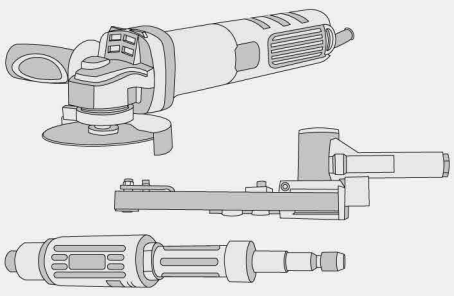
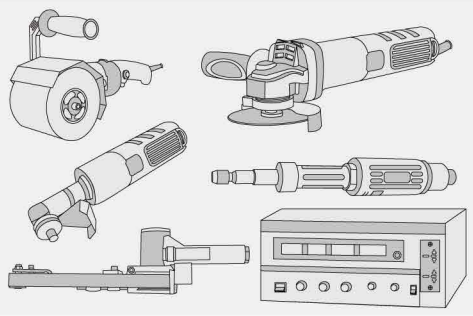
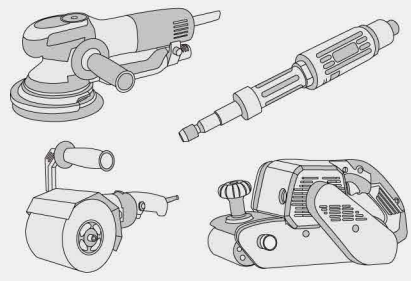
| Air Grinders | Electric Grinders | Flexible Shaft Drives |
|---|---|---|
|  |  |  |
| **Applications And Economic Value** | | |
| Single workplace, fixed workbench | Single workplace, flexible use | Single workplace, stationary with a variety of tool applications, very easy to handle at high power output |
| High power output, low abrasion, long service life | High power output, low abrasion, long service life | Very robust, low wear, long service life |
| **Drive Type** | | |
| – | Micro motors | – |
| Straight grinders | Straight grinders | Straight grinders |
| Angle grinders | Angle grinders | Angle grinders |
| – | Drum grinders | Drum grinders |
| Belt grinders | Belt grinders | Belt grinders |
| Special drives | Special drives | Special drives |
| – | Fillet weld grinders | – |
| **Drive Characteristics** | | |
| No risk of overloading, can be loaded up to machine standstill | Overload protection, can briefly withstand up to four times the rated output | Overload protection, can briefly withstand up to six times the rated output |
| Optimum rotational speed and power ratios | Optimal tuning possible for tool application | Optimal tuning possible for tool application |
| Good size to power output ratio | Higher power output compared to air grinders at the same rotational speed | High motor power output, compact handpieces, high power transmission to the tool |
| Achieve high rotational speeds | Achieve constant speed, ideal for tools that need a constant rotational speed | 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 101,000 | 100 to 80,000 | 100 to 40,000 |
| **Rotational Speed Control** | | |
| Single-rotation speed | Stepless, electronic | Stepless, electronic, alternatively using gears |
| **Energy** | | |
| Compressed air (6.3 bar) | 1-phase alternating current, Safety extra-low voltage | 1-phase alternating current, 3-phase alternating current, Safety extra-low voltage |
| **Power Range [W]** | | |
| 75 to 2,600 | 260 to 1,750 | 500 to 6,100 |
| **Safety** | | |
| Safe energy form, no sparking | Safeguard to prevent unintentional re-starting | 42-volt type suitable for safe use in narrow, conductive spaces |
| **Maintenance** | | |
| Simple replacement of worn parts | Simple replacement of carbon brushes | Maintenance by technically experienced employees is possible |

References: above table informtaion is quoted from Pferd (2021)Tool Manual Instruments [oneline], Page 6. Avaliable at: https://www.pferd.com/int-en/service/tool-manual-catalogue/