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Koh Kock Leong Enterprise Pte Ltd has one of the largest selections of excavators for rent in Singapore. Excavators are considered one of the essential equipment in construction and earthworks. They are mainly used for digging and moving loose materials. However, they can be used for other purposes such as hammering, grappling, thumbing, pulverizing, drilling, sawing, flail mowing, and ripping with the proper attachment and configurations.There are various types of excavators, and they can come in different sizes.Excavators can generally be categorized into five types: The most common type of excavator and is mainly used for mining, landscape grading, and trench digging. They are called a crawler excavator because it runs on two rotating tracks instead of wheels. Crawler excavators are the ideal type of excavator for steep, rough, and muddy terrains. As the name suggests, this excavator runs on wheels instead of tracks. Wheeled excavators can be used for digging, demolition work, moving barriers, cleaning ditches, mowing, cutting asphalt, and grinding tress like crawler excavators. Although they are fast, Wheeled excavators are only operable on hard and flat surfaces. These are crawler excavators with lengthy arms and boom. The arms are extendable from 40 to 100 feet which is ideal for jobs that are only accessible from a distance. They are commonly used for demolition projects over a lake or river. The drag-line excavator is larger than the standard excavator. It also operates differently. Instead of using hydraulics, it uses a hoist rope system and a dragline to raise or lower the bucket or attachment. Drag-line excavators are commonly used for deep pile driving, harbor construction, surface mining, deep excavation, and underwater operations. They can reach depths of up to 213 feet or more.When it comes to sizes, excavators can be classified into 4 classes:Mini or Compact ExcavatorThese are the smallest of the four classes. Mini excavators generally weigh less than 6 tons and are ideal for small spaces and indoor works. They are commonly used for projects that do not require the size and power of larger machines. Midi excavators generally weigh between 6 to 10 tons. They offer more power compared to mini excavators in small spaces. Midis can also be used for more standard projects like construction and earthworks. They have excellent maneuverability thanks to its size. Standard excavators generally weigh between 10 to 45 tons. They are the most popular class of excavators and are commonly used in commercial construction. Standard excavators not only offer more power and reach compared to the mini and midi class, but their hydraulic systems enable them to handle multiple tool attachments. Large excavators are the largest among the classes and weigh more 45 tons and above. They are necessary for massive construction and demolition works and require oversized trucks to transport them to and from the worksite.List of the typical hydraulic attachments available for standard excavators: Contact Us at +65 6287 5252 An excavator is a piece of heavy construction equipment for a wide range of jobs like excavation, trenching, digging, lifting, or truck loading. Its outstanding durability and simple operation make excavators one of the most popular construction equipment. Excavators fall under the earthmoving vehicle category and consist of a boom, bucket, dipper (arm), rotating cab, and movable tracks. They usually work using a hydraulic mechanism. In this article, we will learn about the types and working of excavators used in the construction industry.Industrial excavators are used in a variety of contractor and industrial needs, including road construction, building construction, mining, and demolitions. Some of the common applications of excavators areDigging of trenches, holes, foundations, ditches, and underground excavation.Brush cuttingMaterial HandlingForestry workRiver dredgingForestry mulchingDemolition with hydraulic claw, cutter, and breaker attachmentsMining, especially, but not only open-pit miningAircraft recyclingHydro excavation to access fragile underground infrastructure using high-pressure waterDriving pilesRemoving snow using snowplow and snow blower attachmentsDrilling shafts for footings and rock blasting using hydraulic drill attachmentsDebris removal, etcTo perform its function smoothly excavators have various parts that can be broken down into three distinct sections; the undercarriage, cab, and arm/boom. The main components in each section are listed below.Undercarriage: The bottom section of an excavator is known as the undercarriage and it houses various moving parts like excavator tracks, track frames, track pads, track chains, track shoes, track bolts, rock guards, sprockets, rollers, idlers, etc.Cab: Cab is the main control element of an excavator. It consists of the parts like main control, ROPS (rollover protective structure), counterweight, engine, hydraulic fluid tank, and main control valve. The control mechanism varies from model to model.READ H-beam vs I-beam: Major Differences | H-beam and I-beam Size ChartArm/Boom: This is the digging mechanism of the excavator where the arm and boom work together to perform the earthmoving work. The main elements are boom, arm, bucket, cylinders, and several attachments (Brush cutters and mowers, Rotators for the bucket, Stump cutters, Augers, Boom extensions, Grading buckets, Breakers and hammers, Pipelayers, Tree shears, etc).There are a wide variety of excavator types with their own advantages and disadvantages. The most common type of excavators that are widely used worldwide are:Crawler ExcavatorsWheeled ExcavatorsDragline ExcavatorsSuction ExcavatorsSkid Steer ExcavatorsLong Reach ExcavatorsMini ExcavatorsCrawler excavators are also known as track excavators, compact excavators, general purpose excavators, or standard excavators. They run on two large tracks and are widely found in heavy-duty construction jobs and the mining industry. The chain wheel system of this type of excavator allows them to slide over uneven surfaces easily with very less risk. They are found in various sizes.As these types of excavators run on wheels they are known as wheeled excavators. The main advantage of wheeled excavators is that they can easily be moved from one job site to another. They are similar to crawler excavators in appearance and size except for the tracks. This excavator type is mostly found for city projects.Dragline excavator uses a hoist rope and dragline system for road excavation, pipe driving, or clearing underwater earth. They dont have the usual arm and boom and are usually larger than other types of excavators. Widely used for deep digging, dragline excavators are generally assembled at the site. During operation, the hoist rope lowers and raises the bucket. They are generally used for large-scale civil engineering projects.READ What is Case Hardening | Case Hardening of SteelSuction excavators are also known as vacuum excavators. They have a suction pipe with sharp teeth and can provide up to 400 horsepower. This type of excavator is suitable for delicate underground applications and works by creating a high-pressure vacuum to carry away the dirt, soil, and debris.In a skid steer excavator, the boom and bucket face away from the driver. They are smaller, compact, and suitable for narrow and tricky areas and thus find wide application in residential projects. They are equipped with wheels for easy movement.From the name, it is quite clear that this type of excavator has a lengthier arm and boom sections. Suitable for reaching hard-to-reach locations, a long-reach excavators arm can extend over 100 feet horizontally. They are difficult to operate in small spaces and are generally used for demolition projects and heavy-duty site digging activities.Mini excavators are a smaller and lighter version of standard excavators. They can easily fit into tight spaces and this is the reason they are widely used to handle smaller loads. Having reduced tail-swing, mini excavators can work indoors and on job sites requiring delicate work.Depending on the weight of the equipment, excavators can be categorized into the following three types:Standard Excavators: Used widely for bulk earthmoving and heavy lifting operations, standard excavators usually weigh between 22,046 to 200,000 pounds.Midi Excavators: Used widely for confined areas, midi excavators are more powerful than mini excavators and weigh between 13,227 to 22,046 pounds.Mini Excavators: Smaller in size but versatile and widely used in tight job spaces, mini excavators weigh less than 13,227 pounds.READ What is an Oxidation-Reduction Potential (ORP)? How is it Measured?The selection of an excavator for a specific job mainly depends on the following three factors as mentioned below:Type of job to be performed.Size/Capacity requiredEnvironmentThere are many companies that manufacture a wide variety of excavator models. The most common excavator manufacturers are:CaterpillarVolvoKomatsuJohn DeereHitachiSumitomoDoosanTerex CorporationJCBL&TMahindraHyundai Heavy IndustriesSandvikThe main differences between an excavator and a bulldozer areExcavatorBulldozerExcavators are heavier and largerBulldozers are comparatively smaller.The pushing power of excavators is comparatively less.The pushing power of bulldozers is more than excavators.Excavators allow the user to manage the work from one location.Bulldozers need to be moved for their operation.The main function of an excavator is excavating, digging, material handling, and demolishing.The main function of a bulldozer is surface leveling, site clearing, etc.They can work on plain and hilly terrains.Mostly suitable for plain areas.Excavator vs BulldozerDigger and excavator mean the same equipment and thus there is no difference between a digger and an excavator. In general, digger is a laymans term whereas an excavator is an industry term.There are different types of equipment used in construction and industrial applications. Each one has a unique function that allows professionals to complete their tasks efficiently and safely. One of the most common machines you will find on a worksite is an excavator. The excavator has different uses in construction, making it a valuable piece of machinery for various projects.If you are a builder, developer, or property owner who has a construction or industrial project, you probably need to buy or rent an excavator. However, before you do so, its best to learn more about this machine and find the right type of excavator for your project.What is an Excavator? An excavator is a type of heavy equipment typically used for a variety of earthmoving tasks. Also called a digger, it is equipped with a bucket, arm, rotating cab, and tracks that provide it the mobility and power it needs to complete several functions on the worksite.What is an Excavator Used For? In the most general sense, an excavator is most commonly used for transporting different loads, such as soil and gravel, for the ease of a construction or building operation. While smaller excavators may be limited to this transportation function, larger and more powerful excavator types have a wider range of applications, especially in large-scale projects, such as mining or foundation setting.To learn more about how you can utilize an excavator for your project, we have listed the different functionalities of the machine. Continue reading to discover how useful an excavator truly is.Excavation and Earthmoving When one thinks of excavator uses in construction, the most common function that comes to mind is excavation and earthmoving tasks. Like any masterpiece, a construction project requires a smooth, blank canvas that is free from debris like rocks and loose soil. Depending on the scale of your project, there are a number of different excavator types that you can choose from based on your needs, budget, and project scale.DemolitionEven for many professionals in the construction industry, excavators may not be the first piece of heavy-duty equipment that come to mind when you think about a demolition job. Wrecking balls are often the more likely solution for a demolition job, but that does not mean that they are the only tool for the job. Some excavators are more than able to accomplish your demolition task, while still being fit for other deliverables on your project timeline. So, for better efficiency, kill two birds with one stone with an excavator rental in the Philippines that can tear down a building and lay the foundation for the next.Mining and Pipe-Laying With a degree of subterranean activity, mining and pipe-laying require powerful excavator types that can survive the constant pulling of heavy loads, as well as a steady hoist and drop hydraulic or electric motor system that can safely transport heavy pipes or mining finds. Excavator types that can fulfill this task category are usually armed with elongated, barebones booms that can withstand the constant horizontal and vertical load pulling required of these tasks.Roadworks From skyways and highways to bridges and tunnel roads, the infrastructure that goes into our roadwork would not be possible if not for the power and efficiency that excavators can bring to a project. By utilizing excavators for a roadwork job, you are able to create strong foundations for roads that can bear the weight of vehicles and loads and withstand the elements.ConstructionWhether residential or commercial, excavator equipment is a must for any construction project. The ability to dig deep trenches for multi-story buildings is a must for durable and long-lasting foundations. Furthermore, the flexibility that excavators afford for heavy lifting materials is a vital addition for compact work sites that require mobility when transporting items around the project.Excavator Sizes Excavators come in different sizes to accommodate the needs of different projects. Whether youre using this piece of rental heavy-duty equipment to complete your backyard landscaping or commercial construction project, you can find the right excavator size that suits your needs.There are three main excavator sizes you should learn about. These size classes were specified based on the weight of the machine.Mini Excavator The smallest excavator size you can find is the mini excavator. This type of excavator weighs no more than seven metric tons and is often referred to as a compact excavator.Because of its size, the mini excavator is often used for projects that have to deal with tight worksites. It also offers great precision, allowing operators to work around pipes or gas lines that may be underground the worksite.Additionally, the mini excavator is preferred for smaller projects because it can be used on soft terrain and completed sites without damaging or tearing up the ground. However, it is not as powerful as its larger counterparts and may not provide the necessary power needed for larger projects.Standard Excavator Weighing between seven and 45 metric tons, the standard excavator is one of the most common types offered by excavator brands. This excavator size is often used in a variety of construction projects because it provides the necessary power and hauling capacity.Although the standard excavator is bigger than the mini excavator, it can still be easy to maneuver on smaller worksites. However, because of its size and weight, a standard excavator may cause damage when used over pavements, roads, and soft terrain. It may also be difficult to transport standard excavators. You need to load them on a transport truck before bringing them to the worksite because they cannot be driven over roads.Large Excavator The largest excavator size you will find in the market weigh more than 45 metric tons and is often used for heavy-duty jobs. Because of their size, large excavators can offer the power and hauling capacity necessary to complete large projects like large-scale demolition and major commercial construction.Large excavators are utilized in digging foundations for large infrastructures, such as apartment complexes, shopping centers, and high-rise buildings. This type of excavator is also useful for handling large volumes of soil when completing earthmoving tasks.Similar to standard excavators, large excavators may be challenging to transport. You have to invest in a large transport truck to be able to bring this piece of equipment to and from different jobsites.Choosing the Right Size of Excavator for Your ProjectWith a variety of excavator sizes to choose from, deciding on the right piece of equipment for your project may be quite challenging. You need to choose an excavator size that suits your projects requirements and boosts your productivity. To help you decide, here are some factors you need to consider when picking an excavator size:Worksite LayoutDetermine the layout of your projects worksite and see if there are any tight spaces that you need to access or obstacles you must avoid. If you do, you might have to choose a compact excavator, which will allow you to maneuver small spaces and obstacles easily.On the other hand, if you have enough space on your worksite, you can choose a standard or large excavator without any problems. You only need to be mindful of obstacles that may appear as the project progresses.Terrain The weight of the excavator can determine the type of terrain it can be used on. If youre working on soft terrain or a finished site, you might need to avoid using standard or large excavators. These excavator sizes are too heavy and can cause damage to the ground.Instead, you should use a mini excavator, which is safe to use on these types of terrain. It is light enough not to damage the ground but can still provide you with the functionalities you need from an excavator.Project Specifications Another thing you need to consider when choosing an excavator is the requirements of your project. You need to make sure that the excavator size you pick will allow you to meet the project specifications when it comes to the following:Dig depthReachLift heightLoad capacityLoad weightTransportation and StorageYou need to be prepared with the transportation and storage of the excavator youll be renting or buying for your project. Transporting and storing large and standard excavators may be expensive and might need special permits.If you dont have the extra budget to pay for storage space and a large transport trailer, you might have to choose a mini excavator. This excavator size wont give you any trouble when it comes to storage and will only need a small transport truck, which is more cost-efficient.Types of Excavators Aside from being categorized by size, excavators can also be classified based on their specific functionalities. Some of the most common excavator types used in various projects are the following:Crawler Excavators As the model that typically comes to mind when one thinks of excavators, tracked or crawler excavators are excellent because of their powerful excavation capability and their availability in several sizes. Smaller, more compact models of crawlers are available for rent and out on the market for projects with less ground to cover. When comparing tracked vs. wheeled excavators, the former makes for more excellent maneuverability even in difficult terrain due to their infinite tracks and the secure operator cab design.Purchase or Rent This If: You want a type of excavator that is dependable and powerful enough to survive different working conditions while fulfilling a number of basic tasks outside of just excavation, such as load lifting.Long-Reach Excavators Built with a significantly longer boom and stick, long-reach excavators are an excellent multi-purpose type of excavator that can tear down tall buildings and old roadways while having the capacity to dig deep, underground trenches and holes for subterranean construction or mining operations. Long-reach excavators are built with a lengthy arm that makes demolition jobs safer because they can be operated from the cab at a farther distance. Combined with this utility as an excavator type, this makes it an excellent choice for large, multi-story projects that require either demolition or foundation construction.Purchase or Rent This If: You are working with high-rise developments that require plenty of range during operation with demolition and construction or intensive underground digging that reaches deep into the earth.Dragline Excavator Dragline excavators can rely on their long booms for subterranean activities like surface mining, road work, and pipe laying. Moreover, these booms are usually powered by electric motors for added dragging or hoisting capabilities. While most excavators rely on their heavy buckets to accomplish heavy-duty lifting on the surface, dragline excavators rely on their pulling ability to hoist heavy debris like stone and soil out of the ground. Furthermore, they are also expected to have the same boom power for carrying heavy materials for pipe laying to create durable sewage and water systems for long-term use.Purchase or Rent This If: You expect to use your excavator for accomplishing plenty of subterranean work in a large-scale project that involves pulling loads into or out of underground worksites.Types of Excavator Attachments Excavators already offer a lot of functionalities on their own, but different attachments can make excavators more versatile pieces of equipment. Here are a few excavator attachments that are typically used by professionals:Buckets: This is the most common attachment used in an excavator. You can choose from different types of bucket attachments, such as slim, wide, and smooth.Thumbs: Designed to make handling materials easier, a thumb attachment can improve the functionality of your excavators bucket. It can also make gripping bulky and large pieces much easier.Augers: With an auger, digging tasks can be completed quickly and more efficiently. This is why this attachment is often used for digging holes for fence posts, building supports, and foliage.Hammers: A hammer attachment can effectively break up pavement and other tough surfaces, which is essential in demolition projects.Rippers: This is another attachment that can be used in demolition projects. Rippers can easily smash the solid ground and demolish buildings.We hope that this guide to excavator types, sizes, attachments, and the tasks that they can perform will help you narrow down the excavator models that you would like to rent or purchase for your project. If you are still unsure about which model best suits your needs, feel free to reach out to us over at Hastings Motors for our best recommendation and quote. Contact us to find out more about excavator rental in Singapore. CAT345GC (45ton)Outstanding performance. Excellent control,high stick and bucket forces, impressive lift capacity, simplified service and a comfortable operator station. The CAT345GC increases your productivity and lower operating costs. Available Attachments Bucket Sheet Pile Driver CAT336DL/D2L (37ton)The rugged main frame is built to perform in the toughest applications. Engineered with power to move more dirt, rock, and debris with speed and precision. The CAT336D2/D2L gets the job done. Available Attachments Bucket Super Long Reach Auger Drill Sheet Pile Driver CAT320D (21ton)The CAT320D incorporates innovations for improved performance and versatility. High efficiency and performance with low effort and precise control. Available Attachments Bucket Breaker Super Long Reach Grapple Pulverizer CAT312D/D2 (13ton)Achieve high productivity and lower operating costs with the CAT312D2/D2L hydraulic excavator. Unmatched versatility, improved controllability and easy operation makes this unit an industry leading performer. Available Attachments Bucket Breaker Grapple Pulverizer CAT307D (7ton)The CAT307D hydraulic excavator delivers superior performance and comfort while reducing your operating costs. It sets the standard for conventional excavators in the seven to eight-ton size class. Available Attachments Bucket Breaker ZX55U / VIO50 (5.5ton)The ZX55U / VIO50 offers a robust compact radius design with excellent performance and stability. Available Attachments Bucket Breaker ZX38U (3.8ton)We also provide mini excavator rental in Singapore. Compact in design, durable and versatile, the ZX38U is excellent for working in tight spaces. Available Attachments Bucket Breaker

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