10 h, 3 P+E

Order number	3 07 28 131 00 9

Assembly socket
via 50 V, 16 A, 100–300 Hz, 10 h, 3 P+E

Order number	3 07 28 141 00 8

via 50 V, 32 A, 100–300 Hz, 10 h, 3 P+E

Order number	3 07 28 142 00 1

Wall socket
via 50 V, 16 A, 100–300 Hz, 10 h, 3 P+E

Order number	3 07 28 137 00 5

via 50 V, 32 A, 100–300 Hz, 10 h, 3 P+E

Order number	3 07 28 138 00 3

Motor safety plug
FEIN's motor safety plugs provide reliable overload protection for high-frequency power tools. A bimetallic actuator, which is individually set to the corresponding rated current of the connected high-frequency tool, prevents premature or late activation in the event of brief overloading. The motor safety plug is fitted on the high-frequency power tool's connector cable instead of the normal male connector. The motor safety plug consists of a CEE plug, thermal actuators with temperature compensation and a rotary activation toggle.

Suited to the 840 series, setting range 1.6 - 2.5 A

Version	Order number
16 A	3 07 56 085 00 2
32 A	3 07 56 093 00 9

Suited to the HWF 9-125, 843, 849 series, setting range 4 - 6.3 A

Version	Order number
16 A	3 07 56 087 00 9
32 A	3 07 56 095 00 1

Suited to the 852 series, setting range 6.3 - 9 A

Version	Order number
16 A	3 07 56 088 00 7
32 A	3 07 56 096 00 4

Suited to the 869 series, setting range 9 - 12.5 A

Version	Order number
16 A	3 07 56 089 00 1
32 A	3 07 56 097 00 8

Suited to the 870 series, setting range 12.5 - 16 A

Version	Order number
16 A	3 07 56 090 00 3
32 A	3 07 56 098 00 6

Stationary frequency converter KSR

Needed to connect a stationary frequency converter to the primary network. Protection class IP 55, comprising a main switch with integrated motor protection switch (thermal and magnetic activation) to prevent short circuits and prevent the motor from running in two-phase mode. The combination of devices also includes an automatic star/triangle switch combination, a time relay for progress of the switching time, two terminals for PE and N connections, a double pushbutton and an indicator light. A separate double pushbutton with indicator light can also be used for remote operation.

Suited to frequency converters

MO 83 -	Order number
7,5 KSR	3 07 49 065 00 9
11/12,5 KSR	3 07 49 073 00 6
15 KSR	3 07 49 067 00 6
20 KSR	3 07 49 068 00 4
25/30 KSR	3 07 49 069 00 8
45 KSR	3 07 49 070 00 0

Double pushbutton
With indicator light for remote operation of device combination.

Order number	3 07 32 020 00 4

Rubber-bonded metal buffer
Metal/rubber elements for vibration damping of frequency converters - fitted under their feet (1 item per pack).
4 items required for each frequency converter.

Suited to frequency converters MO 83 - 7,5 KSR / 11 KSR / 15 KS / 20 KSR

Order number	3 14 15 081 00 1

Suited to frequency converters MO 83 - 25 KSR / 30 KSR / 45 KSR

Order number	3 14 15 020 00 8

Mobile frequency converter HFS 17-300, HFS 27-300

Plug distributor
For connecting a maximum of 3 high-frequency power tools to a mobile transformer.
Connection via 50 V, 16 A, 100–300 Hz, 10 h, 3 P+E, 5 m

Order number	3 07 28 377 01 0

Made in Germany.

FEIN is firmly committed to it's heritage of German manufacturing. It's offices, research and development and manufacturing are all based in Bargau, Schwäbisch Gmünd where the company continues to develop and manufacture new innovative product solutions using state-of-the-art production methods. Comprehensive quality management and extremely well-trained staff ensure that the only FEIN products that leave our company are those that meet our own high expectations in full. Only then can we be certain that our products satisfy the high requirements placed on them in tough everyday continuous use in manual trades and industry.

In our research and development departments, we are producing the durable FEIN power tools of tomorrow, today.

Extensive vertical integration, state-of-the-art manufacturing systems and well-trained staff guarantee the constantly high quality of FEIN power tools.

Constant process optimisation and ongoing checks – each FEIN power tool embodies our long-standing experience that spans more than 140 years.

FEIN: at home no matter where we are in the world.

FEIN products are the benchmark for performance and reliability all over the world. We have a global presence thanks to 18 FEIN subsidiaries and about 50 FEIN representations, so our customers can always find a competent contact. Everywhere that FEIN power tools are used, you'll find trained specialist staff, fast service and competent advice. To find your nearest FEIN partner, visit www.fein.com

Competent FEIN staff look after our customers all over the world.

Starting point for specialist visitors. FEIN as an exhibitor at international trade fairs around the globe.

Competent advice all over the world and the best service on-site.

The story of FEIN is the story of the invention of power tools.

In 1867, Wilhelm Emil Fein founded a company to manufacture physical and electrical equipment where his son Emil Fein invented the first electric hand drill almost 30 years later in 1895. This invention paved the way for highly reliable power tools, which FEIN still manufactures at its site in Germany and for which the long-standing German company is known in industry and manual trades throughout the world to this day.

FEIN has been a world-leading power tool manufacturer for over 145 years. and without a doubt one of the main reasons for this is that FEIN continues to meet its own standard of only developing durable power tools with every new product innovation it creates today.

1895

The start of a success story that spans more than 140 years: the electric hand drill.

1867

The foundation.
The foundations are laid, Wilhelm Emil Fein opens a "workshop for the manufacture of physical and electrical devices", which will later become the company C. & E. FEIN.

1895

The world's first power tool
C. & E. FEIN invents the electric hand drill.

1914

The FEIN hammer.
The first drilling machine with electro-pneumatic striking mechanism (patent). In the same year, the first real high-power drill for direct and three-phase alternating current is produced.

1850 — 1875 — 1900 — 1925

1885

The first portable telephone.
Numerous inventions and improvements in telephones, lighting and fire alarm systems, including the first portable telephone.

1908

The first factory dedicated to the production of power tools.
Emil Fein fulfils his aim of specialising in the production of power tools.

1953

The first FEIN high-frequency angle grinder.
Metalwork on an industrial scale becomes more effective.

2011

FEIN is still setting new standards in the power tools market even today.

1967

The first oscillating power tool.
The plaster cast saw (patented) and the first hand drill with electronic control, now on exhibition at the Deutsches Museum in Munich along with the very first hand drill.

1987

The first "safety" angle grinder.
Working with angle grinders becomes much safer and more comfortable. FEIN builds the first 'safety' angle grinder with a tool-free quick clamping system and brake (patented).

2007

FEIN MultiMaster 250 Q.
The new generation of the multipurpose system for interior construction and renovation is here. The new FEIN MultiMaster has developed from the unique experience that FEIN has acquired in over 40 years in oscillation technology.

1950 1975 2000

1986

The first oscillating FEIN delta sander.
The forefather of the present FEIN MultiMaster and all subsequent delta sanders. Suitable for an incredible range of applications thanks to the oscillating drive principle (patented).

2004

Revolutionary: FEIN EVO.
The first safety angle grinder with a switch-free operating concept. Another milestone in the history of the power tool.

2011

A new dimension to core drilling.
The world's first hand-guided metal core drilling system, the FEIN KBH 25, combines the benefits of powerful hand drills and carbide-tipped core drills in one.

FEIN – we know what's important to you. And we share our knowledge with you.

No matter who you speak to at FEIN, specialist advice is a matter of course. You can always rely on the professional service delivered by FEIN staff, whether they work in-house or as an on-site application or specialist advisor.

If you'd like to learn more about FEIN, why not try out our comprehensive range of FEIN training courses? In the practical seminars, FEIN makes the many benefits of working with FEIN power tools more tangible for users both in theory and in practice.

And if you can't come to FEIN, we'll come to you - with a fully equipped FEIN demonstration vehicle. We would be happy to run professional training at your premises.

The best way to experience the multitude of benefits of FEIN power tools is in a product test.

With a diverse and practical range of training courses, FEIN passes on its extensive knowledge to interested parties.

Fully equipped demonstration vehicles enable practical training directly at our dealer's premises.

Always near you: FEIN.

FEIN is there for you with expert advisors in over 60 countries around the world. To find your nearest FEIN sales or service partner, please consult the address list below or see our website: www.fein.com

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Phone 01327 308730

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FEIN Power Tools Pty. Ltd.
Phone 1300 798 688

www.fein.com.au

Asia:

FEIN Power Tools Asia Limited
Phone 2341-1026

www.fein.asia

India:

FEIN Power Tools India Pvt. Ltd.
Phone 044-43 578 680

www.fein.in

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