

# Stationary cut-off wheels up to 2,000 mm

New Generation – Superior Performance



**TRUST BLUE**

- Reduced cutting costs due to the highest cutting performance
- The best cutting qualities
- Custom solutions of proven PFERD quality

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Cut-off grinding is one of the most powerful and cost-effective cutting processes. It can be used to easily cut all steels and castings, non-ferrous metal alloys, special alloys such as nickel- and titanium-based alloys, as well as materials on which sawing and flame cutting are difficult or impossible.

## Advantages:

- Due to smooth cutting surfaces and blank cuts in cold cutting-off, no post-processing is required.
- Short cutting times regardless of the material quality.
- Significantly lower burr formation with hot cutting-off than with hot sawing.
- Lower noise levels than with hot sawing, for example:  
 Hot cutting-off: 85 to 95 dBA  
 Hot sawing: 105 to 110 dBA
- Consistent cutting quality over the entire life of the cut-off wheel due to its continuous self-sharpening qualities.
- Cutting of already cooled rolled or forged parts in hot cut lines is possible.

## Application areas:

Cut-off grinding is used in the following areas:

- Rolling mills
- Foundries
- Machine engineering
- Steel construction
- Maintenance of rails
- Forging plants and their finishing processes
- Laboratories

**Innovative  
 manufacturing  
 technology**

**Customized  
 up to 2,000 mm**

**Individual  
 solutions**

**PFERD experts  
 at your side**



### Cut-off wheel structure

Cut-off wheels consist of many undefined edges. Blunt abrasive grit detaches itself from the wheel or splinters off during the cutting process so that sharp abrasive grit is exposed at all times. Due to the continuous self-sharpening effect, the cutting quality is consistent over the entire life of the cut-off wheel.

For cut-off grinding, resinoid-bonded, fibre-reinforced cut-off wheels are used, which are essentially composed of four components:

- ❶ Abrasives
- ❷ Bond, which holds the abrasive grit in the cut-off wheel

- ❸ Fabric layers/flange fabric, which ensure that the cut-off wheel is secure and stable
- ❹ Active grinding fillers

The steel-core cut-off wheel, developed and patented by PFERD, is characterized, as compared to the conventional type, by its solid steel body ❺ constructed in layers which does not contain any abrasive.

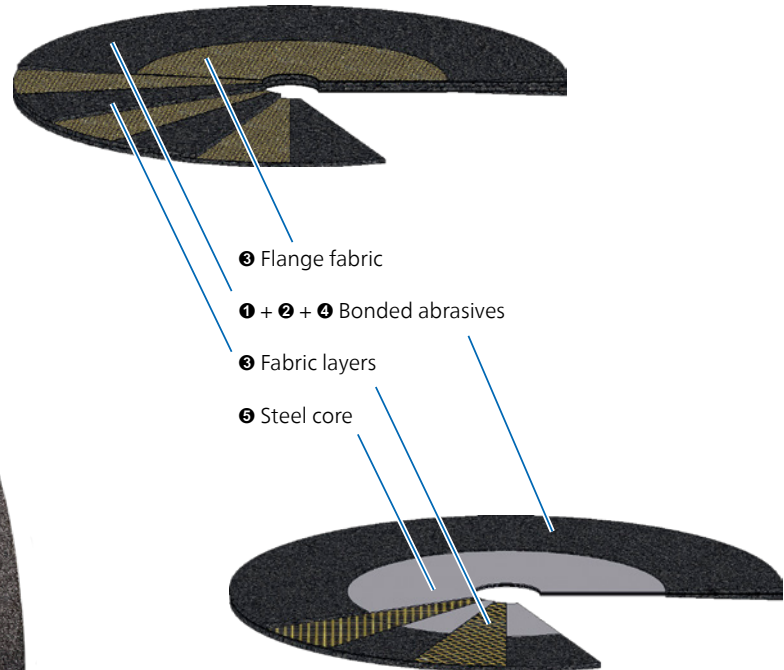
### Advantages of the cut-off wheels

#### New Generation type

- More stable wheel structure.
- Suitable for all cutting processes and cutting machines.
- Conical wheel geometry.

#### New Generation METALCORE type

- Patented wheel structure.
- Suitable for all cutting processes and for cutting machines with a high or low power output.
- Conical wheel geometry.
- Reduced cutting costs due to the use of smaller clamping flanges.
- Reduced wheel width for chop stroke cut.
- More stable cut with less vibration.
- No cost for the disposal of the old wheel.



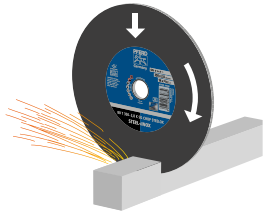
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## Cut-off processes

According to the material and the application, cut-off processes differ depending on the positioning and relative motion of the cut-off wheel and workpiece.

### Chop stroke cut



#### Application area:

- For cutting individual workpieces as well as small or slim material layers.
- Very common cut-off process.

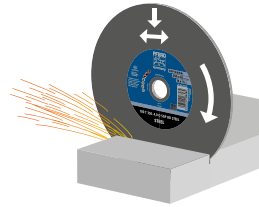
#### Cutting process:

- Cut-off wheel cuts the workpiece in a radial movement over a joint midpoint.

#### Advantages:

- Low vibration.
- Short cutting times.
- Less load on cut-off wheels for smaller material dimensions.

### Oscillation cut



#### Application area:

- For cutting sprues and risers in foundries.
- Demanding tasks in wet cut-off grinding.

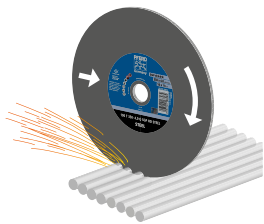
#### Cutting process:

- Cut-off wheel moves into the workpiece to be cut with additional forward and backward movements in the horizontal cut.

#### Advantages:

- Lower drive output required.
- Low workpiece temperature.
- Optimum removal of chips.

### Horizontal cut



#### Application area:

- For cutting multiple adjacent workpieces, as well as slabs, plates and sheets.
- In particular on the approach side of the rolling mill after the cooling bed.

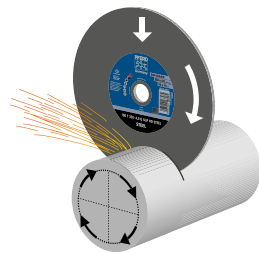
#### Cutting process:

- Cut-off wheel cuts the entire layer width of different cross sections in one cycle.

#### Advantages:

- Short cutting times.
- Very high throughput capacity.

### Index cut



#### Application area:

- For cutting very large round solid material and blocks.
- In particular in steel works and foundries.

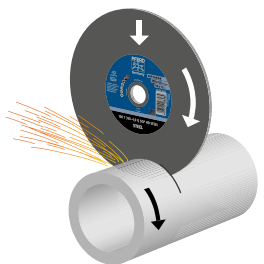
#### Cutting process:

- The workpiece is cut with several partial cuts. After each partial cut, the workpiece is rotated (2–4 partial cuts, 180–90° rotation, depending on the material dimensions).

#### Advantages:

- Working on very large material cross sections is possible with smaller wheel diameters.

### Rotary cut



#### Application area:

- For cutting very large pipes as well as round solid materials.

#### Cutting process:

- The workpiece is continuously rotated during the cutting process.

#### Advantages:

- Use of small wheel diameters is possible.
- Lower drive output required.
- Low workpiece temperature.



# Great solutions for individual applications



Individual on-site support for perfect solutions in all sizes

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## Products made to order

PFERD offers you individual targeted support to solve your application problems. The experienced field staff of PFERD will be pleased to assist you.

With their expertise, our technical advisers will also help you to solve complex problems related to applications and use.

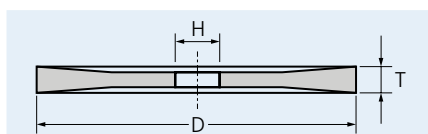
Due to our many years of collaboration with manufacturers of cut-off grinding machines in Germany and abroad, we can also advise you on the design of appropriate machining equipment.

We will develop and produce PFERD premium-quality cut-off wheels up to a diameter of 2,000 mm, tailor-made to meet the requirements of your job.

Please do not hesitate to contact us for further information.



## Possible dimensions and wheel shapes



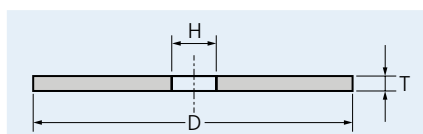
### CT – Conical type

#### Application area:

- Particularly suitable for use in the steel industry.

#### Advantages:

- Less lateral friction.
- Particularly advantageous for deep cuts and traverse cutting.



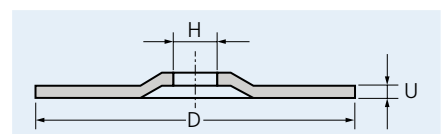
### T – Flat type

#### Application area:

- Suitable for use in steel and plant construction, in the steel industry and in foundries.

#### Advantages:

- Suitable for universal use.



### PT – Depressed-centre type

#### Application area:

- Particularly suitable for use in foundries.

#### Advantages:

- Clamping flange does not protrude beyond the cut-off wheel.
- Flush cutting of risers from castings is possible.
- In general, no post-processing required.

Outer dia. D [mm]	Centre hole dia. H [mm]
2,000	80/100/127/152.4/200.3/ 203/230/250/280
1,840	80/100/127/152.4/200.3/ 203/230/250/280
1,600	80/100/127/152.4/200.3/ 203/230/250/280
1,500	80/100/127/152.4/200.3/ 203/230/250/280
1,380	80/100/127/152.4/200.3/ 203/230/250/280
1,250	80/100/127/152.4/200.3/ 203/230/250/280
1,000	80/100/127/152.4/200.3/ 203/230/250/280
800	80/100/127/152.4/200.3/ 203/230/250/280

Outer dia. D [mm]	Centre hole dia. H [mm]
800	80/100/127/152.4/200.3/ 203/230/250/280
700	80/100/127/152.4/200.3/ 203/230/250/280
660	40/60/76.2/80/100
600	25.4/40/60/76.2/80/100
500	25.4/40/60/76.2/80/100
450	25.4/32/40/60/80
400	25.4/32/40/60/80
350	25.4/32/40
300	25.4/32/40
250	25.4/30/32

Outer dia. D [mm]	Centre hole dia. H [mm]
800	80/100/127/152.4/200.3/ 203/230/250/280
700	80/100/127/152.4/200.3/ 203/230/250/280
600	25.4/40/60/76.2/80/100
500	25.4/40/60/76.2/80/100
400	25.4/32/40/60/80

Other types and centre hole diameters are available on request. Please contact us for further information.

