# Glossary

**add** [V-T-U8] To **add** a number to another number is to increase it by that amount. dodawać (liczby)

**align** [V-T-U3] To **align** two or more objects is to place them in a straight line. ustawić (w szeregu)

**assess** [V-T-U1] To **assess** something is to study it and evaluate its qualities and properties. oceniać, poddawać ocenie

**axial** [ADJ-U2] If something is **axial**, it relates to movement along or parallel to the axis of something. osiowy

**axle** [N-COUNT-U15] An **axle** is a shaft that connects two wheels. oś (część maszyny)

**ball bearing** [N-COUNT-U2] A **ball bearing** is a rolling contact bearing that uses metal spheres to direct motion. łożysko kulkowe

**ball peen hammer** [N-COUNT-U6] A **ball peen hammer** is a hammer with a rounded end on one side of the head and a flat end on the other side. młotek z główką kulistą, młotek kulkowy

**band saw** [N-COUNT-U7] A **band saw** is a machine tool that is made of a steel blade that runs over wheels, which is used to cut various materials. piła taśmowa

**bar graph** [N-COUNT-U14] A **bar graph** is a graph that displays data in a series of bars, with each bar sized relatively to its value. wykres kolumnowy, wykres słupkowy

**base unit** [N-COUNT-U11] A **base unit** is one of seven standard SI units that is the foundation of other SI units. jednostka podstawowa

**beam coupling** [N-COUNT-U3] A **beam coupling** is a flexible coupling that is made by cutting a spiral shape from one piece of material. BC, złącze wiązki

**bearing** [N-COUNT-U2] A **bearing** is a mechanical component that allows controlled motion of rotating shafts relative to stationary parts. łożysko

**belt drive** [N-COUNT-U5] A **belt drive** is a machine component that uses a flexible belt mounted to two or more pulleys to transmit power, rotation, and torque. napęd pasowy, przekładnia pasowa

**bevel gear** [N-COUNT-U4] A **bevel gear** is a gear in the shape of a partial cone, allowing gears to meet at right angles. przekładnia zębata stożkowa

**box wrench** [N-COUNT-U6] A **box wrench** is a wrench that fits around a six-sided nut. klucz nasadowy

**broach** [N-COUNT-U7] A **broach** is a machine tool that is used to remove material. przeciągarka

**broad** [ADJ-U1] If a subject is **broad**, it involves a wide variety of topics and disciplines. (np. o temacie) szeroki, obszerny

**calipers** [N-PL-U6] **Calipers** are instruments with two hinged legs that are used to measure dimensions. suwmiarka

**Celsius** [ADJ-U10] If a measurement is **Celsius**, it uses the temperature scale in which water boils at 100° and freezes at 0°. w skali Celsjusza

**chain drive** [N-COUNT-U5] A **chain drive** is a machine component that uses a chain mounted to two or more pulleys to transmit power while ensuring synchronous rotation. napęd łańcuchowy

**CNC (computer numerically controlled) mill** [ABBREV-U7] A **CNC (computer numerically controlled) mill** is a mill that is operated by a computer. frezarka sterowana numerycznie, frezarka CNC

**column** [N-COUNT-U14] A **column** is a group of boxes that extends from the top to the bottom of a table. kolumna

**convert** [V-T-U10] To **convert** something is to change it into a different form or system of measurement. przeliczać, przekształcać, konwertować

**coupling** [N-COUNT-U3] A **coupling** is a piece of hardware that connects two shafts end-to-end in order to transmit energy. sprzężenie, połączenie

**cubed** [ADJ-U12] If a number is **cubed**, it has an exponent of 3. For example, 2 cubed ($2^3$) equals 8, or $2 \times 2 \times 2 = 8$. podniesiony do trzeciej potęgi, podniesiony do sześcianu

**cubic centimeter** [N-COUNT-U10] A **cubic centimeter**, also called a milliliter, is a metric unit of volume equal to 1/1000 liter or about 0.03 fluid ounces. centymetr sześcienny

**cubic meter** [N-COUNT-U11] A **cubic meter** is a metric unit of volume equal to 1,000 liters or about 35.31 cubic feet. metr sześcienny

**decimal number** [N-COUNT-U13] A **decimal number** is a number in a numbering system based on the number 10, with whole quantities on the left of the decimal point and partial quantities on the right. liczba dziesiętna

**derived unit** [N-COUNT-U11] A **derived unit** is an SI unit that is formed by a relationship between base units. jednostka pochodna

**design** [V-T-U1] To **design** something is to create the plans for its construction. projektować

**divide by** [V PHRASE-U8] To **divide** a number (A) **by** another number (B) is to split number A evenly into B number of parts. podzielić (np. liczbę A) przez (np. liczbę B)

**drill press** [N-COUNT-U7] A **drill press** is a machine tool that is used for drilling holes. wiertarka

**equal** [V-T-U8] To **equal** something is to be precisely the same number or amount as something. równać się (np. innej liczbie)

**exponent** [N-COUNT-U12] An **exponent** is part of an equation that shows how many times a number is multiplied by itself. For instance, in the equation $2^3 = 8$, the exponent is 3. wykładnik potęgi, stopień potęgi

**Fahrenheit** [ADJ-U10] If a measurement is **Fahrenheit**, is uses the temperature scale in which water boils at 212° and freezes at 32°. w stopniach Fahrenheita

**flexible** [ADJ-U3] If something is **flexible**, it can bend or change shape without breaking. giętki, elastyczny

**fluid ounce** [N-COUNT-U10] A **fluid ounce** is an imperial unit of volume equal to $\frac{1}{128}$ gallon or about 28.41 milliliters. uncja objętości (około 30 ml)

**foot** [N-COUNT-U9] A **foot** is an imperial unit of length equal to 12 inches or about 0.30 meters. stopa (30,48 cm)

**force** [N-COUNT-U11] A **force** is an influence that causes something to move or occur. siła

**fraction** [N-COUNT-U13] A **fraction** is a part of a whole number, such as ½, or one half. ułamek

**fulcrum** [N-COUNT-U15] A **fulcrum** is a pointed support that a lever rests upon. punkt podparcia

**gallon** [N-COUNT-U10] A **gallon** is an imperial unit of volume equal to 128 fluid ounces or about 3.78 liters. galon (3,78 l)

**gear** [N-COUNT-U4] A **gear** is a rotating machine component that transmits torque by meshing its teeth with the teeth of another component. koło zębate

**gear shaper** [N-COUNT-U7] A **gear shaper** is a machine tool that is used for cutting the teeth of gears. frezarka do kół zębatych

**gram** [N-COUNT-U9] A **gram** is a metric unit of weight equal to $\frac{1}{1000}$ kilogram or about 0.035 ounces. gram

**groove** [N-COUNT-U5] A **groove** is a long, narrow indentation. rowek

**hacksaw** [N-COUNT-U6] A **hacksaw** is a saw with a narrow, fine-toothed blade. piłka

**hardware** [N-UNCOUNT-U1] **Hardware** is machinery or physical and mechanical components. sprzęt, osprzęt

**helical gear** [N-COUNT-U4] A **helical gear** is a gear with teeth set at an angle in a spiral or helix pattern. koło zębate śrubowe, koło zębate walcowe skośne

**honing machine** [N-COUNT-U7] A **honing machine** is a machine tool that is used to create a smooth surface on metal. gładziarka

**-hundred** [N-COUNT-U8] **-Hundred** is a way of expressing numbers in the thousands by counting how many times 100 goes into the number. For example, the number 1,400 could be expressed as "fourteen hundred." setki

**hundredth** [N-COUNT-U12] A **hundredth** is a quantity that is equal to one divided by one hundred, and is expressed in the second place after a decimal point. setna

**imperial** [ADJ-U9] If a measurement is **imperial**, it uses the system that is based on the ounce and the foot. (o systemie miar i wag) angielski

**improper fraction** [N-COUNT-U13] An **improper fraction** is a quantity that is greater than one and is expressed strictly as a fraction. ułamek niewłaściwy

**improve** [V-T-U1] To **improve** something is to make it better. ulepszać, polepszać

**inclined plane** [N-COUNT-U15] An **inclined plane** is a smooth surface with one end that is higher than the other. równia pochyła

**inner race** [N-COUNT-U2] An **inner race** is a metal cylinder that rotates with the shaft of a rolling contact bearing. pierścień wewnętrzny łożyska

**input shaft** [N-COUNT-U3] An **input shaft** is a shaft that receives power directly from a power source. wał wejściowy

# Glossary

**joule** [N-COUNT-U11] A **joule** is a derived unit that measures work or energy, and is equal to the energy required to apply one newton of force through the distance of one meter. dżul

**journal bearing** [N-COUNT-U2] A **journal bearing** is a type of bearing in which the shaft is suspended on a thin layer of fluid inside a sleeve. łożysko poprzeczne

**kelvin** [N-COUNT-U11] A **kelvin** is a unit of temperature that is part of the Kelvin scale, in which 0° is absolute zero and water freezes at 273.15°. kelwin (jednostka temperatury)

**kilogram** [N-COUNT-U9] A **kilogram** is a metric unit of weight equal to 1000 grams or about 2.2 pounds. kilogram

**lathe** [N-COUNT-U7] A **lathe** is a machine tool that rotates a piece of wood, metal, or other material to shape it. tokarka

**lead screw** [N-COUNT-U7] A **lead screw** is a screw with horizontal metal threads along a vertical body, which converts a rotating motion into the straight-line motion of a work surface. gwint pociągowy, śruba pociągowa (tokarki)

**legend** [N-COUNT-U14] A **legend** is a section on a graph or chart that provides information about its features and symbols. legenda, objaśnienie znaków (na mapie)

**length** [N-UNCOUNT-U9] **Length** is a measure of the distance from one end of something to the other end. długość

**lever** [N-COUNT-U15] A **lever** is a bar that rests on a fulcrum. dźwignia

**leverage** [N-UNCOUNT-U15] **Leverage** is the power that is produced by using a lever. przełożenie dźwigni

**line graph** [N-COUNT-U14] A **line graph** is a graph that displays data as a series of points connected by lines. wykres liniowy

**link** [N-COUNT-U5] A **link** is an individual segment of chain. ogniwo

**liter** [N-COUNT-U10] A **liter** is a metric unit of volume equal to 1000 milliliters or about 33.8 fluid ounces. litr

**load** [N-COUNT-U15] A **load** is a particular amount of weight that someone or something supports or carries. ładunek

**machine tool** [N-COUNT-U7] A **machine tool** is a power tool that is used for cutting or shaping metal, wood, or other materials. obrabiarka

**manufacture** [V-T-U1] To **manufacture** something is to build it in a factory, usually on a large scale. produkować, wytwarzać

**mass** [N-UNCOUNT-U11] **Mass** is the amount of material that something contains. masa

**mechanical engineer** [N-COUNT-U1] A **mechanical engineer** is a person who studies and works with the physics and material applications of tools and machines. inżynier mechanik

**mesh** [V-I-U4] To **mesh** is to come together and interlock. zazębiać się

**meter** [N-COUNT-U9] A **meter** is a metric unit of length or distance equal to 100 centimeters or about 3.28 feet. metr

**metric** [ADJ-U9] If a measurement is **metric**, it uses the system that is based on the gram and the meter. miarowy, metryczny (np. system miar)

**mill** [N-COUNT-U7] A **mill** is a machine tool that is used to make surfaces flat, or to add grooves, holes, or slots. frezarka

**milliliter** [N-COUNT-U10] A **milliliter**, also called a cubic centimeter, is a metric unit of volume equal to 1/1000 liter or about 0.03 fluid ounces. mililitr

**minus** [PREP-U8] If a number is **minus** another number, the second number is subtracted or taken away from the first number. odjąć

**mixed number** [N-COUNT-U13] A **mixed number** is a quantity that is shown as a whole number and a fraction, with the fraction representing a value less than one. liczba mieszana

**multiply by** [V PHRASE-U8] To **multiply** a number (A) **by** another number (B) is to add number A to itself B number of times. pomnożyć przez

**newton** [N-COUNT-U11] A **newton** is a derived unit that measures force, and is equal to the amount of force required to accelerate one kilogram of matter at one meter per second squared. niuton, N (jednostka siły)

**offset** [N-UNCOUNT-U3] **Offset** is a condition in which two objects are not in alignment with each other. przesunięcie

**ounce** [N-COUNT-U9] An **ounce** is an imperial unit of weight equal to 1/16 pound or about 28.35 grams. uncja

**out of** [ADV-U13] If a quantity is x **out of** y, it has x parts per every y parts possible. spośród, z

**outer race** [N-COUNT-U2] The **outer race** of a rolling contact bearing is a metal cylinder that remains stationary while the shaft rotates. pierścień zewnętrzy łożyska

**output shaft** [N-COUNT-U3] An **output shaft** is a shaft that transfers power to its destination in order to perform useful work. wał zdawczy

**over** [PREP-U8] If a number is **over** another number, it is divided by that number. przez (np. liczba A dzielona przez liczbę B)

**pascal** [N-COUNT-U11] A **pascal** is a derived unit that measures pressure, and is equal to one newton per square meter. paskal, Pa (jednostka ciśnienia)

**percent** [N-COUNT-U13] A **percent** is a part of 100 that is usually represented by the "%" symbol. procent

**Phillips screwdriver** [N-COUNT-U6] A **Phillips screwdriver** is a tool for twisting screws that has a tip shaped like a cross. śrobokręt krzyżowy, wkrętak krzyżowy

**pie chart** [N-COUNT-U14] A **pie chart** is a visual way to represent fractions and percentages in which a circle is divided into proportional parts, similar to slices in a pie. diagram kołowy

**pinion** [N-COUNT-U4] A **pinion** is the driving gear of a gearset, and is usually smaller than the driven gear. mniejsze koło zębate

**pliers** [N-PL-U6] **Pliers** are a set of two pincers that are used for gripping objects or bending wire. szczypce, obcęgi

**plus** [PREP-U8] If a number is **plus** another number, the two numbers are added together. dodać

**point** [N-COUNT-U13] A **point** is a dot placed after a whole unit in a decimal number. kropka, przecinek

**pound** [N-COUNT-U9] A **pound** is an imperial unit of weight equal to 16 ounces or about 0.45 kilograms. funt (454 gramy)

**power transmission** [N-UNCOUNT-U1] **Power transmission** is the transfer of energy from one area to another in order to perform work. transmisja mocy, przesył energii

**pulley** [N-COUNT-U15] A **pulley** is a machine component that uses a wheel and a rope. koło pasowe

**quantity** [N-COUNT-U13] A **quantity** is an amount or numerical value. ilość, wielkość, wartość (liczbowa)

**rack** [N-COUNT-U4] A **rack** is a bar with gear teeth that a pinion moves along, converting rotational motion into linear motion. listwa zębata

**radial** [ADJ-U2] If something is **radial**, it is related to movement across or perpendicular to the axis of something. promieniowy, radialny

**reduce** [V-T-U13] To **reduce** a fraction is to change it into the form with the lowest possible whole numbers. skrócić (np. ułamek)

**rigid** [ADJ-U3] If something is **rigid**, it is stiff and cannot bend without breaking. sztywny, twardy

**rolling contact bearing** [N-COUNT-U2] A **rolling contact bearing** is a type of bearing that uses spherical or cylindrical rolling parts to bear weight and direct the motion of the shaft. łożysko toczne

**rounding error** [N-COUNT-U12] A **rounding error** is an inaccuracy that results from reducing the length of a decimal number, usually because of convenience or available space. błąd zaokrąglenia

**row** [N-COUNT-U14] A **row** is a group of boxes that extends from the left to the right of a table. wiersz (rząd czegoś)

**scatter plot** [N-COUNT-U14] A scatter **plot** is a graph that displays data as a series of unconnected points. wykres rozrzutu (punktowy)

**scientific notation** [N-UNCOUNT-U12] **Scientific notation** is a way of expressing very large or very small quantities, which always shows a quantity multiplied by ten raised to an exponent. For example, 3,000,000 in scientific notation is $3 \times 10^6$. rotacja naukowa, rotacja wykładnicza (sposób przedstawiania liczby rzeczywistej)

**sheave** [N-COUNT-U5] A **sheave** is a grooved pulley designed to work with a v-belt. wielokrążek

**SI (International System)** [ABBREV-U11] The **SI**, or **International System of Units**, is a widely used system of measurement that uses the same prefixes as the metric system. międzynarodowy układ jednostek miar

**significant figure** [N-COUNT-U12] A **significant figure** is a digit that identifies a quantity's level of precision, and includes all digits except for leading zeros, some trailing zeros, and digits exceeding those of the original quantity. cyfry znaczące, cyfry wartościowe

**simple machine** [N-COUNT-U15] A **simple machine** is a basic machine with few moving parts. maszyna prosta

**sledge hammer** [N-COUNT-U6] A **sledge hammer** is a large and heavy hammer. młot dwuręczny

**sleeve** [N-COUNT-U2] A **sleeve** is a metal tube through which a shaft moves. tuleja

# Glossary

**sleeve-style coupling** [N-COUNT-U3] A **sleeve-style coupling** is a rigid coupling in which two shafts meet inside a single tube. sprzęg tulejowy

**slippage** [N-UNCOUNT-U5] **Slippage** is the gradual movement of an object away from a particular position. spadek (stopniowe przemieszczanie się obiektu)

**slotted screwdriver** [N-COUNT-U6] A **slotted screwdriver** is a tool for twisting screws that has a straight and narrow tip. śrubokręt płaski

**socket wrench** [N-COUNT-U6] A **socket wrench** is a wrench with multiple detachable sockets. klucz nasadowy

**specialize in** [V-T-U1] To **specialize in** a particular field is to have more detailed knowledge and skills in that area than any other area. specjalizować się (w konkretnej dziedzinie)

**spur gear** [N-COUNT-U4] A **spur gear** is a type of gear in which the teeth protrude around the edge of a cylinder, and the faces of the gear teeth are parallel to the axis of rotation. przekładnia zębata czołowa

**squared** [ADJ-U12] If a number is **squared**, it has an exponent of 2. For instance, 3 squared ($3^2$) equals 9, or $3 \times 3 = 9$. do potęgi drugiej, do kwadratu

**straight roller bearing** [N-COUNT-U2] A **straight roller bearing** is a rolling contact bearing that uses cylindrical rollers to direct motion. proste łożysko wałeczkowe

**subtract** [V-T-U8] To **subtract** one number from another number is to reduce it by that amount. odejmować

**synchronous rotation** [N-UNCOUNT-U5] **Synchronous rotation** is a state in which a system's input and output shafts rotate in perfect time with each other. obrót synchroniczny

**table** [N-COUNT-U14] A **table** is a set of information that is organized into boxes. tabela

**tapered roller bearing** [N-COUNT-U2] A **tapered roller bearing** is a rolling contact bearing that uses uniform cone-shaped rollers to direct motion. łożysko stożkowe

**temperature** [N-UNCOUNT-U10] **Temperature** is a measure of how hot or cold something is. temperatura

**tenth** [N-COUNT-U12] A **tenth** is a quantity that is equal to one divided by ten, and is expressed in the first place after a decimal point. dziesiąta (jedna z dziesięciu części czegoś)

**test** [V-T-U1] To **test** machinery is to observe its operations to determine whether it functions properly. testować (np. maszynę)

**thousandth** [N-COUNT-U12] A **thousandth** is a quantity that is equal to one divided by one thousand, and is expressed in the third place after a decimal point. tysięczna

**thrust roller bearing** [N-COUNT-U2] A **thrust roller bearing** is a rolling contact bearing that uses barrel-shaped rollers to direct motion. łożysko wałeczkowe wzdłużne

**times** [PREP-U8] If a number is **times** another number, it is multiplied by that number. razy, pomnożone przez

**timing belt** [N-COUNT-U5] A **timing belt** is a belt with teeth that ensures that machine parts move at regular time intervals. pasek rozrządu, łańcuch rozrządu

**to the nth power** [ADV PHRASE-U12] If a number is raised **to the nth power**, it has an exponent of "n," or is multiplied by itself "n" number of times. For example, 2 raised to the 5th power equals $2^5$. do n-tej potęgi

**tooth** [N-COUNT-U4] A **tooth** is a protrusion that is cut into a gear and fits together with other teeth in order to transmit torque. ząb (w kole zębatym)

**trailing zero** [N-COUNT-U12] A **trailing zero** is a zero that is used to occupy unused places after a decimal point, and serves as a placeholder rather than an actual value. zero końcowe

**transmit** [V-T-U3] To **transmit** energy is to move it from one place to another. przekazywać (energię)

**v-belt** [N-COUNT-U5] A **v-belt** is a type of drive belt that is wider along one edge than the other, and is made from a reinforced synthetic rubber to increase friction. pasek klinowy

**vice** [N-COUNT-U6] A **vice** is a metal tool used to hold an object firmly in place. imadło

**volume** [N-UNCOUNT-U10] **Volume** is a measure of the amount of space that something occupies. objętość

**wedge** [N-COUNT-U15] A **wedge** is an object that becomes very narrow along one edge. klin

**wedge angle** [N-COUNT-U5] A **wedge angle** is a measurement of the sheave angle of a v-belt, and is used to determine the strength of the belt system. kąt ostrza

**weight** [N-UNCOUNT-U9] **Weight** is a measure of how heavy something is. waga, ciężar

**wheel** [N-COUNT-U15] A **wheel** is a circular object that is used to produce smooth, steady movements. koło

**whole number** [N-COUNT-U13] A **whole number** is a positive quantity that represents a complete unit, which does not contain fractions or figures after the decimal point. liczba całkowita dodatnia

**worm** [N-COUNT-U4] A **worm** is a cylindrical, screw-like machine part with one tooth that wraps helically around it. ślimak (wirnik śrubowy)

**worm gear** [N-COUNT-U4] A **worm gear** is a gear designed to pair with a worm. przekładnia ślimakowa

**x-axis** [N-SING-U14] The **x-axis**, or horizontal axis, is the line that extends from the left to the right of a graph. oś odciętych, oś x (w układzie współrzędnych)

**y-axis** [N-SING-U14] The **y-axis**, or vertical axis, is the line that extends from the top to the bottom of a graph. oś rzędnych, oś y (w układzie współrzędnych)