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Power tools
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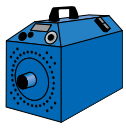
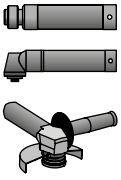
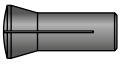
Flexible shaft drives

Power tool accessories





Please visit our website for more information on our products:
pferd.com

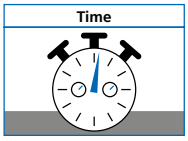
Power tools
General information

The PFERD range includes power tools for grinding, milling, brushing, cutting and polishing in manual applications as well as in robotic and semi-stationary applications. PFERD is one of only a small number of manufacturers that can offer a wide range of products for work on surfaces and cutting of materials, as well as power tools designed specifically for these tools, all from a single source.

The wide product range includes air-powered machines, electric machines and flexible shaft drives and thus offers the best solution for almost any working environment.

PFERD power tools are characterized by their performance and durability. They are less prone to faults and comply with the latest technological standards.

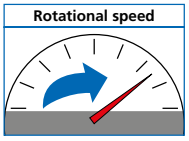
Economic value



Time is money. The cost-effectiveness of a process is determined by the performance of the tool and the time required. The faster the grinding process, the greater its cost-effectiveness. The best results are achieved by tools that have a consistently high aggressiveness throughout the processing time, in combination with PFERD quality power tools. These are powerful, durable and less susceptible to faults.

$$t = \$$$

Rotational speed n

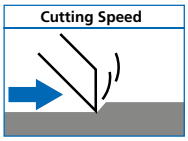


The rotational speed n is given in revolutions per minute [RPM]. The required rotational speed is determined from the peripheral speed V in surface feet per minute [SFPM] and the diameter of the tool d x π (3.14).

Note:
The rotational speed data for the tools relates to their use under load.

$$n = \frac{V}{d \times \pi}$$

Peripheral speed V



The peripheral speed is the speed at which a tool bit moves through the material to be worked in the direction of the cut and removes a chip. The peripheral speed V is given surface feet per minute [SFPM]. It depends on the rotational speed of the drive n in revolutions per minute [RPM] and the diameter of the tool d x π (3.14).

$$V = n \times d \times \pi$$

Dust warning

Use of the tools in this catalogue may create dust and other particles. To avoid any risk of adverse health effects, the operator must use appropriate protective measures, including a respirator, during and after tool operation.

Refer to the Safety Data Sheet (SDS) for further information regarding the product to be used.

Furthermore, additional health hazards may result from dust in the surrounding environment and from dust generated from the workpiece material.

PROTECTIVE MEASURES FOR THE OPERATOR MUST ADDRESS DUST AND OTHER PARTICULATES ARISING FROM ALL SOURCES. Always use our products in a well-ventilated workspace.

Safety regulations

= Wear eye protection!

= Wear a respirator!

= Follow the safety instructions! (Please always observe the respective valid safety regulations!)

= Read the Safety Data Sheets (SDS) before using any materials!

In accordance with legal requirements, all power tools are accompanied by operating manuals, a CE declaration of conformity and safety notes.

Air grinders	Electric grinders	Flexible shaft drives
		
Applications and economic value		
Single workstation, stationary use	Single workstation, flexible use for mobile operation	Single workstation, stationary with a variety of speeds and applications, very easy to handle at high power output
High power output, low wear, long service life, economical air consumption, robust, hard-wearing slide vane and turbine motors	High power output, low wear, long service life	Very robust, low wear, long service life
Power tool type		
-	Micro motors	-
Straight grinders	Straight grinders	Straight grinders
Angle grinders	Angle grinders	Angle grinders
-	Linear finishing tools	Linear finishing tools
Belt grinders	Belt grinders	Belt grinders
Specialty tools	Specialty tools	Specialty tools
-	Fillet weld grinders	-
Power tool characteristics		
No risk of damaging the drive from excessive pressure; can be safely loaded up to stall point	Overload protection, can briefly withstand up to four times the nominal output	Overload protection, can briefly withstand up to six times the nominal output
Optimum rotational speed and power ratios	Optimal tuning possible for product application	Optimal tuning possible for product application
Good size to power output ratio	Higher rotational speed/power output ratio compared to air grinders	High motor power output, compact handpieces, high power transmission to the product
High rotational speeds	Maintains constant rotational speed even under load	Cover large rotational speed ranges
Ergonomics/Handling		
Drive size and shape suitable for many applications	Ergonomic drive shapes, easy to handle	Light arbors that are easy to handle for low-fatigue work
Rotational speed range [RPM]		
4,000 to 100,000	850 to 80,000	100 to 24,000
Rotational speed control		
Fixed speed	Stepless, electronic	Stepless electronic or gear-driven
Energy		
Compressed air (91 psi)	1-phase alternating current, safety extra-low voltage	1-phase alternating current, 3-phase alternating current
Power output range [HP]		
0.1 to 1.2 (75–900 watts)	0.4 to 1.2 (260–900 watts)	0.4 to 2.0 HP (300–1,500 watts)
Safety		
Safe energy form, no sparking	Safeguard to prevent unintentional re-starting	Safeguard to prevent unintentional re-starting (most models)
Maintenance (drawings and spare parts available online)		
Simple replacement of worn parts	Simple replacement of carbon brushes	Maintenance can be performed by qualified technicians. Drawings and spare parts available online.

Power tools
Selecting the optimal power tool

The most important prerequisite for cost effective working methods is the selection of the optimal PFERD product. After this, the choice of a suitable power tool can be made.

The following points have to be taken into consideration:
- Design, shape and size
- Speed
- Power output
- Adapters and drive arbors

The selection is also influenced through:
- Accessibility of the workpiece
- Mobility
- Availability of air or electrical power supply

The table below provides you with a general overview of suitable power tools for the PFERD products shown in the catalogues.

For help with any specific application problems, contact a PFERD sales representative or applications specialist today!

Power tool		Page(s)	Catalogue section 2	Catalogue section 3	Catalogue section 4	Catalogue section 6	Catalogue section 8
		Tool					
Air-powered machines	Straight grinders	16-22	●	●	●	●	●
	Angle grinders	23-25	●	●	●	-	●
	Belt grinder	26	-	-	●	-	-
Electric machines	Micromotor	31-34	●	●	●	-	●
	Straight grinders	35-36	●	●	●	●	●
	Angle grinder	37	-	-	●	-	-
	Linear finishing tool	38	-	-	●	-	●
	Belt grinder	39	-	-	●	-	-
	Fillet weld grinder	40	-	-	●	-	●
Flexible shaft drives	Flexible shafts with	51-56					
	- Straight handpieces	51-55	●	●	●	●	●
	- Angle handpieces	51-55	●	●	●	●	●

Principle:

Optimal consumable product + **Optimal power tool** → **Optimized efficient use**

PFERD catalogue sections 2–8 provide a multitude of possibilities, allowing you to choose the best product for your application. In order to apply these products with optimum efficiency, you need a power tool perfectly matching the chosen product.

The power tools are especially designed for grinding, milling, brushing, cutting and polishing. They cover all relevant speed and power output performance ranges in accordance with the latest requirements in ergonomics and safety.

They are also reliable and have long service lives. In order to find the most cost effective solution to your application problem, always choose the machine matching the most suitable product.

PFERDPRAXIS

Our **PFERD**PRAXIS brochures contain a wealth of useful information on material properties as well as tips and tricks for using PFERD products on specific materials or for specific applications.

Packaging

PFERD provides power tools in standard industrial packaging.

Advantages:
- Robust packaging protecting the tools from dirt and damage.
- The packaging labels feature easy identification of product features and part number.

PFERD packaging label

In addition to the description and the part number, the most important technical information is shown with the help of pictograms.

Advantages:
- Easy comparison of product features due to clear pictograms.
- The label contains information on other accessories.

Explanation of the pictograms used

General

80.000 RPM	Rotational speed
5 - 11 m/s	Belt speed
500 W / 0.7 HP	Power output
13/32" / 3/16" / 25 mm / 4 mm	Matching keys

Tool mounting

1/4" / 5/8"	Collets/ threaded spindles
7/8"	Centre hole
4"	Recommended for disc diameter
3/4" x 4"	Recommended for drum grinder fitting
20-1/2 24 x 1/8-3/8"4"	Belt dimensions

Air grinders

3 Oil /min / Oil	Note on use Can be used with/ without oil
91 psi	Air pressure
15/32"	Air supply hose diameter

Electric grinders and flexible shaft drives

120 V 1~ / 240 V 1~	Voltage/phases
60 Hz	Frequency
	Double insulated
	Protective grounding
	Safety extra-low voltage

Flexible shafts

DIN 10	Drive-side shaft connection
G22	Handpiece-side sliding coupling
6 mm	Core diameter
1.683 mm	Flexible shaft/core length

PFERDTOOL-CENTER

The **PFERD**TOOL-CENTER is a premium display system that can be custom-designed to meet your specific product and presentation requirements.
For more information from a PFERD expert, contact us today at pferd.com.

A powerful PFERD power tool is an investment that pays off. This is because we offer numerous services with all our power tools that optimally support you in the training, operation and maintenance of your machine.

Our website offers in-depth product and application information regarding cutting and work on surfaces. Discover the many ways that the PFERD brand adds value and supports users of PFERD products in the best possible way.

Warranty

Our PFERD guarantee for defects on air and electric grinders and on flexible shaft drives as well as on the accessories is exercised in such a manner that all parts which have material defects will either be repaired or replaced free of charge at our discretion. We shall honour these material defect claims for a maximum of 12 months. This provision shall be invalid if longer periods are prescribed by law.

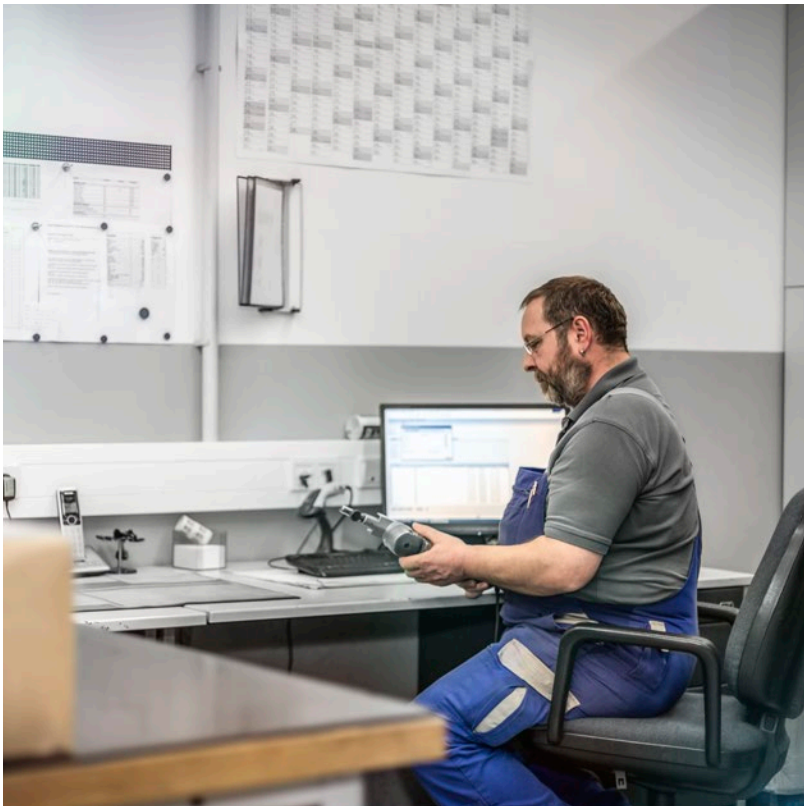
The warranty shall not cover damage caused by improper handling, the use of spare parts other than our own, or by repairs carried out in unauthorized workshops.

Advice and products made to order

PFERD offers you individual targeted support to solve your application problems. PFERD's experienced sales representatives and technical specialists are happy to help you select your power tool – also by visiting you on-site. Please contact us for further details:

Canada Phone: **(905) 501-1555** **USA Phone:** **(262) 255-3200**
Toll-Free: **(866) 245-1555** **Toll-Free:** **(800) 342-9015**

If you cannot find the solution for your particular application in our extensive catalogue range, we can develop and produce power tools in premium PFERD quality on request, tailor-made to meet the requirements of your job.



Performance test bench

PFERD has modern performance test benches for quality control, drive optimization and verification of safety guidelines. On request, you will receive a detailed PFERD performance certificate for your professional power tool.

For each machine type, we perform safety checks and test reporting according to highest technical standards.

Technical modifications

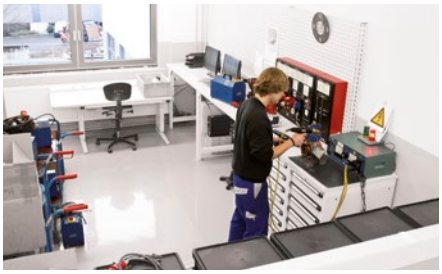
Technical developments and ergonomic improvements are continuously incorporated into our design and manufacture. We therefore reserve the right to make technical changes to our products. In the event of changes to the design, we still ensure the availability of spare parts for four years.

Maintenance and repair service

PFERD provides a maintenance and repair service, which includes basic cleaning, repair and final safety checks. Our qualified specialists will be happy to quickly create a detailed quotation without obligation.

If the repair costs exceed the replacement value, you will also receive a quotation for a new power tool. Only original PFERD spare parts will be used to repair power tools. After the repair, you will receive your power tool in as-new condition.

An experienced team ensures quick repairs processing at PFERD's North American repair facility. Please send any queries to: **powertools@pferdusa.com**



Repair training

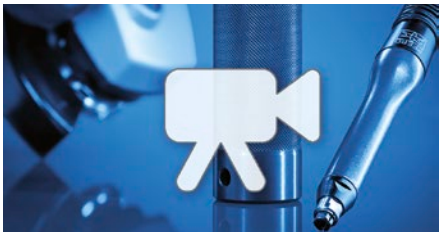
Worldwide, PFERD offers hands-on training on the safe handling of professional power tools and expert maintenance. The knowledge provided enables fast on-site repairs and thus reduces downtime. The expert maintenance also extends the service life of the power tools.

On request, the training can also be held on-site at your company. Please contact us for further details.

Assembly and application videos

Alongside the detailed information and safety notes in our operating manuals, we also provide clear and easy-to-understand assembly and application videos. If you still have any questions, our sales team will be happy to offer you personal support together with our experts from the technical advice team.

You can find all available videos for PFERD tools and power tools on our website at **pferd.com**.



Spare parts catalogue

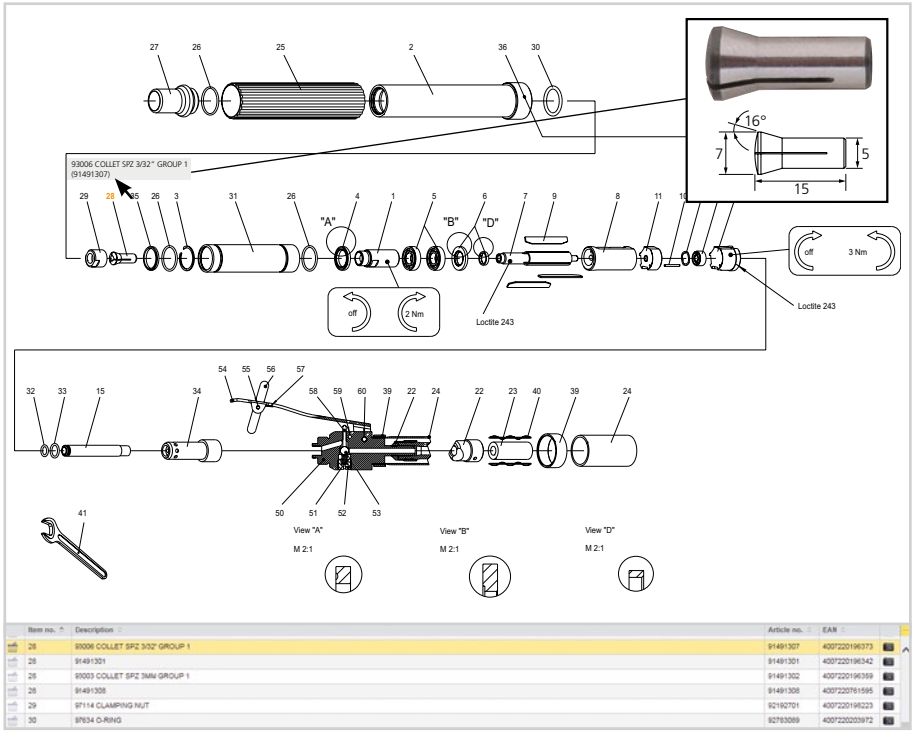
In our online spare parts catalogue, we have compiled all the information about every PFERD drive. Here you will find exploded drawings and other sketches as well as photos and ordering data for each individual spare part for our power tools. With just a few clicks, you can select the required spare parts or spare parts kits, add them to your shopping cart and order them online directly from PFERD.

If you ever misplace the operating instructions, you can find them in our spare parts catalogue for download along with other documents such as CE declarations of conformity and illustrated DIY instructions for small repairs.

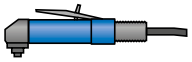
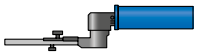
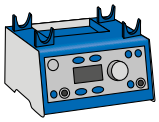
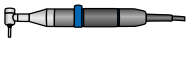
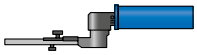
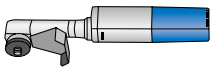
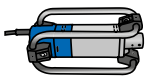
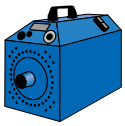
You can find our clearly structured online spare parts catalogue at **spareparts.pferd.com**, or order them from a PFERD repair facility!

In the information area you can see which documents are available for download.

Example: Compressed-air straight grinder PGAS 2/800 E-HV



Move your mouse over the different spare parts for your PFERD power tool to get the exact product specifications. Clicking on the respective code displays more information and a product photo. In the lower part of the image, you have the option of adding the selected spare parts directly to the shopping cart and ordering them.

	Description				Power (HP) / Rotational speed	Type
Air powered machines						
	**P** Pneumatic	**G** straight	**T** turbine grinder	**A** rear exhaust hose	**1 / 1000** Power / Rotational speed (HP x 10) (RPM x 0.01)	**V** extended model
	**P** Pneumatic	**G** straight grinder	**A** rear exhaust hose	**S** collet		**E** elastic suspended spindle
	**P** Pneumatic	**W** angle grinder	**S** silencer	**A** rear exhaust hose		**HV** safety lever throttle
	**P** Pneumatic	**B** belt grinder	**S** collet			**oVA** without belt attachment arm
	**MST** Marking pen	**31** strokes per minute				
Electric machines						
	**MIM** Micro motor	**STG** control unit				
	**MIM** Micro motor	**HAS** straight handpiece				**SI** double insulated
	**MIM** Micro motor	**WZS** angle handpiece				**120 V** Voltage unit
	**U** Electric	**G** straight grinder	**ER** electronic speed regulation		**3 / 800** Power / Rotational speed (HP x 10) (RPM x 0.01)	
	**U** Electric	**W** angle grinder	**ER** electronic speed regulation			
	**U** Electric	**W** angle grinder	**ER** electronic speed regulation			**D19** for grinding and finishing drums with 3/4"
	**U** Electric	**BS** belt grinder				**oVA** without belt attachment arm
	**KN** Fillet weld grinder		**ER** electronic speed regulation			
Flexible shaft drives						
	**RU** Universal electric motor		**ER** electronic speed regulation		**15 / 30** Power / Rotational speed (HP x 10) (RPM x 0.01)	
	**ME** Mammoth electronic	**W** alternating current (AC)				**240 V** Voltage unit

Example: Power HP / RPM (in watts 10th unit) (in 100th unit)

$$100 \text{ w} \times 1.36 = \frac{136}{1000} = 0.1 \text{ HP}$$

PFERDVALUE®

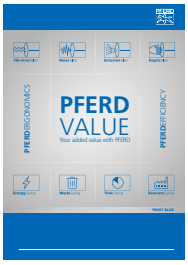
Results from the PFERD test laboratories as well as from independent testing institutes prove: PFERD products offer measurable added value.

The optimization of work processes through the use of powerful premium power tools has a positive effect on the cost-effectiveness of your operations.

In the long term, to be cost-effective is to be sustainable.

Experience the added value with PFERD. Discover **PFERD**ERGONOMICS® and **PFERD**EFFICIENCY®, both part of the **PFERD**VALUE® program.

For more information on this topic, please refer to our brochure "**PFERD**VALUE® – Your added value with PFERD".



Please visit **pferdusa.com/pferdvalue** to request a free copy or to download a PDF version.

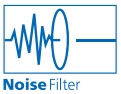
PFERDERGONOMICS®

Ergonomics is an important aspect of occupational health. The aim is to organize working conditions in such a way as to increase the users' comfort and not to impair their health – even under tough working conditions and if they have to carry out a certain job for a long time.

As a manufacturer of hand-held tools, we feel especially obliged to tool users to contribute to more safety, working comfort and health. That is why people are at the focus of all the processes that a hand-held tool passes through during its creation – from research and development right through to mass production.

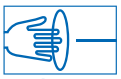
As part of **PFERD**ERGONOMICS®, PFERD offers ergonomically optimized power tools that contribute to greater safety and working comfort, and thus to health protection. Use the chart beside to understand the ergonomic properties of PFERD power tools.

Less vibration
- Elastically mounted spindles.
- Anti-vibration handle.
- Autobalancer.
- EU Occupational Health Directive.



Reduced noise
- Quieter than 72 dB(A).
- EU Occupational Health Directive 2003/10/EC.

Minimized emissions
- Oil-free power tools.



Optimized feel
- Light.
- Easy to handle.
- Slim.
- Ergonomic (shape).

PFERDEFFICIENCY®

Efficiency is the focus of all work processes. It is motivated by cost savings on the one hand and productivity increases on the other.

With efficiency as the goal, users are challenged daily with completing their tasks quickly, effectively, and with the best results.

As part of **PFERD**EFFICIENCY®, PFERD offers innovative, high-performance power tools with outstanding added value. They achieve excellent results in the shortest possible time, save energy and/or generate less costly waste.

Use the chart beside to understand the efficiency assessments of PFERD power tools.

Less energy consumption
- Air tools with centrifugal governors reduced air consumption.
- Electric tools with stepless speed variation.
- Flexible shaft tools with frequency regulation.

Less waste created
- Power tools with elastic-suspended spindles (reduced wear of tools and improved life-time of power tools).
- Long service life in tools with 3-phase motor.

Shorter processing times
- Air tools with elastic-suspended spindles.
- Electric tools with stepless speed variation.
- Flexible shaft tools with quick-change handpieces.
- Higher than average motor: handpiece ratios.

Less overall resources consumed
- **Energy**Saving.
- **Time**Saving.
- **Waste**Saving.
- Ergonomically optimized (minimum one of the **PFERD**ERGONOMICS® pictograms).


PFERD
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PFERD
Oil
PFERD MST 31
PFERD-Werkzeuge
51709 Marienheide
Germany

Air grinders
General information

Air grinders are the "top speed" machines among the power tools. They achieve higher rotational speeds in comparison to electric grinders or flexible shaft drives, and have an excellent power-to-size ratio. The robust and resistant slide vane and turbine motors have a long service life and are very easy to service.

Areas of application

Air grinders are very versatile. They are used economically and reliably in series production and assembly lines, especially in medium and large-sized facilities that have a compressed air network.

PFERD range

PFERD offers straight, angle and belt grinders, as well as special power tools. PFERD air grinders are technically up to date and incorporate the latest ergonomic findings and requirements. They have been specially developed for the economic application of grinding and milling tools and cover a wide rotational speed range (100,000–4,000 RPM) and power output (900–75 watts / 1.2 -0.1 HP).

Advantages

- Compact, ergonomic design.
- Low weight.
- High power.
- Versatile use.
- Fixed rotational speeds.
- No risk of overloading, can be loaded up to machine standstill.
- Housing insulated against cold and vibration.
- Low-maintenance.
- Easy to service.
- Economical.

Criteria for selecting the optimum air grinder

The most important prerequisite for cost-effective work is the selection of the optimum tool. The appropriate drive is selected taking the following criteria into consideration:

1. Rotational speed
The drive should always be selected according to the rotational speed and peripheral speed recommendations for the tool. Please refer to catalogue sections 2–8 for these recommendations.

2. Power output
The drive's power output is the decisive factor for maintaining the rotational speed under load. The load is determined by the material to be machined, the cutting characteristics of the tool and the contact pressure.

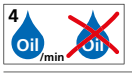
3. Design, shape and size
Every type of application places specific demands on the shape and size of the power tool. The different designs can be used for various applications, so the ideal drive should be selected for the task at hand, depending on the dimensions, accessibility, type and frequency of the application.

4. Tool mounting
Depending on the PFERD tool selected, different mounting options are available, e.g. collets or threaded spindles. Matching collets are allocated to every drive. Please refer to pages 62–63 for an overview of collets and spindle extensions. If you have any further questions, your personal PFERD sales representative will be happy to help you.

Operates with or without oil

Turbine and air grinders are marked with the following symbols:

Use only without oil.



Can be used with or without oil.

Use only with oil.

Advantages of oil-free compressed air
- Protects both people's health, the environment and the workplace.
- Reduces operating costs, because oil and fittings can be dispensed with.
- Avoids oily deposits on the workpiece.

Recommendations and prerequisites for the cost-effective use of air grinders

1. Air pressure
The drive should be operated at an air pressure of 91 psi. A sufficient flow rate must always be ensured. Over-pressure leads to premature and higher levels of wear.

2. Air consumption
All data in this catalogue refers to air consumption in cubic feet per minute [cfm]. This is the volume of the air when expanded to atmospheric pressure. Unless otherwise indicated, the air consumption figures stated are always for a pressure of 90–92 psi and the maximum consumption of the drive in question. Non-regulated air grinders have the highest consumption at idling speed. Centrifugal governors air grinders have their highest air consumption under full load.

3. Rotational speed
Rotational speed data is stated in revolutions per minute [RPM] and refers to the idling speed at a pressure of 91 psi. In the case of non-regulated power tools, the rotational speed under full load is approximately 50% of the idling speed. In the case of centrifugal-force-controlled power tools, the speed under full load is approximately 80 to 90% of the idling speed.

4. Oil mist lubrication
Adequate oil mist lubrication, when relevant, is of crucial importance for optimum machine operation (oil viscosity at 104°F (40°C) 0,03–0,05 in²/s (22–32 mm²/s) (cSt)).

5. Power tools for oil-free compressed-air operation
Power tools designated "oil-free" can be used without oil mist lubrication. Power tools which can operate with or without oil have a minimal reduction in rotational speed and power output when used without oil.

6. In-line fine filter
To ensure trouble-free machine operation, particularly with frequent connection and disconnection, we recommend using the appropriate in-line fine filter, filter size 5 µm.

7. Air supply hose
The air supply hose must have an inner diameter that at least corresponds to those stated for the power tools and if possible be up to 16 ft long.

8. Fittings
Always use additional fittings such as hose nozzles, self-closing valve couplings etc. with the largest possible inner diameter. It is not advisable to use more than one valve coupling in order to prevent pressure losses.

9. Noise level
Air tool operators must always wear hearing protection as the process noise emission exceeds 85 dB(A) in many applications, even though the idling noise of the air grinders is low.

10. Vibrations
PFERD air grinders meet the requirements of the EC Machinery Directive regarding vibrations from hand-held or hand-guided machines. This is achieved through:
- Precise concentricity.
- Vibration-damping intermediate layers.
- Vibration-insulated housings.

11. Maintenance and safety
We recommend maintenance of the power tools at regular intervals.

PGT 1/1000

100,000 RPM / 0.1 HP / 75 watts

Tool benefits:
- For fine milling, grinding and engraving work.
- Spindle bearing ensures high concentricity.
- Light, easy to handle.
- Holds like a pen.
- Front exhaust deflects chips.

Accessories included:
6.6′ air supply hose (with 1/4″ male threaded connection), 1/8″ collet EDP 93007 (collet group 1), 2 keys.

PFERDVALUE®:
EmissionFilter

EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90002	PGT 1/1000	12.36	6.00	front	ring	62	13/64	0.53

Collets

Group 1	For shank diameter		
	3/32 inch	1/8 inch	3 mm
EDP number	93006	93007	93003

For dimensions see pages 62–63.

Keys

Width	Qty	EDP number
7 mm	2	93327

Replacement hose

Description	EDP number
Loose replacement hose with special coupling threads.	97028

In-line fine filter

Description	EDP number
SF 24 T8-IG 1/4	95512

See page 28.

Recommended PFERD products

Catalogue section 2	Catalogue section 3
Tungsten carbide burs up to 1/8″ diameter with 1/8″ shank diameter	**Mounted points** up to 1/4″ diameter with 1/8″ shank diameter

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4″.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

Comply with ANSI B7.1-2000 standards and OSHA regulations.

Tool benefits:
- Elastic suspended spindle for reduced vibration.
- Dead man's switch using safety lever valve.
- For fine milling, grinding and engraving work.
- Holds like a pen.
- Rear exhaust prevents oil and debris from blowing onto workpiece.

Accessories included:
1.1′ exhaust hose, 6.5′ air supply hose (without nozzle), 1/8″ collet EDP 93007 (collet group 1), 2 keys.

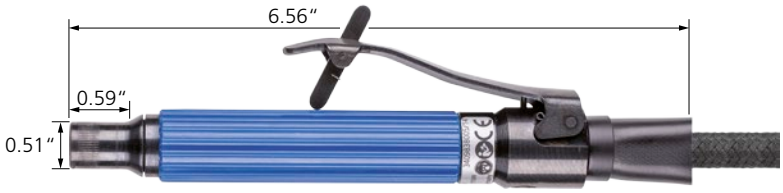
PFERDVALUE®:

Vibration Filter · Noise Filter · Energy Saving · Waste Saving · Time Saving · Resource Saving

1 Oil /min

PGAS 2/800 E-HV

80,000 RPM / 0.2 HP / 110 watts



EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90008	PGAS 2/800 E-HV	10.95	8.83	rear	lever	70	13/64	0.547

Collets

Group 1	For shank diameter		
	3/32 inch	1/8 inch	3 mm
EDP number	93006	93007	93003

For dimensions see pages 62–63.

Keys

Width	Qty	EDP number
8 mm	2	93328

In-line fine filter

Description	EDP number
SF 24 T8-T5	95513

See page 28.

Recommended PFERD products

Catalogue section 2	Catalogue section 3*
Tungsten carbide burs up to 1/8″ diameter with 1/8″ shank diameter	**Mounted points** up to 1/4″ diameter with 1/8″ shank diameter

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4″.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2″ shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Air grinders
Straight grinders

PGAS 3/440 HV

44,000 RPM / 0.3 HP / 250 watts

2 Oil /min

Tool benefits:
- Smallest and lightest straight grinder in this performance class.
- Slim and rugged design.
- Rear exhaust directs air and debris away from work.
- Ergonomic grip for optimum control, particularly in axial direction.

Accessories included:
2.5′ exhaust hose, 6.6′ air supply hose (without nozzle), 1/4″ collet EDP 93074 (collet group 6), 2 keys.

PFERDVALUE®:

HapticFilter

EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90014	PGAS 3/440 HV	19.42	12.36	rear	lever	72	5/16	0.75

Collets

Group 6	For shank diameter					
	3/32 inch	1/8 inch	1/4 inch	3 mm	6 mm	8 mm
EDP number	93067	93072	93074	93057	93062	93064

For dimensions see pages 62–63.

Keys

Width	Qty	EDP number
11 mm	1	93335
14 mm	1	93340

In-line fine filter

Description	EDP number
SF 24 T8-T8	95514

See page 28.

Recommended PFERD products

Catalogue section 2	Catalogue section 4*	
Tungsten carbide burs up to 3/16″ diameter	**Mounted flap wheels** 3/8″ diameter	**Abrasive spiral bands** up to 1/2″ diameter
Catalogue section 3*	**Poliflex® finishing points** **Rubber bond** up to 1/4″ diameter **Leather bond** up to 3/8″ diameter	**POLICAP® abrasive caps** 3/16″ diameter
Mounted points up to 3/4″ diameter		

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4″.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2″ shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Tool benefits:
- Compact design, convenient in use.
- Easy to handle, and to guide.
- Low vibration, protecting people, tools and machine.

Accessories included:
6,6' air supply hose (without nozzle), 1/4" collet EDP 93074 (collet group 6), 2 keys.

PFERDVALUE®:

HapticFilter

2 Oil /min

PG 3/380 HV

38,000 RPM / 0.3 HP / 220 watts

EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90018	PG 3/380 HV	19.42	12.36	front	lever	78	5/16	0.68

Collets

Group 6	For shank diameter					
	3/32 inch	1/8 inch	1/4 inch	3 mm	6 mm	8 mm
EDP number	93067	93072	93074	93057	93062	93064

For dimensions see pages 62–63.

Keys

Width	Qty	EDP number
11 mm	1	93335
14 mm	1	93340

In-line fine filter

Description	EDP number
SF 24 T8-T8	95514

See page 28.

Recommended PFERD products

Catalogue section 2	Catalogue section 4*
Tungsten carbide burs 3/16" to 1/4" diameter	**Abrasive spiral bands** 3/8" to 5/8" diameter
Catalogue section 3*	**POLICAP® abrasive caps** 1/4", 9/32" diameter
Mounted points 1/2" to 1" diameter	**Mounted flap wheels** 3/8" diameter 1/8" shank diameter
	Poliflex® finishing points **Rubber bond** 1/4" diameter **Leather bond** 1/2" diameter

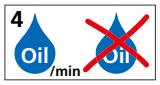
Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4".

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2" shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

PGAS 5/230 VE-HV

with oil: 23,000 RPM / 0.5 HP / 370 watts
without oil: 18,000 RPM / 0.5 HP / 340 watts



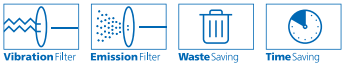
Tool benefits

- Ideal for fine grinding and polishing products.
- Extended shaft for reaching into tight spaces and long interiors.
- Can operate without oil; avoids oil contamination of workpiece and other surfaces, and reduces workplace emissions.
- Elastic suspended spindle results in comfortable grinding and extended product life.

Accessories included

2.5′ exhaust hose, 6.6′ air supply hose (without nozzle), 1/4″ collet EDP 93074 (collet group 6), 2 keys.

PFERDVALUE®:



EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90035	PGAS 5/230 VE-HV	30.02	25.25	rear	lever	80	5/16	1.85

Collets

Group 6	For shank diameter					
	3/32 inch	1/8 inch	1/4 inch	3 mm	6 mm	8 mm
EDP number	93067	93072	93074	93057	93062	93064

For dimensions see pages 62–63.

Keys

Width	Qty	EDP number
11 mm	1	93335
14 mm	1	93340

In-line fine filter

Description	EDP number
SF 24 T8-T8	95514

See page 28.

Recommended PFERD products

Catalogue section 2

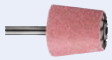
Tungsten carbide burs
1/4″ to 1/2″ diameter

Catalogue section 3*

Mounted points
1/2″to 1-5/8″ diameter

Catalogue section 4*

Abrasive spiral bands
up to 7/8″ diameter



Catalogue section 4*

POLICAP® abrasive caps
3/8″ diameter

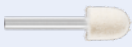
Mounted flap wheels
5/8″ diameter
1/8″ shank diameter

Poliflex® finishing points
Rubber bond
3/8″ diameter

Leather bond
3/4″ to 5/8″ diameter

Catalogue section 4*

Felt polishing points
5/16″ to 1/4″ diameter



Catalogue section 6

Type 1 die grinder cut-off wheels
2″ diameter

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4″.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2″ shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Tool benefits:
- For fine milling and grinding work with good performance.
- Light and easy to handle, even using just one hand.
- High speed stability and power output.
- Low vibration protects user and workpiece.
- With guide sleeve, this is the optimal power tool for grinding with **EDGE cut TC burs!**

Accessories included:
6.6' air supply hose (without nozzle), 1/4" collet EDP 93074 (collet group 6), 2 keys.

For information on **EDGE cut burs** see catalogue "Carbide burs and bi-metal hole saws" (catalog section 2).

PFERDVALUE®:

HapticFilter

3 Oil /min

PG 3/210 HV

21,000 RPM / 0.3 HP / 220 watts

EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90036	PG 3/210 HV	23.66	16.95	front	lever	81	5/16	0.95

Collets

Group 6	For shank diameter					
	3/32 inch	1/8 inch	1/4 inch	3 mm	6 mm	8 mm
EDP number	93067	93072	93074	93057	93062	93064

For dimensions see pages 62–63.

Keys

Width	Qty	EDP number
11 mm	1	93335
14 mm	1	93340

In-line fine filter

Description	EDP number
SF 24 T8-T8	95514

See page 28.

Guide plate and sleeve

Item no.	Plate outer diameter	Sleeve tip diameter	EDP number
1	2-3/8" / 60 mm	-	95295
2	-	1" / 25 mm	95294

Recommended PFERD products

Catalogue section 2

Tungsten carbide burs
1/4" to 5/8" diameter

EDGE cut

Catalogue section 3*

Mounted points
1" to 1-1/2" diameter

Catalogue section 4*

Abrasive spiral bands
7/8" to 1-1/8" diameter

Catalogue section 4*

POLICAP® abrasive caps
3/8" diameter

Mounted flap wheels
5/8" diameter
1/8" shank diameter

Poliflex® finishing points
Rubber bond
3/8" diameter

Leather bond
3/4" to 5/8" diameter

Felt polishing points
5/16" to 3/8" diameter

Catalogue section 6

Type 1 die grinder cut-off wheels
2" diameter

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4".

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2" shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

PGAS 5/40 V-HV

with oil: 4,000 RPM / 0.5 HP / 370 watts
without oil: 3,500 RPM / 0.5 HP / 340 watts

Tool benefits:
- High power output geared to lower speed.
- No oil residues on the workpiece.
- Ideal for fine grinding and polishing products.
- Safety lever throttle (HV) protects against inadvertent start-up.
- Rear exhaust with silencer.

Accessories included:
2.5′ exhaust hose and 6.6′ air supply hose (without nozzle), 1/4″ collet EDP 93074 (collet group 6), 2 keys.

PFERDVALUE®:
EmissionFilter

EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90082	PGAS 5/40 V-HV	30.02	22.5	rear	lever	79	5/16	1.99

Collets

Group 6	For shank diameter					
	3/32 inch	1/8 inch	1/4 inch	3 mm	6 mm	8 mm
EDP number	93067	93072	93074	93057	93062	93064

For dimensions see pages 62–63.

Keys

Width	Qty	EDP number
11 mm	1	93335
14 mm	1	93340

In-line fine filter

Description	EDP number
SF 24 T8-T8	95514

See page 28.

Recommended PFERD products

Catalogue section 4*	Catalogue section 8
Coated & non-woven mounted flap wheels 3″ diameter	**Tube brushes**
POLICLEAN -PLUS® mounted wheels 2″ to 3″ diameter	**SINGLETWIST® end brushes**
Felt wheels 1-1/4″ to 1-3/4″ diameter	**M-BRAD® copper centre wheels** up to 3″ diameter
Felt polishing points 1″ to 1-1/4″ diameter	**Pencil end brushes**
	Circular end brush

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4″.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2″ shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Tool benefits:
- Smallest, high speed angle grinder in this performance class for industrial applications.
- Durable design, without angular gears.
- Adjustable side exhaust.

Accessories included:
- 0.98' exhaust hose, 6.6' air supply hose (without nozzle), 1/8" collet EDP 93012 (collet group 2), 2 keys.

1 Oil /min

PWSA 1/800

80,000 RPM / 0.1 HP / 75 watts

EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90503	PWSA 1/800	8.83	6.36	rear	ring	78	13/64	0.28

Collets

Group 2	For shank diameter		
	3/32 inch	1/8 inch	3 mm
EDP number	93013	93012	93011

For dimensions see pages 62–63.

Keys

Width	Qty	EDP number
6 mm	1	93326
8 mm	1	93328

In-line fine filter

Description	EDP number
SF 24 T8 T5	95513

See page 28.

Recommended PFERD products

Catalogue section 2	Catalogue section 3*
Tungsten carbide burs up to 1/8" diameter with 1/8" shank diameter	**Mounted points** up to 1/4" diameter with 1/8" shank diameter

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4".

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2" shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Air grinders
Angle grinders

PWSA 3/220 HV

22,000 RPM / 0.3 HP / 250 watts

2 Oil /min

Tool benefits:
- Slim angle head for work in narrow workpieces.
- Long-life angle transmission.
- High spindle concentricity.
- Easy to handle, compact shape.

Accessories included:
2.5′ exhaust hose and 6.6′ air supply hose without nozzle, 1/4" collet EDP 93074 (collet group 6), 2 keys.

EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90512	PWSA 3/220 HV	21.19	16.24	rear	lever	75	5/16	0.84

Collets

Group 6	For shank diameter					
	3/32 inch	1/8 inch	1/4 inch	3 mm	6 mm	8 mm
EDP number	93067	93072	93074	93057	93062	93064

For dimensions see pages 62–63.

Keys

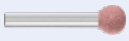
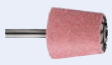
Width	Qty	EDP number
11 mm	1	93335
14 mm	1	93340

In-line fine filter

Description	EDP number
SF 24 T8-T8	95514

See page 28.

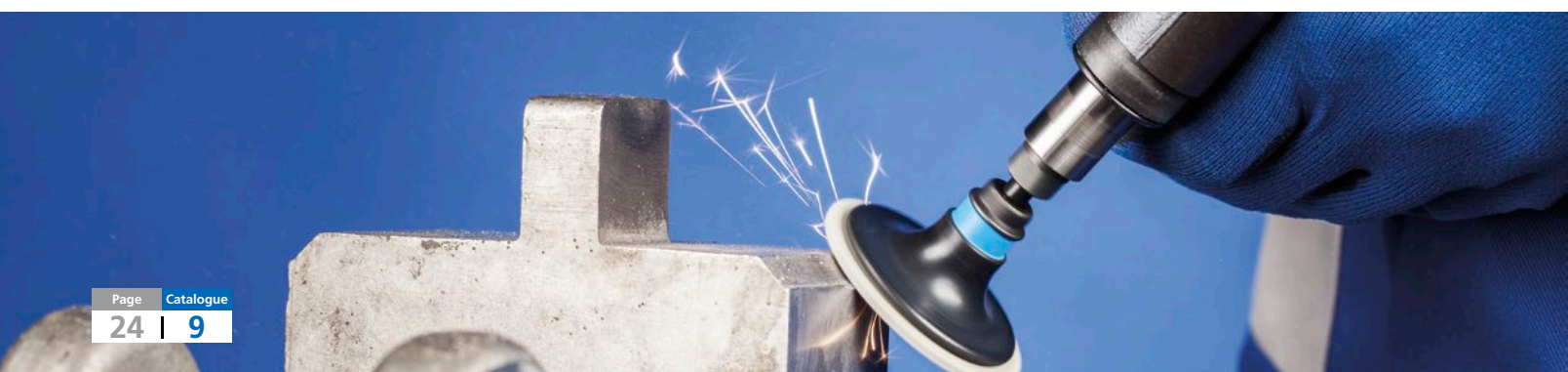
Recommended PFERD products

Catalogue section 2	Catalogue section 4*	
Tungsten carbide burs 1/4″ to 3/8″ diameter 	**POLICAP® abrasive caps** 3/8″ diameter 	**Felt polishing points** 5/16″ to 3/8″ diameter 
Catalogue section 3*	**Mounted flap wheels** 3/4″ to 1″ diameter 	**COMBIDISC® abrasive discs** 1-1/2″ to 2″ diameter 
Mounted points 3/4″to 1-5/8″ diameter 	**Poliflex® finishing points**	
Catalogue section 4*	**Rubber bond** up to 1/2″ diameter 	
Abrasive spiral bands up to 1″ diameter 	**Leather bond** up to 1″ diameter 	

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4″.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2″ shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.



Tool benefits:
- Special 1/4-20 UNC spindle for mounting any COMBIDISC® product (use backing pad without shank).
- Flat angle head facilitates work in hard-to-reach areas.
- High torque.
- Easy to handle, compact shape.

Accessories included:
- 6.6′ air supply hose without nozzle, 1 key.

PFERDVALUE®:

HapticFilter

2 Oil /min

PW 3/120 HV

12,000 RPM / 0.3 HP / 220 watts

EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Spindle thread	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90521	PW 3/120 HV	19.42	12.36	front	lever	1/4-20 UNC	79	5/16	0.86

Keys

Width	Qty	EDP number
11 mm	1	93335

In-line fine filter

Description	EDP number
SF 24 T8-T8	95514

See page 28.

Extension for drive spindles

Description	EDP number	Use for
SPV 20 CD 1/4-20 UNC	95808	COMBIDISC® abrasive disc holder without threaded shank

Recommended PFERD products

Catalogue section 4

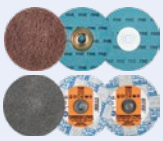
COMBIDISC® Mini-POLIFAN® discs
2″ to 3″ diameter

COMBIDISC® abrasive discs
1-1/2″ to 2″ diameter

COMBIDISC® diamond discs
1″ to 1-1/2″ diameter

COMBIDISC® non-woven discs
1-1/2″ diameter

COMBIDISC® unitized discs
3″ diameter



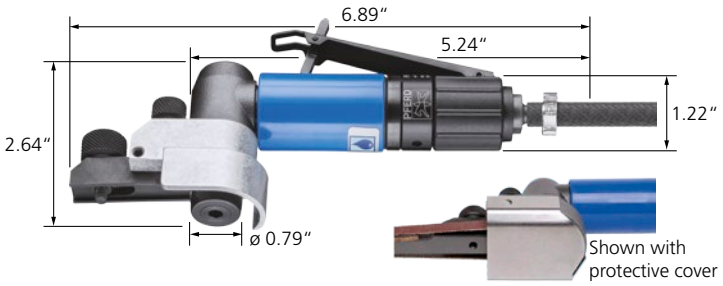
Note: Product recommendations are based on general peripheral and rotational speeds.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

Comply with ANSI B7.1-2000 standards and OSHA regulations.

PBS 3/200 HV oVA

20,000 RPM / 0.3 HP / 220 watts
Belt length 12" x width: 1/8"–3/8"



2 Oil /min

Tool benefits:
- Light, ergonomic one-handed belt grinder.
- Thin attachment arms allow work in cut outs, recesses and fillet welds, even on particularly small workpieces.
- Long-life angled transmission.
- Please order belt attachment arms separately.

Accessories included:
6.6' air supply hose (without nozzle), protective cover (EDP 95001), 3 keys.

PFERDVALUE®:
HapticFilter

EDP number	Description	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Belt speed [SFPM]	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90711	PBS 3/200 HV oVA	19.42	12.36	front	lever	4,134	79	5/16	1.10

Keys

Width	Qty	EDP number
3 mm	1	93302
5 mm	1	93304
14 mm	1	93340

In-line fine filter

Description	EDP number
SF 24 T8-T8	95514

See page 28.

Protective cover

Description	EDP number
SDVH-K	95001

Belt grinder attachment arms

- Durable, quality steel design.
- Use of the full roller width possible.
- Extremely slim fixtures on the roller.
- Asymmetrical arms for flush grinding.
- Belt arm can be rotated 360°.
- Belt tracking can be adjusted.
- BSVA 9/25-1 with conical guide roller (angle flat width 0.04").
- Belt length 12".

EDP number	Description	Width x roll dia. [Inches]	Width x roll dia. [mm]	Suitable belt width [Inches]	Use for	Photo
95006	BSVAK 9/25 x 305	0.35 x 0.98	8.8 x 25	1/8, 1/4, 3/8, 1/2	Finishing jobs, deburring, matting, fine grinding and seamless blending of inner radii/channels, especially on pipe couplings	
95005	BSVAK 9/25-1 x 305	0.35 x 0.98	8.8 x 25	1/8, 1/4, 3/8, 1/2	Finishing jobs in narrow inner radii/ channels, especially on pipe couplings made of stainless steel (INOX) with very small welded seams (TIG welding)	
95009	BSVAK 4/16 x 305	0.15 x 0.63	3.8 x 16	1/8, 1/4, 3/8	Leveling, deburring, matting, fine grinding, cleaning and seamless blending of stainless steel in narrow, small areas	
95008	BSVAK 9/9 x 305	0.35 x 0.35	8.8 x 9	3/8, 1/2	Leveling, chamfering, matting, fine grinding, cleaning and seamless blending on small areas	
95007	BSVAK 9/16 x 305	0.35 x 0.63	8.8 x 16	3/8, 1/2	Leveling, chamfering, matting, fine grinding, cleaning and seamless blending on small areas	

For further information and ordering data on abrasive and non-woven short belts, please refer to catalogue section 4.

Tool benefits:
- For engraving markings in metal, glass, plastics and even heat-treated tool steel (with fine needle).
- Patented pneumatic engraving pen working at about three times the frequency of competitive products.
- Frequency: 500–600 strokes/sec.
- Does not transmit harmful vibrations to the hand.

Accessories included:
6.5′ air supply hose (with 1/4″ NPT female threaded connection), tungsten carbide engraving needle.

1 Oil /5min

Marking pen MST 31

Frequency: 30,000–36,000 strokes/min

EDP number	Description	Needle gauge	Air consumption at idling speed [cfm]	Air consumption under load [cfm]	Exhaust direction	Throttle type	Sound level [dB(A)]	Air supply hose inner dia. [Inches]	Weight [lb]
90700	MST 31 F	fine	1.06	0.71	front	ring	62	5/32	0.33
90701	MST 31 M	medium	1.06	0.71	front	ring	62	5/32	0.33
90702	MST 31 G	coarse	1.06	0.71	front	ring	62	5/32	0.33

Replacement hose

Description	EDP number
Loose replacement hose with special coupling nipples, length: 6.6 feet	95200

In-line fine filter

Description	EDP number
SF 24 T8-IG 1/4	95512

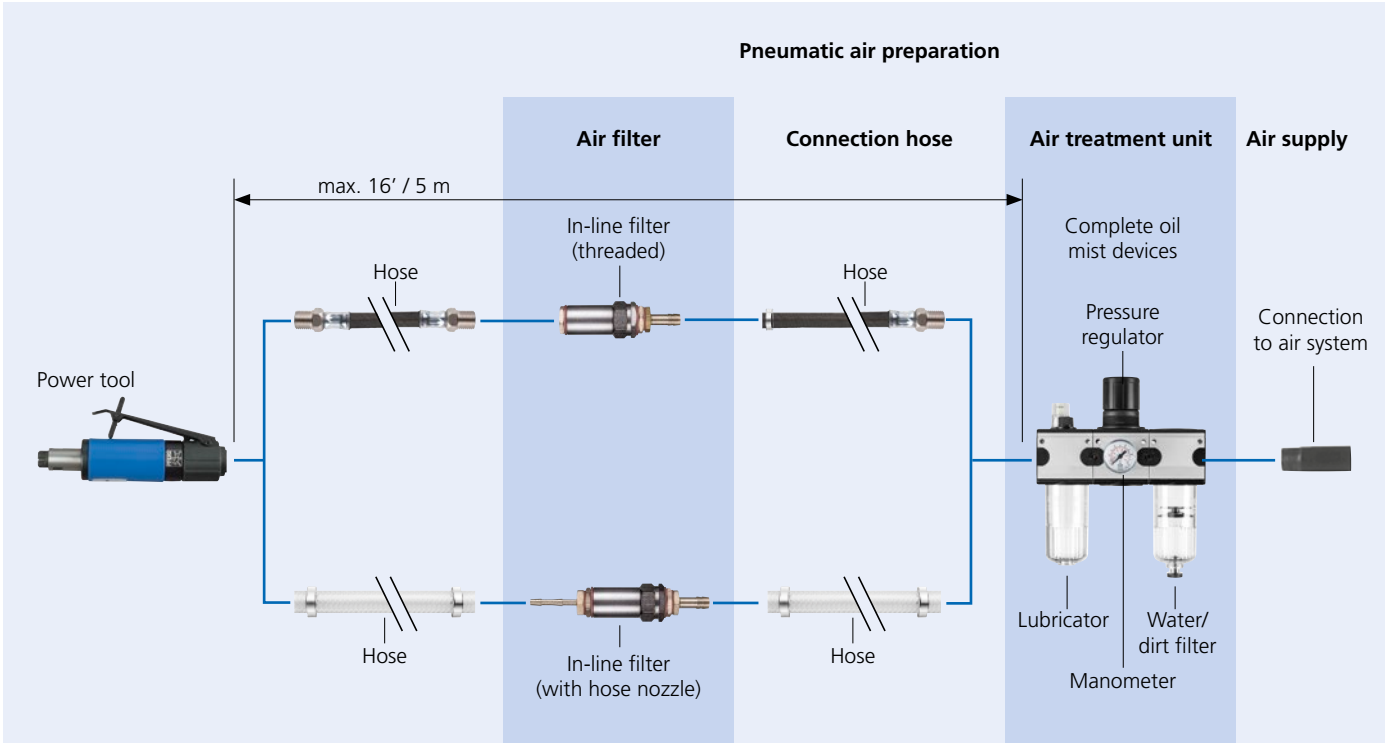
See page 28.

Replacement TC engraving needles for marking pens

Please order tungsten carbide replacement needles separately.
The fine needle is for engraving hardened surfaces such as heat-treated tool steels.
The coarse needle is for softer surfaces such as plastics and aluminum.

EDP number	Description	Needle gauge	Net weight [lb]
95500	Replacement needle, fine gauge	F (fine)	0.007
95501	Replacement needle, medium gauge	M (medium)	0.007
95502	Replacement needle, coarse gauge	G (coarse)	0.007

Optimal air supply system attachment



In-line filters

Use of an in-line fine filter combined with the recommended oiling frequency will extend your air tool maintenance cycles.

The filter reduces the amount of dirt particles in the supply air. The filter should be dismantled and cleaned on a regular basis.

EDP number	Description	Power tool side	Air supply hose dia.		Connection hose dia.		Pore size [µm]
			[Inches]	[mm]	[Inches]	[mm]	
95512	SF 24 T8-IG 1/4	1/4" threaded (female)	5/16	8	5/16	8	5
95513	SF 24 T8-T5	5 mm	13/64	5	5/16	8	5
95514	SF 24 T8-T8	8 mm	5/16	8	5/16	8	5
95515	SF 24 T9-T9	9 mm	23/64	9	23/64	9	5

PFERD

Electric grinders

9

Electric grinders
General information

Electric grinders are universal all-rounders. They offer a high power output in relation to their size and weight. They are particularly suitable for use with grinding tools that require a constant rotational speed.

Areas of application

Electric grinders can be used for nearly every application. They are used in many industries in different processes. The stepless electronic rotational speed control allows the use of various types of tools on one single tool drive. Electric grinders are not suitable for use in boiler construction and in very dusty conditions (especially work on aluminum).

The PFERD product range

PFERD provides a wide range of electric grinders: Micro motors, straight grinders, angle grinders, drum grinders, belt grinders as well as fillet weld grinders. PFERD electric grinders meet the highest technical standards and incorporate the latest ergonomic findings and requirements. They were specially developed for the economic application of grinding, milling, brushing, cut-off and polishing tools, and cover a wide rotational speed range (80,000–850 RPM) and power range (900–260 watts / 1.2–0.4 HP). PFERD electric grinders have an electronic speed control for constant rotational speed values.

Advantages

- Compact, ergonomic design.
- Low weight.
- Sophisticated.
- High-performance.
- Suitable for universal use.
- Simple power supply.
- Low-maintenance.
- Easy to service.
- Economical.

Equipment/special features

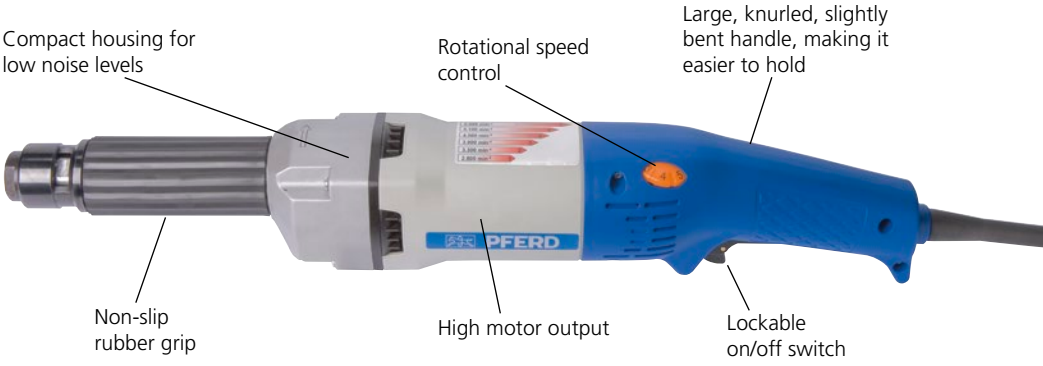
- **Smooth start-up:**
  The electronically regulated smooth start-up ensures a jolt-free start-up of the grinder.
- **Undervoltage protection/restart protection:**
  Should the power supply fail, PFERD electric grinders do not start up again inadvertently. The grinder will only restart after it has been switched off and on again.
- **Current limiting/blocking protection:**
  At double the nominal current input, the grinders switch off for approximately 0.2 seconds. By removing the load, the grinder is able to take up the initial rotational speed again.
- **Temperature overload protection:**
  When a critical temperature is reached, the safety electronic system switches to cooling mode. The grinder cannot be placed under loads when in cooling mode. The grinder will only start at the set operating speed after it has been switched off and on again.

Standards, safety, general guidelines

PFERD electric grinders:
- Bear the CE mark
- Are insulated and comply with protection class II
- Have safety extra-low voltage
- Are Protective grounding in accordance with protection class I

PFERD electric grinders comply with:
- EC Machinery Directive
- EC Low-Voltage Directive
- Electromagnetic Compatibility

National regulations must be observed.



Criteria for selecting the optimum electric grinder

The most important prerequisite for cost-effective work is the selection of the optimum tool. The appropriate tool drive is selected taking the following criteria into consideration:

1. Design, shape and size
Each type of application places specific demands on the shape and size of the tool drive. The different designs can be used for various applications: The ideal tool drive should be selected for the task at hand depending on the dimensions, accessibility, type and frequency of the application.

2. Rotational speed
The tool drive should always be selected according to the rotational speed and peripheral speed recommendations for the tool.
Please refer to catalogue sections 2–8 for these recommendations.

3. Power output
The drive's power output is the decisive factor for maintaining the rotational speed under load. The load is determined by the material to be machined, the cutting characteristics of the tool and the contact pressure.

4. Tool mounting
Depending on the PFERD tool selected, different tool mountings are available, e.g. collets or threaded spindles. Matching collets are allocated to every drive. Please refer to pages 62–63 for an overview of collets and spindle extensions.
If you have any further questions, your personal PFERD sales representative will be happy to help you.

MIM STG3S 3/800

80,000–1,000 RPM / 0.5 HP / 350 watts

Tool benefits:

- Control device for stepless rotational speed control of micro motor handpieces.
- Rotational speed can be controlled by hand or foot switch.
- Max. 80,000 RPM clockwise rotation.
- Max. 30,000 RPM anti-clockwise rotation.
- 2 switchable connection sockets for micro motor handpieces.
- Programmable speed ranges with automatic handpiece recognition
- Protective grounding.
- Safety extra-low voltage.

Assembly according to application requirement.

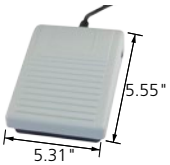
Accessories included:
6.6′ power cable, 2 handpiece supports.

PFERDVALUE®:

Noise Filter | Energy Saving

Vario foot switch* MIM FU-R

On/off foot switch MIM FU-E/A



Extension cable MIM VLK HAS/WZS 9.8′

EDP number	Description	For micro motor handpieces [RPM]	Voltage [volts] 50–60 Hz	Output voltage [volts]	Net weight [lb]
91531	MIM STG3S 3/800 115 V	80,000–1,000	115 V	50	6.570
91532	MIM FU-R	-	5 V	-	1.863
91533	MIM FU-E/A	-	5 V	-	0.683
91557	MIM VLK HAS/WZS 9.8′	-	-	-	0.335

*Vario = stepless rotational speed control

Electric grinders
Micro motor handpieces

MIM HAS 3/800 SP1/8”

80,000–1,000 RPM / 0.5 HP / 350 watts

MIM HAS 2/600 SP1/8”

60,000–1,000 RPM / 0.4 HP / 260 watts

MIM HAS 3/600 SP1/8”

MIM HAS 1/500 SP1/8”

50,000–1,000 RPM / 0.4 HP / 260 watts

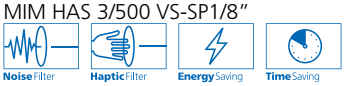
MIM HAS 3/500 VS-SP1/8”

Tool benefits:
- Start/stop switch on handpiece.
- Automatic speed limitation.
- Brushless motor.
- Start interlock without clamped tools.
- Very high concentricity speed.
- Extremely energy-efficient and quiet in comparison to air grinders.
- Safety extra-low voltage.
- SP = keyless fast clamping system. VS = with extended spindle.

Accessories included:
5.91’ handpiece cable length, 1/8" collet EDP 93257 (collet group 17), 2 keys.

PFERDVALUE®:
MIM HAS 3/800 SP1/8”

MIM HAS 2/600 SP1/8”,
MIM HAS 3/600 SP1/8”,
MIM HAS 1/500 SP1/8”,
MIM HAS 3/500 VS-SP1/8”



EDP number	Description	Rotational speed [RPM]	Low voltage [volts]	Power consumption [watts]	Power output [watts]	Collet group	Keys no.	Sound level [dB(A)]	Net weight [lb]
91540	MIM HAS 3/800 SP1/8”	80,000–1,000	50	350	approx. 180	17	4, 5	63	0.728
91535	MIM HAS 2/600 SP1/8”	60,000–1,000	36/50	260	150	17	4	60	0.573
91536	MIM HAS 3/600 SP1/8”	60,000–1,000	36/50	260	150	17	4, 5	60	0.694
91534	MIM HAS 1/500 SP1/8”	50,000–1,000	36/50	260	120	17	3, 4	60	0.595
91537	MIM HAS 3/500 VS-SP1/8”	50,000–1,000	36/50	260	150	17	4, 5	60	0.717

Keys

(3)
(4)
(5)

Item no.	Description	EDP number
3	SKS SW 1,5MM	93387
4	MIM SPS DK D7	93388
5	MIM ARS HA D23,5	93389

Collets

Group	For shank diameter and EDP number				
	1/8 inch	1/4 inch	2.35 mm	3 mm	6 mm
17	93257	-	93256	93255	-

For dimensions see pages 62–63.

Tool benefits:
- Start/stop switch on handpiece.
- Automatic speed limitation.
- Brushless motor.
- Very high concentricity speed.
- Extremely energy-efficient and quiet in comparison to air grinders.
- Safety extra-low voltage.
- S = changing tools with 2 keys.

Accessories included:
5.91′ handpiece cable length, 1/8″ collet EDP 93267 (collet group 18), EDP 93277 (collet group 19 or 1/4″ collet EDP 93279 (collet group 19), 2 keys.

PFERDVALUE®:

Noise Filter | Haptic Filter | Energy Saving

MIM HAS 3/600 S1/8″

60,000–1,000 RPM / 0.4 HP / 260 watts

MIM HAS 3/600 S1/4″

MIM WZS 3/300 90° S1/8″

30,000–1,000 RPM / 0.4 HP / 260 watts

MIM WZS 3/300 45° S1/8″

EDP number	Description	Rotational speed [RPM]	Low voltage [volts]	Power consumption [watts]	Power output [watts]	Collet group	Keys no.	Sound level [dB(A)]	Net weight [lb]
91538	MIM HAS 3/600 S1/8″	60,000–1,000	36/50	260	150	19	2, 7	60	0.866
91539	MIM HAS 3/600 S1/4″	60,000–1,000	36/50	260	150	19	2, 7	60	0.893
91541	MIM WZS 3/300 90° S1/8″	30,000–1,000	36/50	260	120	18	1, 6	61	0.525
91542	MIM WZS 3/300 45° S1/8″	30,000–1,000	36/50	260	120	18	1, 6	61	0.408

Keys

(1) (2) (6) (7)

Item no.	Description	EDP number
1	MIM ARH	93385
2	DM SW 10/10MM	93386
6	DM SW 4/4MM	93390
7	MIM-DSTS SW11XD2,4MM	93391

Collets

Group	For shank diameter and EDP number				
	1/8 inch	1/4 inch	2.35 mm	3 mm	6 mm
18	93267	-	93266	93265	-
19	93277	93279	93278	93276	93275

For dimensions see pages 62–63.

Electric grinders
Micro motor system

Tool mounting	Rot. speed	Power tools	Catalogue section 2	Catalogue section 3*	Catalogue section 4*	Catalogue section 8
Rot. speed range			**13,000–80,000 RPM**	**25,000–80,000 RPM**	**2,000–80,000 RPM**	**1,200–15,000 RPM**
Diameter 1/8"	**1,000–80,000 RPM**	**MIM HA 3/800 SP1/8"**	**Tungsten carbide burs Double, diamond, ALU, INOX, MICRO** Diameter up to 1/8" Shank diameter 1/8"	**Mounted points** Shank diameter 1/8": Diameter up to 3/16" Diameter 3/16" to 1/4" Width ≤ 1/2" Diameter 1/4" to 3/8" Width ≤ 3/8"	**Poliflex® finishing points** Shank diameter 1/8" Bonds: **Rubber bond** Diameter up to 5/32" **Leather bond** Diameter up to 1/4"	**Miniature stem mounted end brushes** Diameter 3/16" **Miniature stem mounted wheel brushes** Diameter 5/8" to 1" **Miniature stem mounted cup brushes** Diameter 9/16"
Rot. speed range			**13,000–60,000 RPM**	**25,000–60,000 RPM**	**2,000–60,000 RPM**	**1,200–15,000 RPM**
Diameter 1/8"	**1,000–60,000 RPM**	**MIM HAS 2/600 SP1/8" MIM HAS 3/600 SP1/8" MIM HAS 3/600 S1/8"**	**Tungsten carbide burs Double, diamond, ALU, INOX, MICRO** Diameter up to 1/4" Shank diameter 1/8"	**Mounted points** Shank diameter 1/8": Diameter 1/8" to 3/8" Width ≤ 5/8" Diameter 7/16" to 1" Width ≤ 1/4"	**POLICAP®** Diameter up to 1/2" Shank diameter 1/8" **Felt points** Diameter up to 3/4" Shank diameter 1/8" **Mounted flap wheels** Diameter up to 1" Shank diameter 1/8" **Poliflex® finishing points** Diameter up to 3/8" Shank diameter 1/8"	**Miniature stem mounted end brushes** Diameter 3/16" **Miniature stem mounted wheel brushes** Diameter 5/8" to 1" **Miniature stem mounted cup brushes** Diameter 9/16"
	1,000–50,000 RPM	**MIM HAS 1/500 SP1/8" MIM HAS 3/500 VS-SP1/8"**				
	1,000–30,000 RPM	**MIM WZS 3/300 90° S1/8" MIM WZS 3/300 45° S1/8"**				
Rot. speed range			**13,000–60,000 RPM**	**25,000–60,000 RPM**	**2,000–60,000 RPM**	**7,000–15,000 RPM**
Diameter 1/4"	**1,000–60,000 RPM**	**MIM HAS 3/600 S1/4"**	**Tungsten carbide burs Double, diamond, ALU, INOX, STEEL, CAST, MICRO** Diameter up to 1/4"	**Mounted points** Shank diameter 1/4": Diameter 1/8" to 5/8" Width ≤ 1-37/64"	**POLICAP®** Diameter up to 5/8" **Felt points** Diameter up to 1" **Felt wheels** Diameter up to 1-3/4" **Abrasive spiral bands and rubber drum holders** Diameter up to 1-1/8" **Mounted flap wheels** Diameter up to 1" **POLINOX® cross buffs** Diameter up to 1-1/2" **Mounted felt flap wheels** Diameter up to 1" **Poliflex® finishing points** Diameter up to 5/8"	**Stem mounted end brushes** crimped Diameter 1/2" to 3/4" knotted Diameter 1/2" to 3/4" **Stem mounted wheel brushes** crimped Diameter 1/2"

If no shank diameter is given, the shank diameter of 1/4" applies.
***Catalogue sections 3/4:** This data applies to an unsupported shank length of 10 mm and the max. stated mounted point dimensions.

Note: Please observe the recommended peripheral speeds and the max. permitted rotational speeds in catalogue sections 2–8. Do not exceed max RPM of the tool.

Tool benefits:
- Powerful, easy to handle.
- Digital electronic speed control ensures constant RPM even under load.
- Soft start feature protects people, tools and machine.
- Restart protection on power failure.
- Electronic shutdown device deactivates motor in case of extreme overload.
- Side switch for maximum ease of use.
- Sturdy, maintenance friendly design.

Accessories included:
10' power cable, 1/4" collet EDP 93182 (collet group 11), 2 keys.

PFERDVALUE®:

Haptic Filter Energy Saving

UGER 5/250 SI 120 V ⊡

25,000–11,000 RPM / 0.4 HP / 300 watts

EDP number	Description	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Max. amps	Sound level [dB(A)]	Weight [lb]
91005	UGER 5/250 SI 120 V	25,000–11,000	120	500	300	4.6	73	2.98

Collets

Group 11	For shank diameter					
	3/32 inch	1/8 inch	1/4 inch	3 mm	6 mm	8 mm
EDP number	93174	93179	93182	93157	93163	93166

For dimensions see table see pages 62–63.

Keys

Width	Qty	EDP number
14 mm	1	93340
18 mm	1	93370

Recommended PFERD products

Catalogue section 2	Catalogue section 4*	Catalogue section 8
Tungsten carbide burs 1/4" to 3/4" diameter	**Felt polishing points** 5/16" to 9/16" diameter	**Copper centre wheels** up to 3" diameter
Catalogue section 3*	**Abrasive spiral bands** 5/8" to 2" diameter	**Stem mounted crimped wheel brushes** up to 3" diameter
Mounted points 3/4" to 2" diameter	**Catalogue section 6**	**Stem mounted crimped end brushes** up to 1/2" diameter
Catalogue section 4*	**Type 1 die grinder cut-off wheels**	**Miniature brushes**
POLICAP® abrasive caps 3/8" to 5/8" diameter		**Pilot bonding brushes**
Mounted flap wheels 5/8" to 1-3/8" diameter		
Poliflex® finishing points 5/16" to 1" diameter		

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4".

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2" shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Electric grinders
Straight grinders

UGER 15/60 SI 120 V ▣

5,900–2,800 RPM / 1.2 HP / 900 watts

Tool benefits:
- For heavy milling and grinding work.
- Stepless RPM adjustment.
- High torque.
- Digital electronic for a constant RPM.
- Smooth start-up for the protection of people, tools and machine.
- Restart protection on power failure.
- Electronic shutdown device deactivates motor in case of extreme overload.

Accessories included:
10' power cable, 1/2" collet EDP 93218 (collet group 12), 2 keys.

PFERDVALUE®:

Energy Saving

EDP number	Description	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Max. amps	Sound level [dB(A)]	Weight [lb]
91016	UGER 15/60 SI 120 V	5,900–2,800	120	1,340	900	12	86	6.72

Collets

Group 12	For shank diameter						
	1/4 inch	3/8 inch	1/2 inch	6 mm	8 mm	10 mm	12 mm
EDP number	93211	93215	93218	93196	93199	93201	93203

For dimensions see table see pages 62–63.

Keys

Width	Qty	EDP number
22 mm	2	93380

Recommended PFERD products

Catalogue section 4*		Catalogue section 8
POLIROLL cartridge rolls 1" diameter	**POLICLEAN PLUS® mounted wheels** 3" to 6" diameter	**SINGLETWIST® end brushes**
Mounted flap wheels 2-1/2" to 3" diameter	**Felt polishing points** 9/16" to 1-1/4" diameter	**M-BRAD® copper centre wheels** up to 3" diameter
Unmounted flap wheels 4" to 8" diameter	**Felt wheels** 1-1/4" to 2-1/4" diameter	**Composite mounted disc brushes**
POLINOX® mounted flap wheels 2" to 4" diameter	**Cloth rings** 3" to 4" diameter	**Pencil end brushes**
POLINOX® unitized wheels 3" to 6" diameter		

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4".

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2" shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Tool benefits:
- For grinding and finishing work using COMBIDISC® products (use backing pad without shank).
- High output, convenient to use.
- Spindle with 1/4"-20 UNC thread.
- Digital electronic speed control ensures constant RPM even under load.
- Restart protection on power failure.

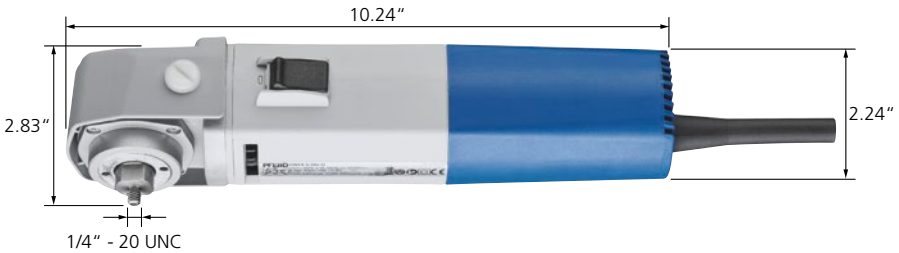
Accessories included:
10' power cable,1 key.

PFERDVALUE®:

Haptic Filter | Energy Saving

UWER 5/200 SI 120 V ⊡

20,000–9,000 RPM / 0.4 HP / 300 watts



EDP number	Description	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Spindle thread	Max. amps	Sound level [dB(A)]	Weight [lb]
91200	UWER 5/200 SI 120 V	20,000–9,000	120	500	300	1/4-20 UNC	4.6	83	2.98

Keys

Width	Qty	EDP number
14 mm	1	93340

Extension for drive spindles

EDP number	Description	Use for
95808	SPV 20 CD 1/4-20 UNC	COMBIDISC® abrasive disc holder without threaded shank

Recommended PFERD products

Catalogue section 4

COMBIDISC® Mini-POLIFAN® discs
2" to 3" diameter

COMBIDISC® abrasive discs
1" to 2" diameter

COMBIDISC® diamond discs
1" to 1-1/2" diameter

COMBIDISC® non-woven discs
surface conditioning, hard type
1-1/2" diameter

COMBIDISC® unitized discs
2" to 3" diameter

Note: Product recommendations are based on general peripheral and rotational speeds.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

Comply with ANSI B7.1-2000 standards and OSHA regulations.

Electric grinders
Linear finishing tool

UWER 15/35 SI D19 120 V ▣

3,500–850 RPM / 1.2 HP / 900 watts

Tool benefits:
- Low speed burnisher with stepless RPM adjustment.
- Ideal for creating linear scratch patterns on large surfaces.
- Drive spindle includes 5/8-11 thread and spindle extension with two keyways for increased force transmission; Easy mounting of drums with either threaded or keyed arbor holes.
- Electronic speed regulation for constant RPM even under load.
- Smooth start-up for the protection of people, tools and machine.
- Restart protection on power failure.
- Electronic shutdown device deactivates motor in case of extreme overload.
- Spindle lock for easy tool change.

Accessories included:
10' power cable, quick mounting screw, hand guard, lateral handle, removable drive spindle, 1 key.

PFERDVALUE®:

Energy Saving

EDP number	Description	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Max. Amps	Sound level [dB(A)]	Max. drum diameter [Inches]	Max. drum width x arbor hole [Inches]	Drive spindle [Inches]	Weight [lb]
91217	UWER 15/35 SI D19 120 V	3,800–850	120	1,340	900	12	86	5	4 x 3/4	3/4 x 3.9	6.61

Keys

Width	Qty	EDP number
17 mm	1	93350

5/8-11 direct attachment

Direct mounting of threaded drum tools possible.
3/4" x 3.9" spindle attachment
Spindle 5/8" (EDP 97969)
Keyway (EDP 97705)

Linear finishing kit UWER 15/35 SI TK 120 V
For further product and ordering information for this kit (EDP 49999), please see catalogue section 4.

Recommended PFERD products

Catalogue section 4		Catalogue section 8
POLINOX® finishing drums 5/8-11 hub and keyed arbor hole 	**Pneumatic drum for belts** with threaded spindle extension 5/8-11 	**Drum brushes** keyed arbor hole 
Flap drums keyed arbor hole 	**Coated and non-woven belts** with pneumatic drum for belts 	
	Buffing drums keyed arbor hole 	

Note: Product recommendations are based on general peripheral and rotational speeds.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

Comply with ANSI B7.1-2000 standards and OSHA regulations.

Tool benefits:
- Stepless speed variation.
- Digital electronic speed control ensures constant RPM even under load.
- Soft start feature protects mechanical and electronic components.
- Restart protection on power failure.
- Electronic overload shut-off feature.
- Belt grinder attachment is pivotable on the machine and allows flexible adjustment to individual working situations.
- Sturdy, easy maintenance machine.

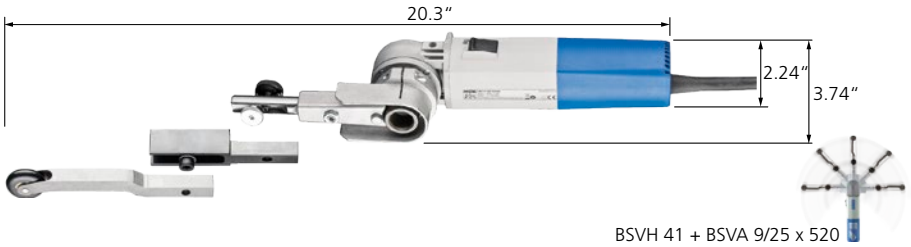
Accessories included:
10' power cable, 1 key.

PFERDVALUE®:

Energy Saving

UBS 5/100 SI oVA 120 V

10,000–4,000 RPM / 0.4 HP / 300 watts
Belt lengths: 520 (610*) mm x width: 3–20 mm



BSVH 41 + BSVA 9/25 x 520

For further information and ordering data on abrasive and non-woven belts, please refer to our catalogue section 4.

EDP number	Description	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Max. amps	Sound level [dB(A)]	Weight [lb]
91410	UBS 5/100 oVA SI 120 V	10,000–4,000	120	500	300	4.6	77	3.97

Keys

Width	Qty	EDP number
4 mm	1	93303

Protective cover

Description	EDP number
SDVH-G	95017

Adapter

Description	EDP number
BSAD 41/36 x 610	95016

Belt grinder attachment arms

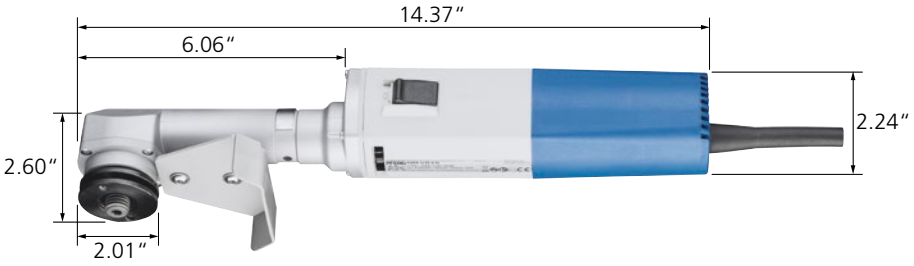
- Durable, quality steel design.
- Use of the full roller width possible.
- Extremely slim fixtures on the roller.
- Asymmetrical arms for flush grinding.
- Belt arm can be rotated 360°.
- Belt tracking can be adjusted.
- BSVA 9/25-1 with conical guide roller (angle flat width 0.04").
- Belt length 20-1/2" (24" with BSAD adapter).

EDP number	Description	Width x roll dia. [Inches]	Width x roll dia. [mm]	Suitable belt width [Inches]	Use for	Photo
95020	BSVA 9/25 x 520	0.35 x 0.98	9 x 25	1/8, 1/4, 3/8, 1/2, 5/8	Finishing jobs, deburring, matting, fine grinding and seamless blending of inner radii/channels, especially on pipe couplings	
95021	BSVA 9/25-1 x 520	0.35 x 0.98	9 x 25	1/8, 1/4, 3/8, 1/2	Finishing jobs in narrow inner radii/ channels, especially on pipe couplings made of stainless steel (INOX) with very small welded seams (TIG welding)	
95018	BSVA 4/16 x 520	0.15 x 0.63	4 x 16	1/4	Leveling, deburring, matting, fine grinding, cleaning, blending of stain-less steel in narrow, small areas	
95019	BSVA 9/16 x 520	0.35 x 0.63	9 x 16	1/2	Leveling, chamfering, matting, fine grinding, cleaning and seamless blending on small areas	
95022	BSVA 12/19 x 520	0.45 x 0.75	12 x 19	1/2, 5/8	Leveling, chamfering, matting, fine grinding, cleaning and seamless blending on wide areas	
95023	BSVA 18/23 x 520	0.71 x 0.91	18 x 23	3/4	Leveling, chamfering, matting, fine grinding, cleaning and seamless blending on wide convex surfaces	

Electric grinders
Fillet weld grinder

KNER 5/34 V-SI ⧈

3,400–1,500 RPM / 0.4 HP / 300 watts



Tool benefits:
- Designed for use with products up to 6″ in diameter for fine grinding and finishing of fillet welds.
- Great for work with radial products in corners and narrow spaces.
- Stepless rotational speed adjustment.
- Digital regulation for constant rotational speed.
- Overload protection.
- Restart protection in case of power failure.
- Light, very easy to handle, good power output.

Accessories included:
10′ power cable, mounting flanges, hand guard, 3 keys.

PFERDVALUE®:

EDP number	Description	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Max. amps	Spindle thread	Fits arbor hole [Inches]	Sound level [dB(A)]	Weight [lb]
91235	KNER 5/34 V-SI 120 V	3,400–1,500	120	500	300	4.6	5/8-11 UNC	7/8″, 1″	77	3.53

Clamping flanges

Description	EDP number
Backing flange WSPF 5/8″	97974
Clamping nut SPM 5/8″	97975

Keys

Width	Qty	EDP number
5 mm	1	93304
5 mm	1	93395
4 mm	1	93312

Recommended PFERD products

Catalogue section 4*	
POLINOX® unitized wheels 6″ diameter	**Felt flap discs** 4-1/2″–5″ diameter
POLIVLIES® flap discs 5″ diameter with 7/8″ arbor hole	**POLINOX® unmounted flap wheels with thread** 4″–5″ diameter

Note: Product recommendations are based on general peripheral and rotational speeds.
Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

PFERD

Flexible shaft drives

9

Flexible shaft drives
General information

Flexible shaft drives are multi-speed machines. They cover a wide rotational speed range and can be steplessly adjusted electronically to match individual tool requirements. Flexible shaft drives have very high drive outputs. They can also be used with compact handpieces or extensions to work in difficult-to-reach areas.

Areas of application

Flexible shaft drives can be used for almost all jobs. They are used successfully in many industrial sectors for different processes. The rotational speed control allows the use of various tools on one single drive.

The PFERD product range

PFERD offers various types of flexible shaft drives, as well as a comprehensive range of matching flexible shafts, handpieces, angle drives, drum drives and special drives.

PFERD flexible shaft drives and their accessories are extremely robust, technically up to date and incorporate the latest ergonomic findings and requirements. This product range was developed especially for the economic use of grinding, milling, brushing, cut-off and polishing tools and covers a wide rotational speed range (24,000–100 RPM) and power range 0.4 to 2.0 HP (1,500–300 watts).

Advantages:

- Very compact and ergonomic handpieces.
- Very low weight of the handpieces.
- Drives that are very robust and designed for continuous use (Mammoth drives).
- Sophisticated.
- Very high performance.
- Highly versatile.
- Simple power supply.
- Low-maintenance.
- Easy to service.
- Economical.

Standards, safety, general guidelines

Electrical safety
PFERD flexible shaft drives comply with the standard "Safety for Hand-Guided Motor-Driven Electric Tools".

1. Grounded electric drives (protection class I)
This design is indicated by the protective grounding ⏚ sign:
- MEW 18/240 (EDP 92013) (page 47)

2. Insulated electric grinders (protection class II)
This design is indicated by the insulation sign ⧈ and the supplement "SI":
- RUER 5/250 SI 120 V (EDP 92201) (page 44)
- RUER 10/250 SI 120 V (EDP 92205) (page 45)
- RUER 15/30 SI 120 V (EDP 92210) (page 46)

Criteria for selecting the optimum flexible shaft drive

The most important prerequisite for cost-effective work is the selection of the optimum tool. The appropriate tool drive is selected taking the following criteria into consideration:

1. Design, shape and size
Each type of application places specific demands on the shape and size of the tool drive. The different designs can be used for various applications. The ideal tool drive should be selected for the task at hand depending on the dimensions, accessibility, type and frequency of the application.

2. Rotational speed
The tool drive should always be selected according to the rotational speed and peripheral speed recommendation for the tool. Please refer to catalogue sections 2–8 for this recommendation.

3. Power output
The drive's power output is the decisive factor for maintaining the rotational speed under load. The load is determined by the stock removal properties of the material to be machined, the cutting characteristics of the tool, the tool diameter, the contact surface and the contact pressure.

4. Tool mounting
Depending on the PFERD tool selected, different tool mountings are available, e.g. collets or threaded spindles. Matching collets are allocated to every drive. Please refer to pages 62–63 for an overview of the collets and drive spindle extensions.

If you have any further questions, your personal PFERD sales representative will be happy to help you.

Flexible shafts (BW)

Flexible shafts consist of three components which can be combined in different ways:

Flexible core (SE)
The flexible core consists of 4 to 10 layers of wire, conforming to DIN 2076, and is specially designed for high-speed clockwise rotation. The coupling is securely press-fitted to the core. After approximately 100 operating hours, the core of the flexible shaft must be re-lubricated. The core and casing must be degreased and new special shaft grease must be applied to the core.

Flexible casing (SCH)
The flexible casing consists of oil-resistant rubber; the interior being a flat steel spiral and the outside being solid rubber. The connection couplings are pressed on firmly and encased in a rubber sheath as reinforcement.

Handpiece (HA)
The handpieces are light and easy to handle in relation to their power output transmission, and cover a wide rotational speed range. Because of low noise emission, continuous operation with little fatigue is possible. Replaceable collets allow various tools to be mounted. The sliding coupling allows quick handpiece changes.

Repair
It is not possible to repair cores and flexible casings. We recommend replacement with pre-assembled new parts.

Radius of curvature
When using flexible shafts, please ensure that the shafts are not bent beyond the specified radius of curvature. The smallest possible radius of curvature is given for each flexible shaft.

Flexible shaft drives
Portable variable speed machines

RUER 5/250 SI 120 V ☐

25,000–11,000 RPM / 0.4 HP / 300 watts

Tool benefits:
- High output for fine milling, grinding and polishing tasks. Lightweight, slim handpieces allow comfortable use.
- Stepless speed variation.
- Digital electronic speed control ensures constant RPM even under load.
- Protected by tube frame in any position.
- Soft start feature protects mechanical and electronic components.
- Restart protection on power failure.
- Electronic overload shut-off.

Accessories included:
10' power cable, 2 keys (EDP 93312).

Supplied without flexible shaft, please order separately (see below for information).

PFERDVALUE®:

Energy Saving | Time Saving

❶ Flexible shaft drive + ❷ flexible shaft + ❸ handpiece

❶ Flexible shaft drive

EDP number	Description	Dimensions L x W x H [Inches]	Flexible shaft connection [DIN]	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Max. amps	Sound level [dB(A)]	Weight [lb]
92201	RUER 5/250 SI 120 V	11.22 x 2.24 x 4.02	10	25,000–11,000	120	500	300	4.6	73	4.72

❷ Flexible shafts

EDP number	Description	Suitability rating	Speed range [RPM]	Maximum power output* [watts]	Tool connection [DIN]	Handpiece connection	Included handpiece	Catalogue detail page
94001	BW 4 ZG DIN 10	high	24,000–40,000	500–300	10	G16	94301	51
94005	BW 6 ZG DIN 10	high	10,000–25,000	1,500–750	10	G16	94301	51
94015	BW 7 ZGU DIN 10	medium	12,000–25,000	1,760–880	10	G22	94315	53

*Please refer to page 49 for information on flexible shaft speeds, power outputs, and operational safety.

❸ Handpieces

EDP number	Description		Max. RPM	Shaft connection	Included collet size	Catalogue detail page	Photo
94301	HA 4 ZGB G16	straight handpiece	40,000	G16	1/4"	60	
94351	WZ 4 A G16	angle handpiece (90°)	20,000	G16	1/8"	60	
94315	HA 7 ZGA G22	straight handpiece	25,000	G22	1/4"	60	
94375	WZ 7 45° G22	angle handpiece (45°)	17,100	G22	1/4"	60	
94355	WZ 7 B G22	angle handpiece (90°)	17,100	G22	1/4"	60	
94385	WT 7 E M 14 G22	angle grinder drive	25,000	G22	M14 thread	60	

RUER 10/250 SI 120 V ⧈

25,000–11,000 RPM / 0.9 HP / 660 watts

Tool benefits:
- Designed for use in tool, die and mold making, precision mechanics and DIY applications.
- Stepless speed variation.
- Digital electronic speed control ensures constant RPM even under load.
- Protected by tube frame in any position.
- Soft start feature protects mechanical and electronic components.
- Electronic overload shut-off.

Accessories included:
- 10' power cable, 2 keys (EDP 93312).

Supplied without flexible shaft, please order separately (see below for information).

PFERDVALUE®:

Energy Saving Time Saving

❶ Flexible shaft drive + ❷ flexible shaft + ❸ handpiece

❶ Flexible shaft drive

EDP number	Description	Dimensions L x W x H [Inches]	Flexible shaft connection [DIN]	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Max. amps	Sound level [dB(A)]	Weight [lb]
92205	RUER 10/250 SI 120 V	11.81 x 2.95 x 5.51	10	25,000–11,000	120	1,050	660	9.5	84	6.86

❷ Flexible shafts

EDP number	Description	Suitability rating	Speed range [RPM]	Maximum power output* [watts]	Tool connection [DIN]	Handpiece connection	Included handpiece	Catalogue detail page
94001	BW 4 ZG DIN 10	medium	24,000–40,000	500–300	10	G16	94301	51
94005	BW 6 ZG DIN 10	medium	10,000–25,000	1,500–750	10	G16	94301	51
94015	BW 7 ZGU DIN 10	high	12,000–25,000	1,760–880	10	G22	94315	53
94020	BW 10 ZG DIN 10	medium	750–18,000	2,450–140	10	G28	94320	55

*Please refer to page 49 for information on flexible shaft speeds, power outputs, and operational safety.

❸ Handpieces

EDP number	Description		Max. RPM	Shaft connection	Included collet size	Catalogue detail page	Photo
94301	HA 4 ZGB G16	straight handpiece	40,000	G16	1/4"	60	
94351	WZ 4 A G16	angle handpiece (90°)	20,000	G16	1/8"	60	
94315	HA 7 ZGA G22	straight handpiece	25,000	G22	1/4"	60	
94375	WZ 7 45° G22	angle handpiece (45°)	17,100	G22	1/4"	60	
94355	WZ 7 B G22	angle handpiece (90°)	17,100	G22	1/4"	60	
94385	WT 7 E M 14 G22	angle grinder drive	25,000	G22	M14 thread	60	
94320	HA 10 ZGE G28	straight handpiece	18,000	G28	1/4"	60	
94380	WZ 10 45° G28	angle handpiece (45°)	17,100	G28	1/4"	60	
94360	WZ 10 B G28	angle handpiece (90°)	17,100	G28	1/4"	60	

Flexible shaft drives
Portable variable speed machines

RUER 15/30 SI 120 V ⊡

3,000–1,400 RPM / 1.2 HP / 900 watts

Tool benefits:
- High torque, low speed machine for heavy milling and grinding.
- Stepless speed variation.
- Digital electronic speed control ensures constant RPM even under load.
- Protected by tube frame in any position.
- Soft start feature protects mechanical and electronic components.
- Restart protection on power failure.
- Electronic overload shut-off.

Accessories included:
10' power cable, 2 keys (EDP 93312).

Supplied without flexible shaft, please order separately (see below for information).

PFERDVALUE®:

EnergySaving

❶ Flexible shaft drive + ❷ flexible shaft + ❸ handpiece

❶ Flexible shaft drive

EDP number	Description	Dimensions L x W x H [Inches]	Flexible shaft connection [DIN]	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Max. amps	Sound level [dB(A)]	Weight [lb]
92210	RUER 15/30 SI 120 V	15.35 x 2.95 x 5.51	10	3,000–1,400	120	1,340	900	12	86	8.27

❷ Flexible shafts

EDP number	Description	Suitability rating	Speed range [RPM]	Maximum power output*[1] [watts]	Tool connection [DIN]	Handpiece connection	Included handpiece	Catalogue detail page
94264	BW 4 PST-T DIN 10/M4	high	7,650– 1,500	special*[2]	10	-	-	56
94274	BW 7 PST-T DIN 10/M5	high	4,250– 1,500	special*[2]	10	-	-	56
94020	BW 10 ZG DIN 10	high	18,000– 750	2,450–140	10	G28	94320	55

*[1] Please refer to page 49 for information on flexible shaft speeds, power outputs, and operational safety.
*[2] Only for use with POLISTAR-TUBE abrasive stars, POLINOX® cross buffs, and threaded nylon tube brushes.

❸ Handpieces

EDP number	Description		Max. RPM	Shaft connection	Included collet size	Catalogue detail page	Photo
94320	HA 10 ZGE G28	straight handpiece	18,000	G28	1/4"	60	
94380	WZ 10 45° G28	angle handpiece (45°)	17,100	G28	1/4"	60	
94360	WZ 10 B G28	angle handpiece (90°)	17,100	G28	1/4"	60	
94330	HA 12 ZGA G28	straight handpiece	18,000	G28	1/2"	60	
94418	FSH G28	rigid extension (can be bent up to 40°)	12,000	G28	1/4"	60	

Mammoth Electronic MEW 18/240

24,000-100 RPM / 2.0 HP / 1,500 watts

Tool benefits:
- With max. rotational speed 24,000 RPM.
- Most powerful and stable torque.
- Stepless rotational speed control.
- Overload protection.
- Smooth start-up to protect people, tools and the drive.
- Restart protection in case of power failure.
- Very low noise generation.
- Removable operating console with possibility of extension, e.g. hanging design for work in boilers.
- High torque, even within low rotational speed ranges.
- Easy to service, easy-to-remove housing with four main modules.

Accessories included:
13.12' power cable with plug, 2 keys (EDP 93312).
The drive is supplied without flexible shaft, please order separately (see below for information).

PFERDVALUE:
Energy Saving | Waste Saving | Time Saving

EDP number	Description	Dimensions L x W x H [Inches]	Flexible shaft connection [DIN]	Rotational speed [RPM]	Voltage 50–60 Hz	Power consumption [watts]	Power output [watts]	Weight [lb]
92013	MEW 18/240 240V	17.52 x 7.87 x 12.60	10	24,000–100	200–240	2,000	1,500	54.013

Flexible shafts

EDP number	Description	Suitability rating			Max. power output*1 [watts]	Tool connection [DIN]	Handpiece connection	Included handpiece	Catalogue detail page
		≤ 3,200 RPM	4,800–9,600 RPM	≥ 12,000 RPM					
94264	BW 4 PST-T DIN 10/M4	high	-	-	special*2	10	-	-	56
94001	BW 4 ZG DIN 10	-	-	high	500–300	10	G16	94301	51
94005	BW 6 ZG DIN 10	-	medium	high	1,500–750	10	G16	94301	51
94015	BW 7 ZGU DIN 10	-	medium	high	1,760–880	10	G22	94315	53
94274	BW 7 PST-T DIN 10/M5	high	medium	-	special*2	10	-	-	56
94020	BW 10 ZG DIN 10	high	high	medium	2,450–140	10	G28	94320	55

*1 Please refer to page 49 for information on flexible shaft speeds, power outputs, and operational safety.
*2 Only for use with POLISTAR-TUBE abrasive stars, POLINOX® cross buffs, and threaded nylon tube brushes.

Handpieces

EDP number	Description		Max. RPM	Shaft connection	Included collet size	Catalogue detail page	Photo
94301	HA 4 ZGB G16	straight handpiece	40,000	G16	1/4"	60	
94351	WZ 4 A G16	angle handpiece (90°)	20,000	G16	1/8"	60	
94315	HA 7 ZGA G22	straight handpiece	25,000	G22	1/4"	60	
94375	WZ 7 45° G22	angle handpiece (45°)	17,100	G22	1/4"	60	
94355	WZ 7 B G22	angle handpiece (90°)	17,100	G22	1/4"	60	
94385	WT 7 E M 14 G22	angle grinder drive	25,000	G22	M14 thread	60	
94320	HA 10 ZGE G28	straight handpiece	18,000	G28	1/4"	60	
94380	WZ 10 45° G28	angle handpiece (45°)	17,100	G28	1/4"	60	
94360	WZ 10 B G28	angle handpiece (90°)	17,100	G28	1/4"	60	
94330	HA 12 ZGA G28	straight handpiece	18,000	G28	1/2"	60	
94418	FSH G28	rigid extension (can be bent up to 40°)	12,000	G28	1/4"	60	

Flexible shaft drives
General information

How to find the matching flexible shaft to your drive

On the following page, you will find a flexible shaft selection for the individual drives in accordance with the following explanation.

Flexible shafts and handpieces/attachments must always be selected according to the required rotational speed and power output. Maximum cost-effectiveness is achieved through the combination of a high-performance tool and an optimal drive.

❶ Drive
Alternative drive with DIN 10 connection. (Exceptions DIN 15).

❷ Flexible shaft (BW)
Possible flexible shafts.

❸ Catalogue page
Reference to the catalogue page on which the appropriate flexible shaft and handpieces are shown.

❹ Rotational speed [RPM]/ power output [watts]
Rotational speed and power output ranges for which the flexible shaft is suitable.
Power output and rotational speed range of the drive system.

❺ Rotational speed and power output of the flexible shafts and handpieces

❻ Connection
Drive-side connection DIN 10 / DIN 15 and handpiece side connections (G16 to G35 and DPF, SRF).

❼ Suitable flexible shaft
● highly recommended
❍ recommended
- not suitable

❽ Handpieces/attachments
Please select your shape and design.

				see page ❸ ▶		44	45	46	47
				EDP number ▶		92201	92205	92210	92013
				Drive motor ❶ ▶		RUER 5/250 SI 	RUER 10/250 SI 	RUER 15/30 SI 	MEW 18/240 
				Phase ▶		1	1	1	1
				Power output [watts] ❹ ▶		300	660	900	1,500
				Power output [HP] ❹ ▶		0.4	0.9	1.2	2.01
				Rot. speed range [RPM] ❹ ▶		25,000–11,000	25,000–11,000	3,000–1,400	24,000–100
EDP number ▼	Flexible shafts and accessories ▼	Connection drive side / handpiece side ❻ ▼	see page ❸ ▼	Power output [watts] ❺ ▼	Drive [RPM] ❺ ▼				
Flexible shafts ❷									
									
94001	BW 4 ZG	DIN 10 / G16	51	500–300	40,000–15,000	●	●	–	❍
94264	BW 4 PST-T	DIN 10	56	450–100	7,650– 1,500	–	–	❍	❍
94005	BW 6 ZG	DIN 10 / G16	51	1,460–660	25,000–11,000	●	●	–	●
94015	BW 7 ZGU 2M	DIN 10 / G22	53	1,760–800	25,000–11,000	–	●	–	●
94274	BW 7 PST-T	DIN 10	56	1,000–370	4,250– 1,500	–		●	❍
94020	BW 10 ZG	DIN 10 / G28	55	2,450–140	18,000–750	–	❍	❍	●
94025	BW 10 ZG 2M	DIN 10 / G28	55	2,450–140	18,000–750	–	❍	❍	●
BW – handpieces ❽									
Straight handpieces									
									
94301	HA 4 ZGB	G16	60		40,000	●	●	–	❍
94315	HA 7 ZGA	G22	60		25,000		●	–	●
94320	HA 10 ZGE	G28	60		18,000		❍	❍	●
Angle handpieces									
									
94351	WZ 4 A	G16	60	500–300	20,000	●*	●*	–	●*
94355	WZ 7 B	G22	60	1,760–800	17,100	–	●*	–	●*
94375	WZ 7 45°	G22	60	1,760–800	17,100	–	●*	–	●*
94360	WZ 10 B	G28	60	2,450–140	17,100	–	❍	–	●
94380	WZ 10 45°	G28	60	2,450–140	17,100	–	❍	–	●
Special flexible handpieces									
									
94418	FSH	G28	60	2,450–140	12,000	–	–	–	●*
Angle grinder drive									
									
94385	WT 7 E M14	G22	60	1,760–800	25,000	–	●	–	●
Belt grinder attachment holders									
									
95015	BSVH 41	G22	61	1,760–800	1,6 m/s	–	●	–	●

❼ ● = highly recommended ❍ = recommended – = not suitable * = not with max. shaft rotational speed

Flexible shaft drives
Recommended products for flexible shafts 4 ZG/6 ZG

Recommended PFERD products

The following products can be found in catalogue sections 2–8 of the TOOL MANUAL, and are recommended for use with flexible shafts 4 ZG and 6 ZG on the following page.

RPM Output	Catalogue section 2	Catalogue section 3*	Catalogue section 4*		Catalogue section 6	Catalogue section 8
24,000 RPM	**Tungsten carbide burs** 3/16" to 1/2" diameter	**Mounted points** 1/2" to 1-1/4" diameter	**Abrasive spiral bands** 3/8" to 3/4" diameter **POLICAP® abrasive caps** 9/32" diameter **Mounted flap wheels** 5/8" diameter	**Poliflex® finishing points** **Rubber bond** up to 1/4" diameter **Leather bond** up to 1/2" diameter **Felt polishing points** 1/4" diameter	**Die grinder wheels** 2" diameter	
20,400 RPM RUER 5/250 SI 120 V, RUER 10/250 SI 120 V	**Tungsten carbide burs** 1/4" to 3/8" diameter	**Mounted points** 3/4" to 1-5/8" diameter	**Abrasive spiral bands** 3/4", 7/8", 1" diameter **POLIROLL** 1/4", 5/16" diameter **POLICAP® abrasive caps** 3/8", 7/16" diameter **Mounted flap wheels** 5/8" to 1" diameter **POLISTAR coated abrasive stars** 3/4" diameter	**Poliflex® finishing points** **Rubber bond** 3/8" diameter **Leather bond** 3/4" to 5/8" diameter **Felt polishing points** 1/4" to 3/8" diameter	**Die grinder wheels** 2" diameter	
18,000 RPM RUER 5/250 SI 120 V, RUER 10/250 SI 120 V	**Tungsten carbide burs** 5/16" to 5/8" diameter	**Mounted points** 3/4" to 2" diameter	**COMBIDISC® abrasive discs** 1" diameter **Abrasive spiral bands** 7/8", 1", 1-1/8" diameter **POLIROLL cartridge rolls** 3/8", 5/16" diameter **POLICAP® abrasive caps** 1/2" diameter **Mounted flap wheels** 3/4" to 1" diameter **POLISTAR coated abrasive stars** 3/4" diameter	**POLINOX® cross buffs** 1", 1-1/2" diameter **Poliflex® finishing points** **Rubber bond** up to 1/2" diameter **Leather bond** up to 3/4" diameter **Felt polishing points** 1/4" to 3/8" diameter	**Die grinder wheels** 2" diameter	**Knot wire wheels** 3" to 3-1/4" diameter
14,400 RPM RUER 5/250 SI 120 V, RUER 10/250 SI 120 V	**Tungsten carbide burs** 3/8" to 5/8" diameter	**Mounted points** 3/4" to 2" diameter	**COMBIDISC® abrasive discs** 1-1/2", 2" diameter **Abrasive spiral bands** 1-1/8", 1-1/2" diameter **POLIROLL cartridge rolls** 1/2" diameter **POLICAP® abrasive caps** 5/8" diameter **Mounted flap wheels** 3/4" to 1-1/2"diameter	**POLISTAR coated abrasive stars** 3/4" diameter **POLINOX® cross buffs** 1-1/2" diameter **Poliflex® finishing points** **Rubber bond** 5/8" diameter **Leather bond** 1" diameter **Felt polishing points** 5/16" to 1/2" diameter		**Crimped wire wheels** up to 3" diameter **Knot wheels** 3" to 4" diameter **Stem mounted end brushes** 1/2" up to 1" diameter **Mounted cup and bevel brushes** up to 3" diameter **Pilot bonding brushes** **Circular end brushes**

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4".

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

*Shank mounted product recommendations are based on 1/2" shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Flexible shaft 4 ZG
- For power output requirements of less than 300 watts (0.4 HP), the rotational speed range can be safely underrun.
- Do not bend the shaft to a radius of less than 4".

Flexible shaft 6 ZG
- For power output requirements of less than 660 watts (0.9 HP), the rotational speed range can be safely underrun.
- Do not bend the shaft to a radius of less than 5-1/2".

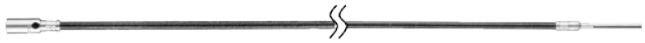
Please note:
Observe listed rotational speed and power output ranges unless otherwise noted. Refer to page 49 for information on flexible shaft speeds, power outputs, and operational safety. Special shaft lengths are available on request.

BW 4 ZG DIN 10
BW 6 ZG DIN 10

40,000–24,000 RPM / 0.7 HP / 500 watts
25,000–11,000 RPM / 2.0 HP / 1,460 watts

BW 4 ZG
BW 6 ZG

SE 4 ZG
SE 6 ZG



SCH 4 ZG
SCH 6 ZG

EDP number	Description	Drive-side coupling			Handpiece-side coupling			Diameter x length		Weight [lb]
		Connection	Diameter [Inches]	Diameter [mm]	Connection	Diameter [Inches]	Diameter [mm]	nominal [Inches]	metric [mm]	
Flexible shaft (includes handpiece 94301)										
94001	BW 4 ZG DIN 10	DIN 10*	1.18	30	G16	0.63	16	1/2 x 55	13 x 1,390	1.32
94005	BW 6 ZG DIN 10	DIN 10	1.18	30	G16	0.63	16	5/8 x 65	16 x 1,643	2.54
Replacement core										
94801	SE 4 ZG DIN 10/G16	DIN 10*	M10		G16	0.14/0.10	3.5/2.45	3/16 x 52	4 x 1,329	0.26
94805	SE 6 ZG DIN 10/G16	DIN 10	M10		G16	0.14/0.10	3.5/2.45	1/4 x 62	6 x 1,583	0.60
Replacement casing										
94501	SCH 4 ZG DIN 10/G16	DIN 10*	1.18	30	G16	0.63	16	1/2 x 51	13 x 1,300	0.73
94505	SCH 6 ZG DIN 10/G16	DIN 10	1.18	30	G16	0.63	16	5/8 x 61	16 x 1,553	1.63

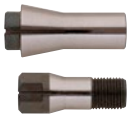
*Cores and hoses with double-sided sliding coupling available by special order.

Handpieces

EDP number	Description		Diameter x length nominal [Inches]	Max. RPM	Shaft connection	Included collet size	Catalogue detail page	Photo
94301	HA 4 ZGB G16	straight handpiece	3/4 x 4	40,000	G16	1/4"	60	
94351	WZ 4 A G16	angle handpiece (90°)	1-3/4 x 4	20,000*	G16	1/8"	60	

*max. 15,000 RPM when used with a 1/4" collet

Collets



Group	For shank diameter and EDP number				
	3/32"	1/8"	1/4"	3 mm	6 mm
9	93120	93125	93127	93108	93114
10	–	93146	93148	93134	93140

For all available collets, see pages 62–63.

Maintenance sets for the maintenance of flexible shafts see page 58.

Flexible shaft drives
Recommended products for flexible shafts 7 ZGU

Recommended PFERD products

The following products can be found in catalogue sections 2–8 of the TOOL MANUAL, and are recommended for use with flexible shafts 7 ZGU on the following page.

RPM Output	Catalogue section 2	Catalogue section 3*	Catalogue section 4*		Catalogue section 6	Catalogue section 8
24,000 RPM RUER 5/250 SI 120 V, RUER 10/250 SI 120 V	**Tungsten carbide burs** 1/4" to 1/2" diameter	**Mounted points** 1/2" to 1-3/8" diameter	**Abrasive spiral bands** up to 7/8" diameter **POLICAP® abrasive caps** 9/32", 3/8" diameter **Mounted flap wheels** 5/8" diameter	**Poliflex® finishing points** **Rubber bond** up to 3/8" diameter **Leather bond** up to 5/8" diameter **Felt polishing points** 1/4", 5/16" diameter	**Die grinder wheels** 2" diameter	
20,400 RPM RUER 5/250 SI 120 V, RUER 10/250 SI 120 V	**Tungsten carbide burs** 1/4" to 3/8" diameter	**Mounted points** 1/2" to 1-5/8" diameter	**Abrasive spiral bands** 3/4", 7/8", 1" diameter **POLIROLL** 1/4", 5/16" diameter **POLICAP® abrasive caps** 3/8" diameter **Mounted flap wheels** 5/8" to 1" diameter **POLISTAR coated abrasive stars** 3/4" diameter	**Poliflex® finishing points** **Rubber bond** 3/8" diameter **Leather bond** 3/4" to 5/8" diameter **Felt polishing points** 1/4" to 3/8" diameter	**Die grinder wheels** 2" diameter	
14,400 RPM RUER 5/250 SI 120 V, RUER 10/250 SI 120 V	**Tungsten carbide burs** 3/8" to 1/2" diameter	**Mounted points** 3/4" to 2" diameter	**COMBIDISC® abrasive discs** 1-1/2", 2" diameter **Abrasive spiral bands** 1-1/8", 1-1/2" diameter **POLIROLL cartridge rolls** 1/2" diameter **POLICAP® abrasive caps** 5/8" diameter **Mounted flap wheels** 3/4" to 1"diameter	**POLINOX® cross buffs** 1-1/2" diameter **Poliflex® finishing points** **Rubber bond** 5/8" diameter **Leather bond** 1" diameter **Felt polishing points** 5/16" to 1/2" diameter		**Crimped wire wheels** up to 3" diameter **Knot wheels** 3" to 4" diameter **Stem mounted end brushes** 1/2" up to 1" diameter **Mounted cup and bevel brushes** up to 3" diameter **Pilot bonding brushes** **Circular end brushes**
11,400 RPM RUER 10/250 SI 120 V	**Tungsten carbide burs** 3/8" to 5/8" diameter	**Mounted points** 1-1/2" to 2" diameter	**COMBIDISC® Mini-POLIFAN® discs** 3" diameter **COMBIDISC® abrasive discs** 2", 3" diameter **COMBIDISC® non-woven discs** 1-1/2", 2" diameter **COMBIDISC® TX discs** 2", 3" diameter **COMBIDISC® POLICLEAN® discs** 2" diameter			**Crimped wire wheels** up to 3" diameter **Knot wheels** 3" to 4" diameter **Stem mounted end brushes** 1/2" up to 1" diameter **Cup and bevel brushes** up to 4" diameter **Pilot bonding brushes** **Circular end brushes**

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4".

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

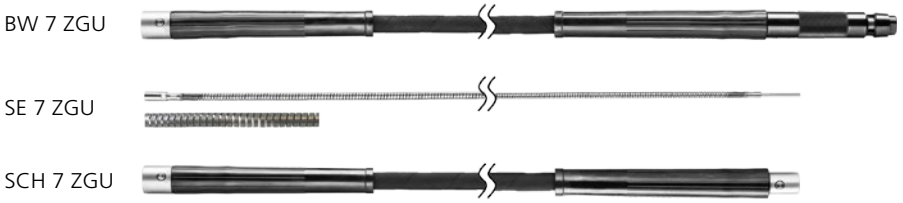
*Shank mounted product recommendations are based on 1/2" shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Flexible Shaft 7 ZGU
- For power output requirements of less than 800 watts (1.1 HP), the rotational speed range can be safely underrun.
- Do not bend the shaft to a radius of less than 5-1/2".
- The coil added to the core of this flexible shaft provides a very smooth running action, particularly at the higher end of the stated rotational speed range.

Please note:
Observe listed rotational speed and power output ranges unless otherwise noted. Refer to page 49 for information on flexible shaft speeds, power outputs, and operational safety. Special shaft lengths are available on request.

BW 7 ZGU DIN 10

25,000–11,000 RPM / 2.4 HP / 1,760 watts



EDP number	Description	Drive-side coupling			Handpiece-side coupling			Diameter x length		Weight [lb]
		Connection	Diameter [Inches]	Diameter [mm]	Connection	Diameter [Inches]	Diameter [mm]	nominal [Inches]	metric [mm]	
Flexible shaft (includes handpiece 94315)										
94015	BW 7 ZGU DIN 10 2 m	DIN 10	1.18	30	G22	0.87	22	3/4 x 85	18 x 2,154	4.41
Replacement core										
94815	SE 7 ZGU DIN 10/G22 2 m	DIN 10	M10		G22	5 / 3.85	0.20 / 0.15	1/4 x 82	7 x 2,089	1.32
Replacement casing										
94515	SCH 7 ZGU DIN 10/G22 2 m	DIN 10	1.18	30	G22	0.87	22	3/4 x 81	18 x 2,053	2.43

Flexible shaft adapter BWA G22/DIN 10 (EDP 95893)
For coupling flexible shafts or as connector for rigid extensions STV.

Maintenance sets for the maintenance of flexible shafts see page 58.

Handpieces

EDP number	Description		Diameter x length nominal [Inches]	Max. RPM	Shaft connection	Included collet size	Catalogue detail page	Photo
94315	HA 7 ZGA G22	straight handpiece	1 x 5	25,000	G22	1/4"	60	
94375	WZ 7 45° G22	angle handpiece (45°)	2-1/4 x 7	17,100	G22	1/4"	60	
94355	WZ 7 B G22	angle handpiece (90°)	2 x 6	17,100	G22	1/4"	60	
94385	WT 7 E M 14 G22	angle grinder drive	3 x 7	25,000	G22	M14 thread	60	

Collets

Group	For shank diameter and EDP number					
	3/32"	1/8"	1/4"	3 mm	6 mm	8 mm
6	93067	93072	93074	93057	93062	93064
11	93174	93179	93182	93157	93163	93166

For all available collets, see pages 62–63.

Flexible shaft drives
Recommended products for flexible shafts 10 ZG

Recommended PFERD products

The following products can be found in catalogue sections 2–8 of the TOOL MANUAL, and are recommended for use with flexible shaft 10 ZG on the following page.

RPM Output	Catalogue section 2	Catalogue section 3*	Catalogue section 4*	Catalogue section 8
14,400 RPM	**Tungsten carbide burs** 3/8″ to 1/2″ diameter	**Mounted points** 3/4″ to 2″ diameter	**COMBIDISC® abrasive discs** 1-1/2″, 2″ diameter **Abrasive spiral bands** 1-1/8″, 1-1/2″ diameter **POLIROLL cartridge rolls** 1/2″ diameter **POLICAP® abrasive caps** 5/8″ diameter **Mounted flap wheels** 3/4″ to 1″diameter **POLISTAR coated abrasive stars** 3/4″ diameter **POLINOX® cross buffs** 1-1/2″ diameter **Poliflex® finishing points** **Rubber bond** 5/8″ diameter **Leather bond** 1″ diameter **Felt polishing points** 5/16″ to 1/2″ diameter	**Crimped wire wheels** up to 3″ diameter **Knot wheels** 3″ to 4″ diameter **Stem mounted end brushes** 1/2″ up to 1″ diameter **Mounted cup and bevel brushes** up to 3″ diameter **Pilot bonding brushes** **Circular end brushes**
11,400 RPM	**Tungsten carbide burs** 3/8″ to 5/8″ diameter	**Mounted points** 1-1/2″ to 2″ diameter	**COMBIDISC® Mini-POLIFAN® discs** 3″ diameter **COMBIDISC® abrasive discs** 2″, 3″ diameter **COMBIDISC® non-woven discs** 1-1/2″, 2″ diameter **COMBIDISC® TX discs** 2″, 3″ diameter **COMBIDISC® POLICLEAN® discs** 2″ diameter	**Crimped wire wheels** up to 3″ diameter **Knot wheels** 3″ to 4″ diameter **Stem mounted end brushes** 1/2″ up to 1″ diameter **Cup and bevel brushes** up to 4″ diameter **Pilot bonding brushes** **Circular end brushes**
9,600 RPM	**Tungsten carbide burs** 1/2″ to 3/4″ diameter		**Abrasive spiral bands** up to 2-3/8″ diameter **Poliflex® finishing points** **Rubber bond** up to 1″ diameter **Leather bond** up to 1-1/4″ diameter **POLICAP® abrasive caps** up to 7/8″ diameter **Mounted flap wheels** up to 1-1/2″diameter **POLIROLL cartridge rolls** up to 5/8″ diameter **POLISTAR coated abrasive stars** up to 1-1/4″ diameter **POLINOX® unitized wheels** 2″ diameter **Felt polishing points** 3/4″ diameter	**Crimped wire wheels** up to 4″ diameter **Knot wheels** up to 6″ diameter **Cup brushes** up to 4″ diameter **Stem mounted end brushes** up to 1″ diameter **Stem mounted miniature brushes** **Circular end brushes**

Note: Product recommendations are based on general peripheral and rotational speeds.
Where no shank diameter is indicated, the shank diameter specification is 1/4″.

Please consult the appropriate catalogue section for technical information on specific recommended speeds based on application, abrasive grain, product size/shape, and workpiece material.

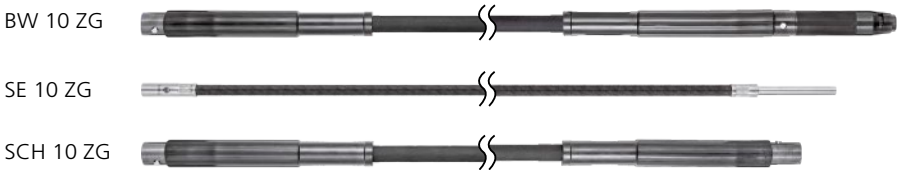
*Shank mounted product recommendations are based on 1/2″ shank overhang.
Comply with ANSI B7.1-2000 standards and OSHA regulations.

Flexible shaft 10 ZG
- Rotational speed and power output ranges for this shaft should not be exceeded or underrun.
- Do not bend the shaft to a radius of less than 6-3/4".
- This shaft is available in both standard length (1.68 m / 66-1/4") and extended length (2 m / 86") versions. Please refer to the table below for dimensions and details.
- Cores and hoses with double-sided sliding coupling are available on request.

Please note:
Observe listed rotational speed and power output ranges unless otherwise noted. Refer to page 49 for information on flexible shaft speeds, power outputs, and operational safety. Special shaft lengths are available on request.

BW 10 ZG DIN 10

18,000–750 RPM / 3.3 HP / 2,450 watts



EDP number	Description	Drive-side coupling			Handpiece-side coupling			Diameter x length		Weight [lb]
		Connection	Diameter [Inches]	Diameter [mm]	Connection	Diameter [Inches]	Diameter [mm]	nominal [Inches]	metric [mm]	
Flexible shaft (includes handpiece 94320)										
94020	BW 10 ZG DIN 10	DIN 10	1.18	30	G28	1.10	28	7/8 x 66	22 x 1,683	5.51
94025	BW 10 ZG DIN 10 2 m	DIN 10	1.18	30	G28	1.10	28	7/8 x 86	22 x 2,183	6.50
Replacement core										
94820	SE 10 ZG DIN 10/G28	DIN 10	M10		G28	0.30/0.23	7.5/5.85	3/8 x 63	10 x 1,600	1.43
94825	SE 10 ZG DIN 10/G28 2 m	DIN 10	M10		G28	0.30/0.23	7.5/5.85	3/8 x 83	10 x 2,100	2.09
Replacement casing										
94520	SCH 10 ZG DIN 10/G28	DIN 10	1.18	30	G28	1.10	28	7/8 x 61	22 x 1,553	3.09
94525	SCH 10 ZG DIN 10/G28 2 m	DIN 10	1.18	30	G28	1.10	28	7/8 x 80	22 x 2,053	3.42

Flexible shaft adapter BWA G28/DIN 10 (EDP 95894)
For coupling flexible shafts or as connector for rigid extensions STV.

Maintenance sets for the maintenance of flexible shafts see page 58.

Handpieces

EDP number	Description		Diameter x length nominal [Inches]	Max. RPM	Shaft connection	Included collet size	Catalogue detail page	Photo
94320	HA 10 ZGE G28	straight handpiece	1 x 6-3/4	18,000	G28	1/4"	60	
94380	WZ 10 45° G28	angle handpiece (45°)	1-1/4 x 6-1/2	17,100	G28	1/4"	60	
94360	WZ 10 B G28	angle handpiece (90°)	2-1/4 x 7	17,100	G28	1/4"	60	
94330	HA 12 ZGA G28	straight handpiece	2-1/4 x 6-1/2	18,000	G28	1/2"	60	
94418	FSH G28	rigid extension (can be bent up to 40°)	1 x 20-1/2	12,000	G28	1/4"	60	

Collets

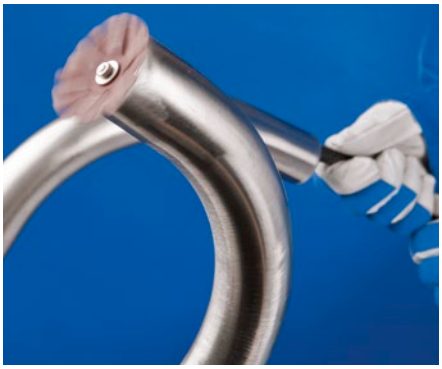
Group	For shank diameter and EDP number								
	3/32"	1/8"	1/4"	3/8"	1/2"	3 mm	6 mm	8 mm	12 mm
6	93067	93072	93074	-	-	93057	93062	93064	-
11	93174	93179	93182	-	-	93157	93163	93166	-
12	-	-	93211	93215	93218	-	93196	93199	93203

For all available collets, see pages 62–63.

Flexible shaft drives
Special flexible shafts for tube and pipe applications

Flexible shafts PST-T for internal tube and pipe grinding and finishing

These special flexible shafts **do not** have a handpiece for mounting the product, and are particularly flexible in the front section. The POLISTAR-TUBE flexible stars are attached directly to the core of the flexible shaft with screws (INOX type). POLINOX flexible tools PNST are screwed on with adapter AD M4 or AD M5 (accessories). This combination is highly recommended for gradual fine grinding and cleaning of inner surfaces of pipes and pipe bends. Both pipe bend ends can be deburred from the entry side.



Recommendations for use:

- Before product is inserted into the pipe with the shaft, the tool should be pre-formed and adapted to the pipe diameter.
- Reduce the rotational speed of the product during insertion.
- Pipes with more than three pipe bends should be ground from both ends of the pipe if possible.
- When the product emerges from the pipe end, it can be pulled back while still in rotation. The rear of the POLISTAR-TUBE deburrs the pipe end and also grinds the inside of the pipe during the backward movement.
- All flexible shaft drives with a speed range of 7,650–1,500 RPM and flexible shaft connection DIN 10 can be used.

Ordering notes:

- Special lengths available on request.
- Maintenance set 4 ZG for flexible shaft maintenance, EDP 96111.
- Maintenance set 7 ZG for flexible shaft maintenance, EDP 96112.

Flexible shaft 4 PST-T DIN 10/M4

- For use with POLISTAR-TUBE diameters from 2″ to 3-1/8″, POLINOX® cross buff diameters from 3/4″ to 2″, and threaded nylon tube brushes with 8-32 UNC thread using the AD M4 adapter (EDP 95810).

Flexible shaft 7 PST-T DIN 10/M5

- Only for use with POLISTAR-TUBE diameters from 3-1/2″ to 4″, POLINOX® cross buff diameters from 3/4″ to 2″, and threaded nylon tube brushes with 8-32 UNC thread using the AD M5 adapter (EDP 95811).

BW 4 PST-T DIN 10/M4
BW 7 PST-T DIN 10/M5

7,650–1,500 RPM / 450–100 watts
4,250–1,500 RPM / 1,000–370 watts

BW 4 PST-T
BW 7 PST-T

SE 4 PST-T
SE 7 PST-T

SCH 4 PST-T
SCH 7 PST-T

EDP number	Description	Drive-side coupling			Product mounting			Diameter x length		Weight [lb]
		Connection	Diameter [Inches]	Diameter [mm]	Connection	Diameter [Inches]	Diameter [mm]	nominal [Inches]	metric [mm]	
Flexible shaft										
94264	BW 4 PST-T DIN 10/M4	DIN 10	1.18	30	M4	0.16	4	1/2 x 61	13 x 1,550	1.06
94274	BW 7 PST-T DIN 10/M5	DIN 10	1.18	30	M5	0.20	5	3/4 x 81	18 x 2,052	2.91
Replacement core										
94978	SE 4 PST-T DIN 10/M4	DIN 10	M10		M4	0.16	4	3/16 x 60-5/8	4 x 1,540	0.27
94988	SE 7 PST-T DIN 10/M5	DIN 10	M10		M5	0.20	5	1/4 x 80	7 x 2,042	0.99
Replacement casing										
94775	SCH 4 PST-T DIN 10/M4	DIN 10	1.18	30	-	-	-	1/2 x 60-1/2	13 x 1,550	0.79
94786	SCH 7 PST-T DIN 10/M5	DIN 10	1.18	30	-	-	-	3/4 x 81	18 x 2,052	1.92

AD M4/8-32 UNC
AD M5/8-32 UNC

Threaded adapter

FLS M4
FLS M5

Mounting screw

EM SW 7 mm
EM SW 8 mm G

Key

Accessories for flexible shafts BW 4 PST-T, 7 PST-T

EDP number	Description	Product mounting	Suitable for flexible shaft	Net weight [lb]
95810	Threaded adapter for M4 shaft	8-32 UNC thread	BW 4 PST-T (EDP 94264)	0.004
95811	Threaded adapter for M5 shaft	8-32 UNC thread	BW 7 PST-T (EDP 94274)	0.007
97557	POLISTAR-TUBE M4 mounting screw	dia. 4 mm	BW 4 PST-T (EDP 94264)	0.004
97558	POLISTAR-TUBE M5 mounting screw	dia. 5 mm	BW 7 PST-T (EDP 94274)	0.007
93327	7 mm key	-	BW 4 PST-T (EDP 94264)	0.018
93328	8 mm key	-	BW 7 PST-T (EDP 94274)	0.031

Table stand

The TS L 1400 table stand comes with a clamp for secure attachment to tables measuring up to 2.56″ in thickness. Telescope construction for manual height adjustment up to 5.51″ max.

EDP number	Description	Suitable for flexible shaft drives	Weight [lb]
95520	TS L 1400	RUER 5/250 SI 120 V, RUER 10/250 SI 120 V, RUER 15/30 SI 120 V	4.78

Lubricants

Special grease with special lubrication and adhesive properties for flexible shafts 4 ZG–10 ZG.

After approximately 100 operating hours, the core of a flexible shaft must be re-lubricated. The core and hose must be degreased and the new special flexible shaft grease must be applied to the core.

Flexible shaft grease FT 4
Grease with special lubrication and adhesive properties for flexible shafts 4 ZG to 15 KG.

Ball bearing grease FT 5
For all ball bearings. Light moistening of grease slingers to protect them against dust.

EDP number	Description		Contents [lb]
96008	FT 4	A special-grade lubricant with high lubricating and adhesion properties	1.10
96009	FT 5	For all ball bearings. Readily wets grease slingers to prevent dust contamination	0.22

Maintenance sets for flexible shafts

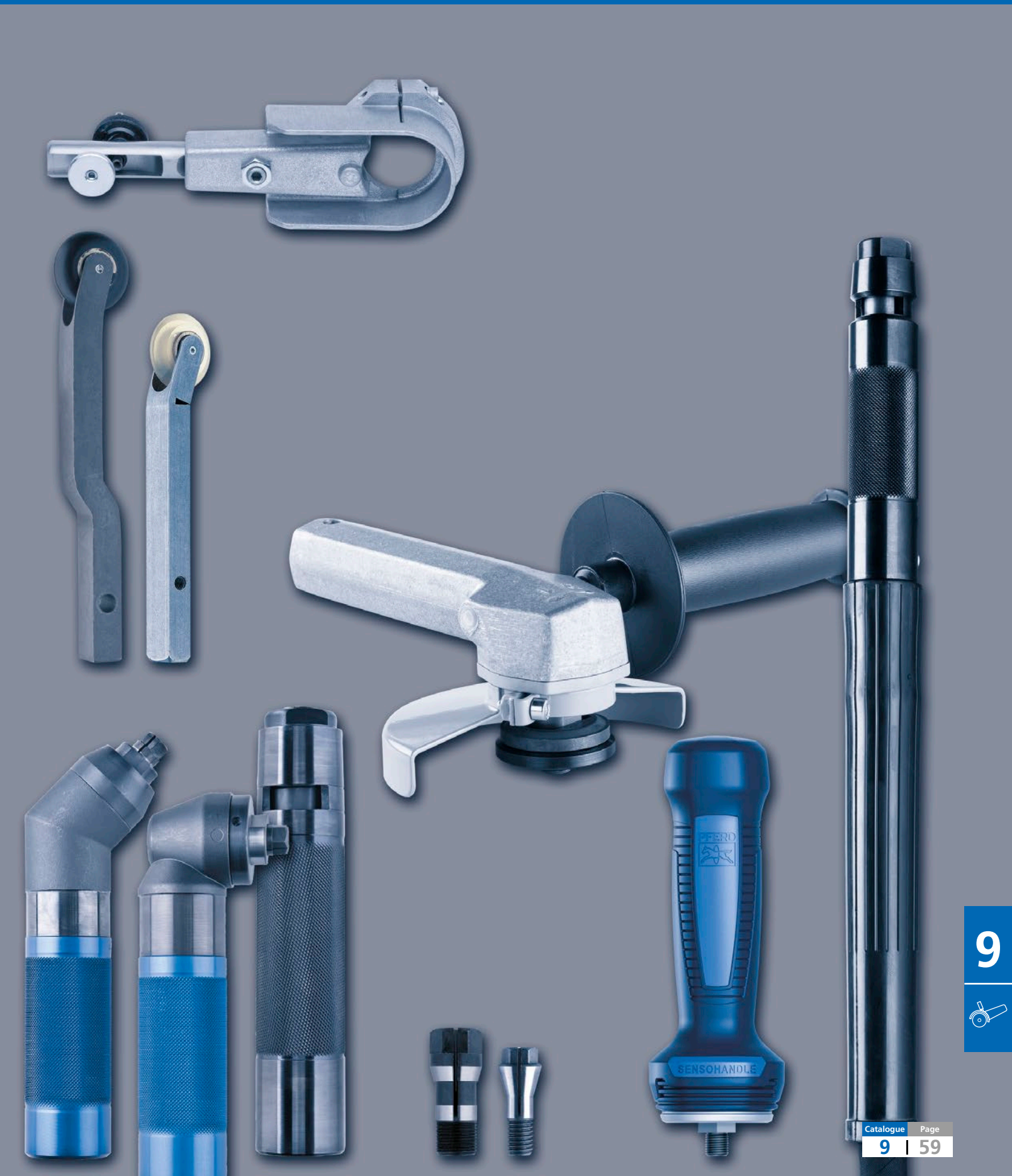
After approx. 100 operating hours, the core of a flexible shaft has to be re-lubricated. The core and hose must be degreased and new special shaft grease must be applied to the core.

Maintenance sets consist of:
- **1 casing brush**
  For removing the old grease from the flexible casing.
- **2 pieces of lint-free cleaning cloths (15.7 x 13 inches)**
  The core is freed of the old grease using a degreasing agent and a cleaning cloth (do not use cotton waste). Apply new grease on to the second cloth and pull the core through it.
- **1 can of shaft grease FT 4 (approx. 1.1 lbs)**
  Special grease with special lubrication and adhesive properties.

EDP number	Description	Suitable for flexible shaft	Contents [pcs.]
96111	P-SET 4 ZG	4 ZG, 4 PST-T, 6 ZG	2 cleaning cloths, can of shaft grease FT 4, casing brush 4 ZG
96112	P-SET 7 ZG	7 ZGU, 7 PST-T	2 cleaning cloths, can of shaft grease FT 4, casing brush 7 ZGU
96113	P-SET 10/12 ZG	10 ZG	2 cleaning cloths, can of shaft grease FT 4, casing brush 10 ZG

PFERD

Power tool accessories



9

Handpieces


HA 4 ZGB G16
EDP 94301


HA 7 ZGA G22
EDP 94315


HA 10 ZGE G28
EDP 94320


HA 12 ZGA G28
EDP 94330

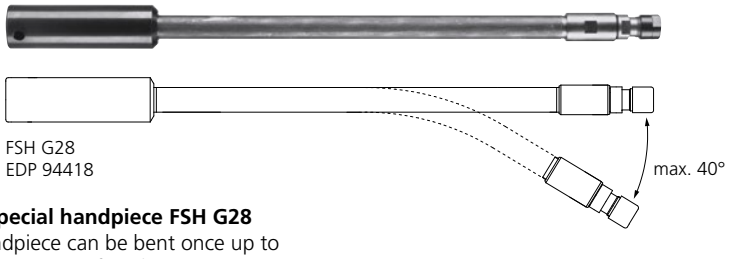

WZ 4 A G16
EDP 94351


WZ 7 B G22
EDP 94355


WZ 10 B G28
EDP 94360


WZ 7 45° G22
EDP 94375


WZ 10 45° G28
EDP 94380



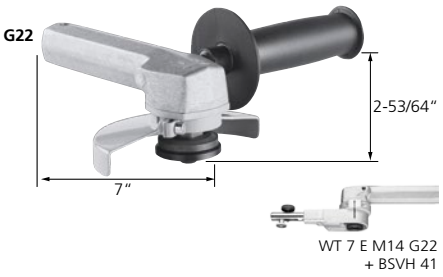
FSH G28
EDP 94418

Angle handpiece WZ 4 A G16
- When used with a 1/4" collet, the maximum permitted rotational speed is 15,000 RPM.

Flexible special handpiece FSH G28
- This handpiece can be bent once up to a bending radius of 8" (as per customer specification).
- Special lengths available by special order.

EDP number	Description		Diameter x length		Gear ratio	Max. input RPM	Shaft connection	Collet group	Included collet size [Inches]	Weight [lb]
			nominal [Inches]	metric [mm]						
Straight handpieces										
94301	HA 4 ZGB G16	straight handpiece	3/4 x 4	19 x 110	-	40,000	G16	9	1/4	0.31
94315	HA 7 ZGA G22	straight handpiece	1 x 5	27 x 130	-	25,000	G22	11	1/4	0.71
94320	HA 10 ZGE G28	straight handpiece	1 x 6-3/4	33 x 170	-	18,000	G28	11	1/4	1.14
94330	HA 12 ZGA G28	straight handpiece	1-1/4 x 6-1/2	33 x 162	-	18,000	G28	12	1/2	1.12
Angle handpieces										
94351	WZ 4 A G16	angle handpiece (90°)	1-3/4 x 4	43 x 111	1:1	20,000*	G16	10	1/8	0.60
94375	WZ 7 45° G22	angle handpiece (45°)	2-1/4 x 7	57 x 175	1.3:1	17,100	G22	6	1/4	1.47
94355	WZ 7 B G22	angle handpiece (90°)	2 x 6	55 x 157	1.3:1	17,100	G22	6	1/4	1.32
94380	WZ 10 45° G28	angle handpiece (45°)	2-1/4 x 7	57 x 184	1.3:1	17,100	G28	6	1/4	1.41
94360	WZ 10 B G28	angle handpiece (90°)	2-1/4 x 6-1/2	55 x 166	1.3:1	17,100	G28	6	1/4	1.68
Flexible special handpiece										
94418	FSH G28	special flexible handpiece	1 x 20-1/2	24 x 525	-	12,000	G28	11	1/4	2.20

**max. 15,000 RPM when used with a 1/4"collet. For collet details, see pages 62–63.*



WT 7 E M14 G22
+ BSVH 41

Angle grinder drive WT 7 E M14 G22

Connectable to flexible shafts 7 ZGU G22 (instead of handpiece). Connection to flexible shaft can be pivoted 360°. Angle Grind WT 7 E M14 G22 type with belt grinder attachment holder BSVH 41. For belt grinder attachment holders, see page 61 .

Included accessories:
Handle, clamping flanges and 4-1/2" guard, 2 keys.

For compatible belt grinder attachment holder BSVH 41 and belt arms, see page 61.

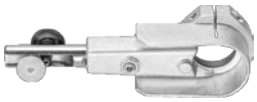
Keys	EDP number
17 mm	93350
35 x 5 mm	93395

EDP number	Description		Diameter x length		Gear ratio	Max. input RPM	Shaft connection	Collet group	Included collet size	Weight [lb]
			nominal [Inches]	metric [mm]						
94385	WT 7 E M14 G22	angle grinder drive	2-5/8 x 7	67 x 178	2.7:1	25,000	G22	-	M14 thd.	1.46

Belt grinder attachment holders and arms

BSVH 25,5
EDP 95000

SDVH-K
EDP 95001



BSVH 41
EDP 95015

SDVH-G
EDP 95017

BSVAK 9/25
EDP 95006

BSVAK 9/25-1
EDP 95005

BSVAK 4/16
EDP 95009

BSVAK 9/9
EDP 95008

BSVAK 9/16
EDP 95007

BSAD 41/36 x 610
EDP 95016

BSVA 9/25
EDP 95020

BSVA 9/25-1
EDP 95021

BSVA 4/16
EDP 95018

BSVA 9/16
EDP 95019

BSVA 12/19
EDP 95022

BSVA 18/23
EDP 95023

Small belt grinder attachment BSVH 25,5 for belt length 305 mm.
Large belt grinder attachment BSVH 41 for belt lengths 520 and 610 mm.

Special features:

- The belt grinder attachment can be pivoted on the respective drive system or handpiece and therefore allows flexible adaptation to each individual work situation.
- Highly precise belt guidance due to adjustable belt clamping force and fixable belt arm.
- Easy, quick belt replacement due to spring clamping.

EDP number	Description	Mounting diameter [Inches]	Mounting diameter [mm]	Uses protective cover [EDP]	Drive roll [Inches]	Drive roll [mm]	Suitable for power tools/drives	Weight [lb]
95000	BSVH 25,5	1	25.5	95001 (SDVH-K)	3/4	20	PBS 3/200 HV oVA, PWS 3/200 HV	0.39
95015	BSVH 41	1-5/8	41	95017 (SDVH-G)	1-1/8	30	WT 7 E M14, UBS 5/100 SI oVA 120 V	0.69

EDP number	Description	Fits belt attachment holder	For belt length [Inches]	Width x roll dia. [Inches]	Width x roll dia. [mm]	Suitable belt width [Inches]	Use for
95016	BSAD 41/36 x 610	95015	-	-	-	-	Adapter to extend the belt length from 20-1/2" to 24"
95020	BSVA 9/25 x 520	95015	20-1/2	0.35 x 0.98	9 x 25	1/8, 1/4, 3/8, 1/2, 5/8	Finishing jobs, deburring, matting, fine grinding and seamless blending of inner radii/ channels, especially on pipe couplings.
95006	BSVAK 9/25 x 305	95000	12	0.35 x 0.98	8.8 x 25	1/8, 1/4, 3/8, 1/2	
95021	BSVA 9/25-1 x 520	95015	20-1/2	0.35 x 0.98	9 x 25	1/8, 1/4, 3/8, 1/2	Finishing in narrow inner radii/channels, especially on stainless steel (INOX) pipe couplings with very small welded seams (TIG welding).
95005	BSVAK 9/25-1 x 305	95000	12	0.35 x 0.98	8.8 x 25	1/8, 1/4, 3/8, 1/2	
95018	BSVA 4/16 x 520	95015	20-1/2	0.15 x 0.63	4 x 16	1/4	Leveling, deburring, matting, fine grinding, cleaning, blending of stainless steel in narrow, small areas.
95009	BSVAK 4/16 x 305	95000	12	0.15 x 0.63	3.8 x 16	1/8, 1/4, 3/8	
95008	BSVAK 9/9 x 305	95000	12	0.35 x 0.35	8.8 x 9	3/8, 1/2	Leveling, chamfering, matting, fine grinding, cleaning and seamless blending on small areas.
95019	BSVA 9/16 x 520	95015	20-1/2	0.35 x 0.63	9 x 16	1/2	
95007	BSVAK 9/16 x 305	95000	12	0.35 x 0.63	8.8 x 16	3/8, 1/2	
95022	BSVA 12/19 x 520	95015	20-1/2	0.45 x 0.75	12 x 19	1/2, 5/8	Leveling, chamfering, matting, fine grinding, cleaning and seamless blending on wide areas.
95023	BSVA 18/23 x 520	95015	20-1/2	0.71 x 0.91	18 x 23	3/4	

The fast way to the best collet

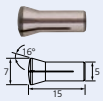
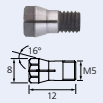
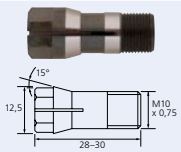
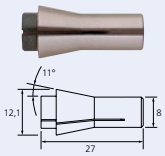
Please use the tables below to find the perfect collet for your product.

❶ Determine the correct collet group from the Power tool/handpiece table.
❷ Then, find the diameter and EDP of that collet group in the collet chart.

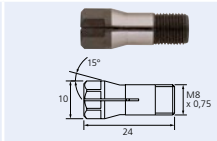
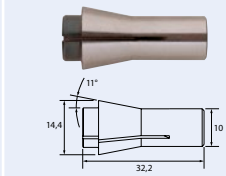
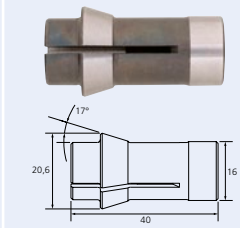
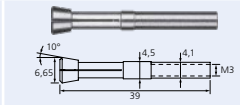
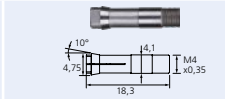
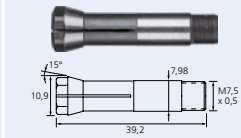
Overview of collet groups

Page	Power tools/handpieces	❶ Collet group
16	PGT 1/1000	1
17	PGAS 2/800 E-HV	1
18	PGAS 3/440 HV	6
19	PG 3/380 HV	6
20	PGAS 5/230 VE-HV	6
21	PG 3/210 HV	6
22	PGAS 5/40 V-HV	6
23	PWSA 1/800	2
24	PWSA 3/220 HV	6
33	Micro motor handpc. MIM HAS 3/800 SP1/8"	17
33	Micro motor handpc. MIM HAS 2/600 SP1/8"	17
33	Micro motor handpc. MIM HAS 3/600 SP1/8"	17
33	Micro motor handpc. MIM HAS 1/500 SP1/8"	17
33	Micro motor handpc. MIM HAS 3/500 VS-SP1/8"	17
34	Micro motor handpc. MIM HAS 3/600 S1/8"	19
34	Micro motor handpc. MIM HAS 3/600 S1/4"	19
34	Micro motor handpc. MIM WZS 3/300 90° S1/8"	18

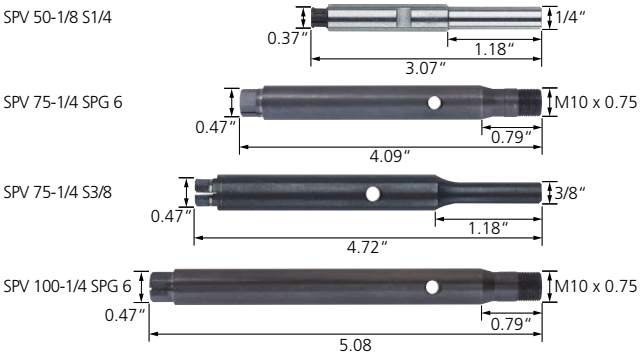
Page	Power tools/handpieces	❶ Collet group
34	Micro motor handpc. MIM WZS 3/300 45° S1/8"	18
35	UGER 5/250 SI	11
36	UGER 15/60 SI	12
60	Handpiece HA 4 ZGB G16	9
60	Angle handpiece WZ 4 A G16	10
60	Handpiece HA 7 ZGA G22	11
60	Angle handpiece WZ 7 45° G22	6
60	Angle handpiece WZ 7 B G22	6
60	Handpiece HA 10 ZGE G28	11
60	Angle handpiece WZ 10 45° G28	6
60	Angle handpiece WZ 10 B G28	6
60	Flexible special handpiece FSH G28	11
60	Handpiece HA 12 ZGA G28	12
64	Spindle extensions SPV 50-1/8 S1/4"	2
64	Spindle extensions SPV 75-1/4 SPG 6	10
64	Spindle extension SPV 75-1/4 S3/8	10
64	Spindle extension SPV 100-1/4 SPG 6	10
64	Spindle extensions SPV 100-1/4 S3/8	10

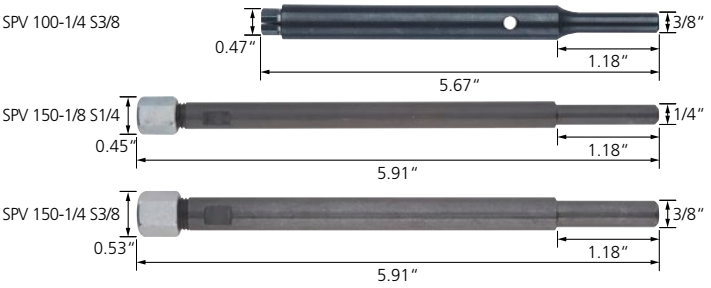
Collet group		Shank diameter [Inches]					Shank diameter [mm]					
		3/32	1/8	1/4	3/8	1/2	2.35	3	6	8	10	12
		❷ EDP number										
1		93006	93007	-	-	-	-	93003	-	-	-	-
2		93013	93012	-	-	-	-	93011	-	-	-	-
6		93067	93072	93074	-	-	-	93057	93062	93064	-	-
9		93120	93125	93127	-	-	-	93108	93114	-	-	-

Continued on next page

Collet group		Shank diameter [Inches]					Shank diameter [mm]					
		3/32	1/8	1/4	3/8	1/2	2.35	3	6	8	10	12
		❷ EDP number										
10		-	93146	93148	-	-	-	93134	93140	-	-	-
11		93174	93179	93182	-	-	-	93157	93163	93166	-	-
12		-	-	93211	93215	93218	-	-	93196	93199	93201	93203
17		-	93257	-	-	-	93256	93255	-	-	-	-
18		-	93267	-	-	-	93266	93265	-	-	-	-
19		-	93277	93279	-	-	93278	93276	93275	-	-	-

Extensions for drive spindles





Spindle extensions extend the shafts of grinding, brushing and milling products, allowing access to difficult-to-reach areas. The extensions are mounted into collets, or with threaded versions, directly onto the machine spindle.
Spindle extensions are a cost effective alternative to made-to-order burs and mounted points.

Safety note:
When working with long shank lengths, it is vital that the product is inserted into the workpiece (e.g. cores, pipes, ducts or keyways) **before** the power tool is switched on. Running the extension outside the workpiece (e.g. cores, pipes, ducts or keyways) increases the risk of buckling of the extension, and/or serious accidents.

The extensions are only intended for manual use in connection with suitable air-power, electric grinders or flexible shaft handpieces for tools. Always run product at the appropriate RPM, and be sure it is inserted with proper overhang into a centrical running chuck.

Do not connect multiple extensions, or mount products that already have extended-length shanks!

EDP number	Description	Max. speed [RPM]	Mounting pin dia. (motor/handpiece) [Inches]	Fits shank diameter [Inches]	Overall length [Inches]	Mounting pin length [Inches]	Max. spindle diameter [Inches]	Included collet dia. [Inches]	Collet group	Weight [lb]
95820	SPV 50-1/8 S1/4	44,000	1/4	1/8	3.07	1.18	0.37	1/8	2	0.08
95821	SPV 75-1/4 SPG 6	20,000	SPG 6	1/4	4.09	special	0.47	1/4	10	0.16
95822	SPV 75-1/4 S3/8	20,000	3/8	1/4	4.72	1.18	0.47	1/4	10	0.17
95823	SPV 100-1/4 SPG 6	20,000	SPG 6	1/4	5.08	special	0.47	1/4	10	0.21
95824	SPV 100-1/4 S3/8	20,000	3/8	1/4	5.67	1.18	0.47	1/4	10	0.22
95825	SPV 150-1/8 S1/4	10,000	1/4	1/8	5.91	1.18	0.45	-	-	0.12
95826	SPV 150-1/4 S3/8	10,000	3/8	1/4	5.91	1.18	0.53	-	-	0.18

Anti-vibration handle SENSOHANDLE

Vibration-damping, ergonomically optimized handle for use on all common angle grinders with M8, M10 or M14 female threads. M8 adapter is also compatible with WT 7 E M14 G22.

Advantages:
- Significant reduction in vibration transmission, because vibration source and handgrip surface are decoupled.
- Moreover, the vibration energy is absorbed/ reduced by the special rubber mixture.
- Safe and comfortable working, because of ergonomically optimized shape and dimensions.
- Secure hold due to the structured surface of the handle.

Accessories included:
1 handle, 3 adapters (M8, M10 and M14).

PFERDVALUE®:

EDP number	Included thread adapters	Suitable for power tools/drives	Weight [lb]
95506	M8	power tools with M8 metric thread, WT 7 E M14 G22	1.10
	M10	power tools with M10 metric thread	
	M14	power tools with M14 metric thread	

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