



PFERD provides unmounted flap wheels with various

- grit sizes,
- abrasives and
- dimensions.

The coated abrasive flaps are arranged radially around the tool axis in a fan-type configuration. Due to their flexibility, they adapt ideally to the contours of the workpiece. The abrasive grit is embedded in a resinoid bond on the strong, flexible backing cloth.

Unmounted flap wheels are designated "Flap Wheels" according to ISO 5429.

Application examples:

- Fine grinding work on large radii in container, kitchen and apparatus construction
- Removal of coarse uneven spots, e.g. weld dressing
- Achievement of homogeneous finishes (grinding patterns) on larger surfaces and contours in manual applications
- Very fine grinding as a precursor to high-gloss polishing
- Also suitable for robotic and stationary use

Recommendations for use:

- Unmounted flap wheels achieve their best performance at a recommended cutting speed of 15–30 m/s. This provides an ideal compromise between stock removal, surface quality, thermal load on the workpiece and tool wear.
- Flexible shafts, straight grinders and grinding blocks can be used as tool drives
- The drive power output required for tool drives is 1,000–1,500 watts
- Use grinding oil that is suitable for the material in order to significantly increase the tool life and the abrasive performance of the tools. More detailed information and ordering data for grinding oils can be found on page 120.

Cutting speeds

In the diagram, the cutting speeds are represented by blue diagonal lines. The vertical line representing the tool diameter meets the given cutting speed (diagonals). From its point of intersection, proceed horizontally to the left margin where you will find the corresponding rotational speed [RPM] for the unmounted flap wheels and tool drive.

Example:
FR 16550/25,4 A 80
Cutting speed 15–30 m/s
Rotational speed: 1,700–3,500 RPM

Advantages:

- High flexibility
- High stock removal due to the aggressive coated abrasive
- Carrier material wears off uniformly and without residue on the workpiece surface, meaning that sharp abrasive grain is exposed at all times
- Due to the special mounting system, the face of the unmounted flap wheels can be used to work very close to edges and in corners

Factors influencing the work result:

- **Tool wear and thermal load:**
The reduction of the contact pressure and the peripheral speed, together with the addition of grinding oil, reduce tool wear and the thermal load on the workpiece.
- **Stock removal:**
An increase in stock removal should be attained by using a coarser grit size rather than by increasing the contact pressure in order to prevent unnecessary tool wear and thermal load on the workpiece.
- **Surface roughness:**
The increase in peripheral speed results in a slightly finer surface. By increasing the contact pressure, the surface becomes slightly rougher. The softer the material to be worked, the rougher the surface (if the same grit size is used).

Ordering note:

Unmounted flap wheels with diameters 100, 150 and 165 mm are supplied with the centre hole diameter of 25.4 mm. Unmounted flap wheels with diameters 200 and 250 mm are supplied with the centre hole diameter 44.0 mm.

Ordering instructions:

When ordering, please state the EAN or the complete description. Please complete the description with the desired grit size.



Ordering example:
EAN 4007220469040
FR 10030/25.4 A 40

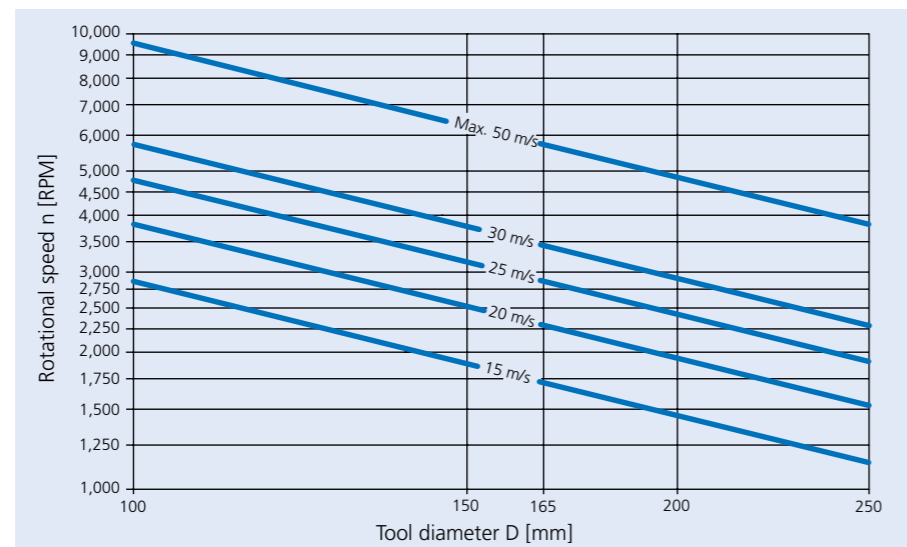
Ordering example explanation:
FR = Unmounted flap wheels
10030 = Outer dia. D x width T [mm]
25.4 = Centre hole diameter H [mm]
A = Abrasive
40 = Grit size

Safety notes:

- As a rule, unmounted flap wheels should be used with the appropriate clamping flanges
- The maximum permitted peripheral speed is determined as follows:
- Unmounted flap wheels = 50 m/s
- Unmounted flap wheels for angle grinders = 80 m/s
- For safety reasons, it is imperative to remain within the stated maximum permitted rotational speed at all times



PFERDERGONOMICS® recommends unmounted flap wheels to sustainably reduce vibration and noise levels during use and to improve working comfort.



Universally suitable for all materials.

Unmounted flap wheels FR 10050, FR 15050, FR 16550, FR 20050 and FR 25050 comply with ISO 5429.

Abrasive: Aluminium oxide A

Ordering note:

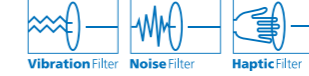
Please order arbors separately. Matching arbors for dia. 100, 150 and 165 mm: FR/VR 12/25.4

Matching arbors for dia. 200 mm and 250 mm: FR/VR 12/44.0

Ordering example:
EAN 4007220469040
FR 10030/25.4 A 40

Please complete the description with the desired grit size.

PFERDERGONOMICS®:



Description	Grit size							D x T [mm]	H [mm]	Recom. speed [RPM]	Max. perm. speed [RPM]	📦
	40	60	80	120	150	240	320					
EAN 4007220												
FR 10030/25,4 A	469040	469057	469071	469095	-	-	-	100 x 30	25.4	5,500	9,500	2
FR 10050/25,4 A	469187	469194	469224	469231	-	-	-	100 x 50	25.4	5,500	9,500	2
FR 15030/25,4 A	296851	296868	296875	296882	296899	-	-	150 x 30	25.4	3,500	6,300	2
FR 15050/25,4 A	296905	296912	296929	296936	296943	469699	-	150 x 50	25.4	3,500	6,300	2
FR 16530/25,4 A	470091	470107	470114	470121	470138	469941	-	165 x 30	25.4	3,200	5,700	2
FR 16550/25,4 A	469767	469781	469804	469811	469835	469842	469859	165 x 50	25.4	3,200	5,700	2
FR 20030/44,0 A	-	469606	469613	469637	-	469675	-	200 x 30	44	2,600	4,700	2
FR 20050/44,0 A	-	469262	469286	469309	469323	469347	-	200 x 50	44	2,600	4,700	2
FR 25050/44,0 A	-	469064	469088	469101	469132	469156	469170	250 x 50	44	2,100	3,800	1

Designed for work on stainless steel (INOX) and high-temperature-resistant alloys.

Active grinding additives in the coating substantially improve stock removal, prevent clogging and result in cooler grinding.

Unmounted flap wheels FR 15050 and FR 16550 comply with ISO 5429.

Abrasive: Aluminium oxide A-COOL

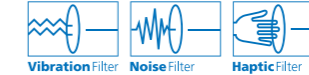
Ordering note:

Please order arbors separately. Matching arbors for dia. 150 and 165 mm: FR/VR 12/25.4

Ordering example:

EAN 4007220469576
FR 15030/25.4 A-COOL 40
Please complete the description with the desired grit size.

PFERDERGONOMICS®:



Description	Grit size				D x T [mm]	H [mm]	Recom. speed [RPM]	Max. perm. speed [RPM]	📦
	40	60	80	120					
EAN 4007220									
FR 15030/25,4 A-COOL	469576	469590	-	469668	150 x 30	25.4	3,500	6,300	2
FR 15050/25,4 A-COOL	469743	469774	469798	-	150 x 50	25.4	3,500	6,300	2
FR 16530/25,4 A-COOL	469989	470008	470015	470022	165 x 30	25.4	3,200	5,700	2
FR 16550/25,4 A-COOL	469866	469873	469903	469910	165 x 50	25.4	3,200	5,700	2

For mounting PFERD flap wheels.

The clamping flanges are constructed, so that they lie countersunk within the tool. It is then possible to grind in very narrow places, on edges and in angles.

Supplied content:

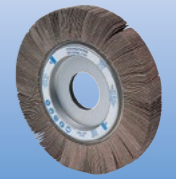
- Arbor, clamp dia. 12 mm
- 2 flanges
- Matching screws (for different flap wheel widths)

Ordering note:

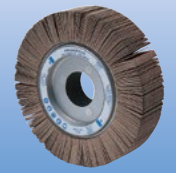
We manufacture arbors with Morse cones on request.

Description	EAN 4007220	S x L [mm]	Clamping width [mm]	Suitable for centre hole dia. [mm]	Suitable for tool dia. [mm]	📦
FR/VR 12/25,4 100-165	479643	12 x 40	25–50	25.4	100, 150, 165	1
FR/VR 12/44,0 200-250	479650	12 x 40	25–50	44	200, 250	1

Unmounted flap wheels Aluminium oxide A type



Unmounted flap wheels Aluminium oxide A-COOL type

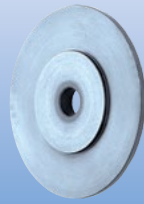


Flap wheel arbors with flanges



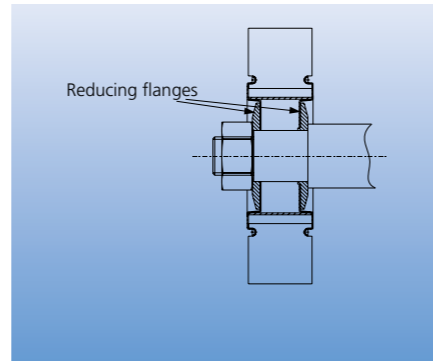


Reducing flanges for unmounted flap wheels



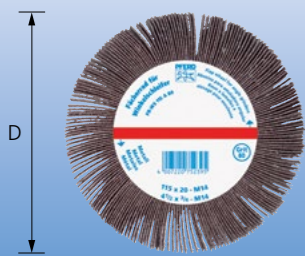
For mounting flap wheels and POLINOX® grinding wheels on drive spindles. The centre hole of the flange can be drilled out according to the dimension of the given drive spindle. The clamping flanges are designed to lie countersunk in the tool.

Supplied content:
■ 1 pair, centre hole dia. 12 mm



Description	EAN 4007220	Centre hole dia. [mm]	Max. centre hole dia. [mm]	Suitable for tool dia. [mm]	
RF FR 150-165 Bo. 12-22,2	509876	12	22.2	150, 165	1
RF FR 200-250 Bo. 12-40	498460	12	40	200, 250	1

Unmounted flap wheels for angle grinders

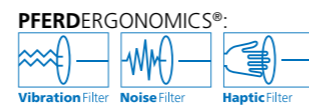


The ideal tool for use on angle grinders in assembly shop operations.

Abrasive: Aluminium oxide A

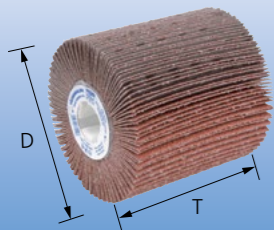
Recommendations for use:
■ Unmounted flap wheels for angle grinders achieve their best performance at a recommended cutting speed of 40–50 m/s

Ordering example:
EAN 4007220752364
FR-WS 11520 M14 A 40
Please complete the description with the desired grit size.



Description	Grit size				D x T [mm]	Thread	Recom. speed [RPM]	Max. perm. speed [RPM]	
	40	60	80	120					
	EAN 4007220								
FR-WS 11520 M14 A	752364	752388	752395	752401	115 x 20	M14	7,500	13,300	2
FR-WS 12520 M14 A	752418	752425	752432	752449	125 x 20	M14	6,850	12,200	2

Flap drums



Universally suitable for all materials.

Application examples:

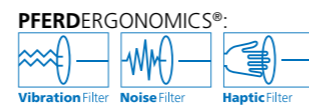
- Fine grinding work on large radii in container, kitchen and apparatus construction
- Removal of coarse uneven spots e.g. weld dressing
- Achievement of homogenous finishes (grinding patterns) on larger surfaces and contours in manual applications
- Very fine grinding as a cursor to high-gloss polishing

Abrasive: Aluminium oxide A

Recommendations for use:
■ Flap drums achieve their best performance at a recommended cutting speed of 15–30 m/s

Ordering note:
Additional drum tools can be found on pages 88 and 104 of this Catalogue and in Catalogue 208.

Ordering example:
EAN 4007220770498
FR-W 100100 A 40
Please complete the description with the desired grit size.



Description	Grit size						D x T [mm]	H [mm]	Recom. speed [RPM]	Max. perm. speed [RPM]	
	40	60	80	120	150	180					
	EAN 4007220										
FR-W 100100 A	770498	770504	770511	770528	770535	770542	100 x 100	19	3,800	6,100	1

The grinding wheel consists of a shank-mounted support and rubber flaps. It must be completed with appropriate abrasive flaps. The combination and arrangement of the abrasive and rubber flaps results in a highly flexible tool.

Application examples:

- Redressing and restoration of surface textures
- Fine grinding of radii, contours, curved areas or large surfaces
- Removal of fine secondary burrs
- Removal of heat discoloration
- Surface cleaning

Recommendations for use:

- Preferably used on straight grinders or with flexible shaft systems
- On stainless steel, an optimum surface finish is obtained at a rotational speed range of 1,400–1,700 RPM

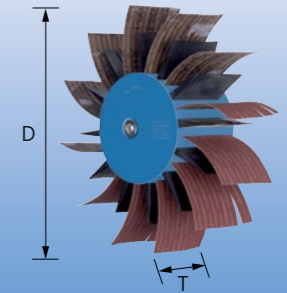
Ordering note:

The POLIFLAP® grinding wheel is supplied without abrasive flaps. Please order abrasive flaps separately in the desired grit size.

PFERDERGONOMICS®:



POLIFLAP® grinding wheel



Description	EAN 4007220	D x T [mm]	S _d [mm]	Recom. speed [RPM]	Max. perm. speed [RPM]	
PFL 17060/12	725405	170 x 60	12	1,500	3,500	1



Eight different grit sizes are available to achieve the required visual effect. After the abrasive flaps have worn down, they can easily be replaced on the grinding wheel.

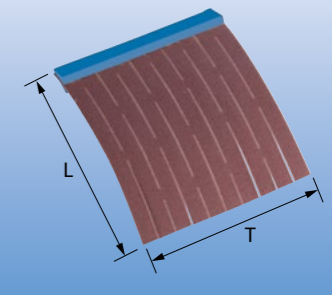
Ordering note:

In order to fill the wheel, 12 abrasive flaps (1 packaging unit) are required. Please order the initial flaps and any additional flaps separately.

Ordering example:

EAN 4007220725276
PFL-SL A 60
Please complete the description with the desired grit size.

POLIFLAP® abrasive flaps



Description	Grit size								T x L [mm]	
	60	80	100	120	150	180	220	320		
	EAN 4007220									
PFL-SL A	725276	725283	725290	725306	725313	725320	725337	725344	60 x 75	12



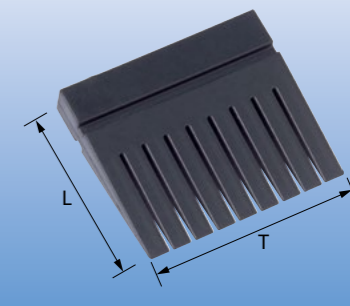
The rubber flaps which lie between the abrasive flaps, support the grinding effect and the flexibility of the tool.

After the rubber flaps have worn down, they can easily be replaced on the grinding wheel.

Ordering note:

In order to fill the wheel, 12 rubber flaps (1 packaging unit) are required.

POLIFLAP® rubber flaps



Description	EAN 4007220	T x L [mm]	
PFL-GL	725412	55 x 50	12





Unmounted flap wheel set



Set with high-power output electric straight grinder with PFERD tools for cleaning, brush matting and very fine grinding of medium and large surfaces, in particular on stainless steel (INOX) components. Ideal for general-purpose grinding, in particular during assembly work.

Performance characteristics electric straight grinder:

- High, constant drive power output, even under load
- Insulated motor and integrated overload protection
- User-friendly, robust construction, stepless electronic speed regulation in the range of 2,800–5,900 RPM

For detailed information and ordering data for tool drives, please refer to Catalogue 209.

Contents:

- 1 pc. each of:
 - Electric straight grinder UGER 15/60 SI 230 V

- Collets dia. 6, 8 and 12 mm
- Unmounted flap wheel FR 15030 A-COOL 60
- Unmounted flap wheel FR 15030 A-COOL 120
- POLINOX® mounted flap wheel PNL 15050 A100
- Arbor FR/VR 12/25.4
- Arbor BO 8/13/26
- 2 pcs. of:
 - POLICLEAN® wheels PCLS 15013/13

Recommendations for use:

- The result of surface work on stainless steel (INOX) depends on the interaction of the following factors:
 - Tool (abrasive, grit size)
 - Rotational speed used
 - Contact pressure
 - Processing time
 - Quality of the steel to be worked on

Description	EAN 4007220	Image
SET FR 15030 UGER 15/60 230 V	777350	1

Drum set



Set with high-power output electric grinding drum drive and PFERD tools for cleaning, brush matting and very fine grinding of large surfaces on stainless steel (INOX) components.

The set is supplied in a practical case which keeps the components organized so that it is suitable for mobile use. The drive has a stepless electronic speed regulation in the range of 900–3,500 RPM.

For detailed information and ordering data for tool drives, please refer to Catalogue 209.

Contents:

- 1 pc. each of:
 - Electric grinding drum drive UWER 15/40 A-SI D19
 - Flap drum FR-W 100100 A 80
 - POLINOX® grinding drum PNL-W 100100 A 180

Three empty storage compartments provide space for further drum tools from the PFERD range.

Description	EAN 4007220	Image
SET FR-W 100100 UWER 15/40 230 V	777299	1

POLIFLAP® set



High-power output electric straight grinder in set with PFERD tools for brush matting and for pattern blending on medium and large surfaces on stainless steel (INOX) components.

Performance characteristics electric straight grinder:

- High, constant drive power output, even under load
- Insulated motor and integrated overload protection
- User-friendly, robust construction
- Stepless electronic speed regulation in the range of 750–3,000 RPM

For detailed information and ordering data for tool drives, please refer to Catalogue 209.

Contents:

- 1 pc. each of:
 - Electric straight grinder UGER 15/30 SI
 - Collets dia. 6, 8 and 12 mm
 - Hexagon socket wrench 6 mm
 - POLIFLAP® grinding wheel PFL 17060/12 with abrasive flaps PFL-SL (grit sizes A 60, A 80, A 100, A 120, A 150, A 180, A 220, A 320)
 - POLINOX® mounted flap wheel PNG 10050/6 SiC 180
 - Poliflex® mounted texturing point PF ZY 10030/8 CU 16 PU-STRUC
- 2 pcs. of:
 - Single-head spanners SW 22

Description	EAN 4007220	Image
SET PFL 17060 UGER 15/30 SI 230 V	777343	1

Special tools for side grinding in fillets and slots. They are mounted via a central threaded hub.

Abrasive: Aluminium oxide A

Advantages:

- Tool provides abrasive action on its front and rear side
- The two-sided overlapping fan structure is flexible and ideal for deburring in grooves, slots and finned structures

Recommendations for use:

- Hold the tool at an angle to grind with both disc sides

Ordering note:

Please order arbor separately.

Ordering example:
EAN 4007220152706
KS 30-4 A 80

Please complete the description with the desired grit size.

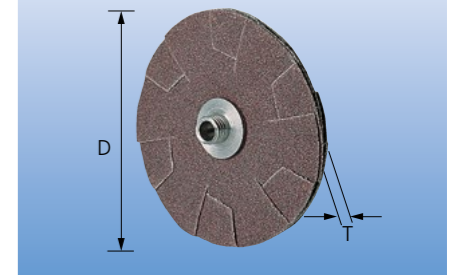
Ordering example explanation:

- KS = Overlap slotted disc
- 30 = Outer dia. D [mm]
- 4 = No. of layers
- A = Abrasive
- 80 = Grit size

PFERDERGONOMICS®:



Overlap slotted discs

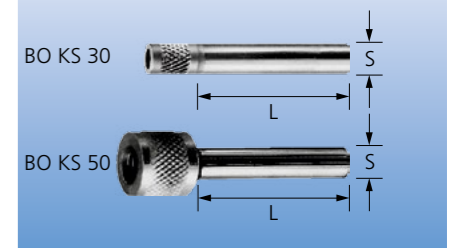


Description	Grit size	EAN 4007220	D x T [mm]	No. of layers	Recom. speed [RPM]	Max. perm. speed [RPM]	Suitable arbors	Image
KS 30-4 A	80	152706	30 x 5	4	6,500	12,000	BO KS 30	20
KS 50-4 A	80	152768	50 x 5	4	4,000	8,000	BO KS 50	20



Reduces setup times significantly. The overlap slotted discs can be changed without removing the arbor from the collet mounted in the tool drive.

Arbors for overlap slotted discs



Description	EAN 4007220	S x L [mm]	Thread	Suitable for	Image
BO KS 30	152164	6 x 40	1/8 BSW	KS 30-4 A 80	1
BO KS 50	152157	6 x 40	1/4-28 UNF	KS 50-4 A 80	1

