



COUPLER AND TOOL RANGE **S+**

ACB+

Attachments | Couplers | Buckets



Why choose ACB+ for your attachments?



A firm belief in our products offering efficient and robust attachments to boost your productivity.



Easy-to-use products ensuring the safety and comfort of operators.



A comprehensive and customised range of innovative and patented products.



Individual support from our 100% France-based team.



Responsive customer service with next-day spare parts delivery to your dealer before noon.

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OUR DNA

OPT FOR PEACE OF MIND
WITH MORE THAN 150,000
MACHINES ALREADY
EQUIPPED!

French expertise to improve the performance of your machines

Since 1963, ACB+ has held a strong conviction: **to transform every machine into a high-performance, reliable and versatile tool holder.** This vision guides every decision we make, from design to production, and shapes our unique role with public works, earthmoving, landscape, recycling, forestry and quarrying professionals.

We have always chosen to develop solutions that amplify the capabilities of machines rather than limiting them. This approach, with a focus on perfect compatibility and efficiency on a daily basis, has built our reputation. More

than **150,000 machines equipped** today are a testament to the depth of our expertise and the relevance of our technical choices.

Located in the heart of Beaujolais and the Loire Valley, we design and manufacture **95% of our products in France.** Our manufacturing sites bring together valuable technical know-how, advanced design resources and exacting manufacturing processes. Every coupler, every tool and every locking system is a product of this requirement: **respect the machine, respect its user, and enhance performance in the field.**

This conviction has not changed in over 60 years. It guides our innovation, inspires our teams and structures our partnership with manufacturers, dealers and leasing companies. **Our mission is simple: to make your machine a versatile tool holder that can meet all the requirements of the worksite.** With our couplers

and our complete range of tools, you gain agility, speed and efficiency.

Change tools in the blink of an eye. Work better, faster.



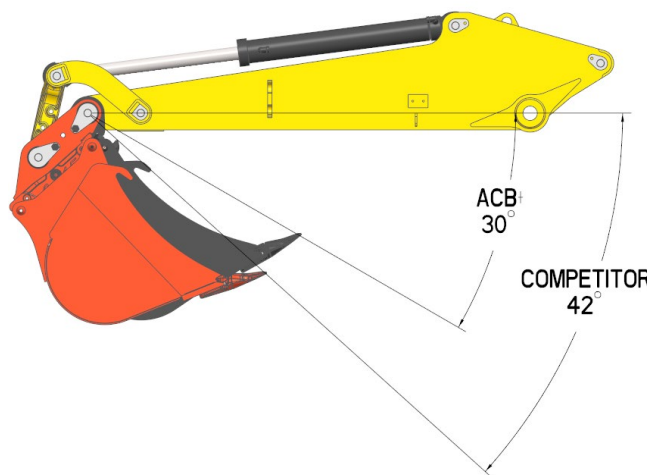
OUR KNOW-HOW

Engineering for performance

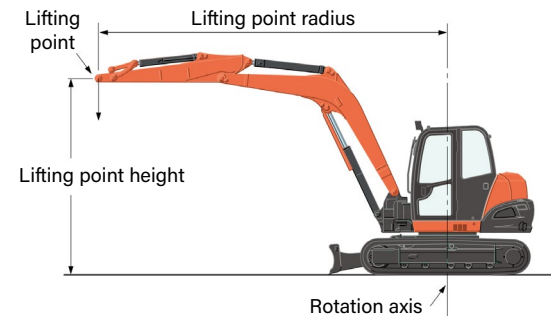
Strict adherence to load charts: working safely and confidently

A coupler transforms how your machine is equipped and how it behaves. **Its own weight, as well as the variety of tools it lets you connect**, are factors to be considered to ensure compliant and safe use. That is why **ACB+ integrates all this data into the design**: our teams optimise each product to offer **an excellent weight / performance ratio**, limiting the reduction in initial lifting capacities.

We are also **here to help you determine the most suitable tools**, in accordance with the load charts for your application. Strict compliance with these characteristics is **the guarantee of safe work**, ensuring both the stability of the machine and the safety of the operator.



**KINEMATICS CONTROL IS THE OPTIMISATION OF TOOL
OPENING/CLOSING ANGLES AND TRAVEL**



Absolute respect for machine kinematics

Each excavator has its own kinematics, and ACB+ strives to respect this in every way, to **preserve 100% of the original performance**. No coupler is standardised: **each one is subject to a dedicated design analysis**, optimising the position of the axes, the connecting rod and the dipperstick for each machine model. Our engineers work **closely with the manufacturers' design offices** to guarantee the geometric amplitudes, angles and forces defined by the brand.

Thanks to this **detailed design** — specific design, fitted geometry, perfectly adapted connection — **your machine retains all its precision, strength, agility and speed of execution**.

Respect for the original kinematics is the guarantee of an accurate, agile, efficient and safe machine.

**BUILT TO LAST. DESIGNED
TO PERFORM.**



Clearance compensation: an always perfect connection

In any mechanical system, operating clearances are a source of wear, inaccuracy and, ultimately, damage. To eliminate this risk, **all ACB+ couplers are equipped with a locking mechanism incorporating automatic clearance adjustment.** Thus, **the tool always remains perfectly connected to the coupler, without any play,** regardless of standard wear conditions.

This performance is the result of long-term work: **all ACB+ locking systems have been the subject of extensive research and development,** carried out with a constant requirement for robustness and precision.

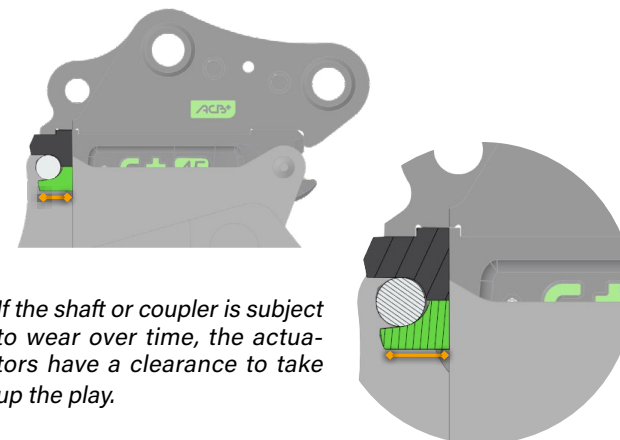
Robust products designed to last

ACB+ designs its products with technical requirements at the forefront. Our design office uses **3D CAD combined with advanced technical management,** complemented **by finite element simulations** to optimise each part, down to the smallest detail. This engineering approach guarantees a robust, precise design to cope with the actual stresses out in the field.

We choose **premium steels in optimised thicknesses** and integrate a **double bottom as standard** on all our buckets, to increase their service life and their ability to withstand the most demanding environments.

Our mechanisms are **protected by international patents,** proof of the continuous innovation at ACB+.

Thanks to this unique expertise, **the connection quality of our couplers is universally recognised by users,** who appreciate their reliability, silence and durability.



If the shaft or coupler is subject to wear over time, the actuators have a clearance to take up the play.

The same level of rigour is applied to manufacturing: **robotic and controlled welding** ensures constant quality, while **each product is subjected to a complete functional inspection before leaving the factory,** guaranteeing excellent reliability as soon as it is put into service.

The result: **robust tools, exceptional durability and constant reliability** — recognised performance on all worksites.

ACB+ quality means exceptional durability and reliability.

A comprehensive range for all your configurations and worksites

Tailor-made: your need becomes our solution



ACB+ is the recognised specialist for customised products. We design tools **to specifications**, perfectly tailored to your machine, your application and your work environment. Our design office, with its experienced team, uses our entire range to create **the custom tool** that meets your needs: road or public works applications, maintenance of roads and utilities, agriculture, forestry, quarries or tunnels.

Before any production launch, **a realistic 3D sketch of the deliverable tool is submitted to you for approval**, guaranteeing a perfect fit with your expectations. Whatever the complexity of your project or your constraints, **we convert your need into a solution.**



A complete solution to equip your fleet

ACB+ offers **S+ hydraulic couplers up to 30 tons**, available in **fixed, tilting, rotating and tiltrotator** versions, to ensure optimal tool positioning. Compatible with **all machine configurations and your existing tools**, they integrate with a wide range of attachments suitable for all trades. This global offer makes **ACB+ your sole supplier**, with a single point of contact and **perfect compatibility between couplers and tools.**



OUR SAFETY+ COMMITMENT



SOLUTIONS DESIGNED
TO PROTECT. INNOVATIONS
DESIGNED FOR PREVENTION

At ACB+, safety is a fundamental requirement. We are committed to providing maximum protection for every user, by developing products that are simple, reliable and **compliant with the strictest regulations**. Our development department actively participates in the updating of European standards, which allows us to anticipate future requirements and adapt our products upstream. This constant commitment guarantees **full compliance** and contributes directly to improving the working conditions and safety of operators.

Our innovations also reflect this determination. We develop and patent devices specially designed to enhance user safety, such as the **"as soon as possible" securing of the first pin**, which holds the tool on the coupler from the beginning of the locking process and eliminates any risk of unintentional unhitching. We also have a **lock indicator**, which allows you to visually and remotely check that the tool is properly attached. These solutions build trust, reduce risk, and simplify everyday use.

Instructions and manuals

Because safety also requires a good understanding of the equipment, **all our products are supplied with complete technical documentation**, including installation instructions, recommendations for use and maintenance instructions. These documents allow optimal commissioning and safe use.



Warranty

We support our products with solid guarantees, reflecting their quality and reliability. By following the use and maintenance recommendations in the manual, you benefit from a **two-year warranty** on all our couplers — including tilting, rotating and tiltrotator versions — as well as a **one-year warranty** on tools (excluding parts subject to wear).



PRODUCE BETTER TO PRESERVE TOMORROW

A GREENER INDUSTRY. A FAIRER BUSINESS.
A STRONGER COMMITMENT.

ACB+: a responsible and committed industry

Since 2019, ACB+ has been pursuing a structured CSR approach that places the environment, people and ethics at the heart of its development. We favour short circuits to support our territory: currently, **60% of our purchases are regional and 85% are French**, which contributes to boosting the local economy while **reducing our carbon footprint**.

Produce locally & reduce our impact

We have taken many steps to limit our environmental impact. Our sites are now powered by **100% renewable electricity**, and we have implemented **rigorous sorting of all our waste**, including hazardous industrial waste. We carefully monitor our water, gas and electricity con-

sumption and have invested in the energy efficiency of our buildings. The dematerialisation of our records and documents also contributes to this dynamic.

Social responsibility & quality of life at work

ACB+ also puts people at the centre of its priorities. We ensure safe, respectful and inclusive working conditions by opposing any form of harassment or discrimination. We also ensure the transmission of knowledge by training apprentices, work-study trainees, and interns, and by promoting a fair work-life balance.

Sustainable & ethical governance

Our procurement policy is based on sustainable partnerships with trusted suppliers, selected for their performance, proximity and capacity for innovation. We secure our supplies through multi-sourcing and apply

responsible governance, compliant with GDPR. This global approach is recognised by the "more committed, more efficient" UIMM CSR certification.



OUR CUSTOMER SERVICE

We do everything we can to **minimise your machine downtime**. If necessary, our spare parts are shipped to your dealer **the next day for any order placed before noon (only in France)** in more than 85% of cases. This responsiveness is one of our strong commitments.

We also work **closely with our dealers and partners**. We train and support them and give them all the necessary tools to offer you a local, reliable and efficient service. In most situations, they are your first point of contact to quickly resolve any problems encountered on the ground. And if further action is necessary, our teams remain available to carry it out.

Whether remotely or directly on your worksite, ACB+ gives you the support you need, when you need it. **Need help?** Please call us on **+33 4 74 66 82 49**, or visit **acbplus.com**.

Present remotely and in the field

Your productivity is at the heart of our concerns. This is why our customer service has been designed to provide **quick, efficient and professional** assistance, irrespective of the product concerned. Whether you are looking for the equipment best suited to your needs or you have a technical question, our team is available to support and guide you.

Where to find our products?

ACB+ products are available **throughout the dealer network in France and the Benelux countries**. You can request our couplers, tools and solutions directly from your usual dealer, who will advise you on the configurations best suited to your needs.

Our attachments are also present in **the main national leasing networks** as well as in many **regional leasing companies**, thus offering optimal availability nationwide.

A strong partnership with dealers, manufacturers and leasing companies

For years, we have chosen a **stable, clear and trust-based commercial policy**. This consistency allows us to maintain lasting relationships with all our partners.

We work closely with dealers, who provide an essential local service for users. They are your main point of contact: advice, product recommendations, installation, availability of spare parts. They have everything they need to support you effectively on a daily basis.

Our products are also marketed via manufacturers in **France and internationally**, as well as by **PW equipment importers** who integrate our solutions in original equipment for some of their customers.

We have a long-standing relationship of trust with leasing companies. We provide a **customised logistics service** tailored to the needs of their branches and the rotation of their fleets.

Finally, if you are an end user and you have any questions or experience any issues using our products, **our team is here to provide a direct, fast, and effective response**.

COUPLERS AND OPTIONS

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SELECTING THE RIGHT COUPLER AND TOOLS FOR YOUR EXCAVATOR

The aim of the process described below is to help you choose the right coupler and tools to get the best out of the machine.



Assigning the coupler and tool to the machine

Choosing the right ACB+ coupler in an S+ system is vital for your machine. You must **determine the correct coupler according to the specifications of your machine** to ensure maximum reliability of the Fastener/ Tool combination.

This choice opens up a broad range of tools compatible with your machine in terms of force at the tine and bucket capacity.

The selection process generally involves:

For the coupler

- **Choose the S+** coupler according to the weight of the carrier and the breakout torque,
- **Check that** the torque developed by the vehicle bucket kinematics is compatible with the forces for which the module and its tools are rated.

For the tool

- **Define the application:** GP, HD or XHD (General Purpose, Heavy Duty or Extra-Heavy Duty).

Soil classes as defined by DIN18300:

- GP application: classes 1 to 3
- HD application: classes 4 to 5
- XHD application: classes 6 to 7

The ACB+ range of tools offers **attachments of outstanding durability and quality. The double bottoms on the backhoe buckets have been adopted for the entire bucket range**, for both mini-excavators and excavators.

- **Define the tine class** (Dxx)

Tine size is determined by the breakout force developed by the excavator and according to the application.

The bucket range

There are generally several bucket / coupler size profiles. The profile is selected according to the **bucket radius** and the **machine's breakout capability**.

The vehicle's **tipping limits** and the **nature of the material worked** must be taken into account when sizing the attachment. A **simple calculation** of the total equipment weight (coupler weight + bucket weight + bucket load weight) will **enable you to check that the tool is compatible** with the machine by comparing it with the load table value as per ISO 10567 for your machine in the following situations:

- transverse turret,
- lifting load at maximum range.

The total equipment weight, calculated using ACB+ data, must be less than the value without the bucket or coupler provided in the manufacturer's table.

An Excel tool is available on acbplus.com for you to perform this check. Please contact us for more information.

Tine class (Dxx) for the bucket

Like the couplers and tools, wear parts (tines) are rated for a given maximum force.

The application and the force developed at the tine define the tine size to be used for the tool.

The product guide contains all the information you need to choose your attachments.

- We recommend a coupler size / bucket range configuration according to the make and model of your machine.
- Depending on the bucket range, a tine class is recommended for GP (general purpose) or HD (heavy duty) use.

A failure to follow our recommendations invalidates your right to benefit from the statutory warranty.

For all specific applications, please contact our technical department first.

Materials worked and densities

The table below contains the usual material densities needed for your checks.

MATERIAL	DENSITY - LOOSE
Clay and dry gravel	1.42 t/m ³
Clay and wet gravel	1.54 t/m ³
Dry clay	1.48 t/m ³
Sedimented clay	1.66 t/m ³
Wet clay	1.66 t/m ³
Basalt	1.96 t/m ³
Kaolin bauxite	1.42 t/m ³
Crushed granite	1.66 t/m ³
Wet gravel	1.93 t/m ³
Dry gravel	1.51 t/m ³
Sandstone	1.51 t/m ³
Ground gypsum	1.67 t/m ³
Crushed gypsum	1.66 t/m ³
Mud	1.25 t/m ³
Ground natural stone	1.60 t/m ³
Altered rock: 25 % rock – 75 % earth	1.57 t/m ³
Altered rock: 50% rock – 50% earth	1.72 t/m ³
Altered rock: 75% rock – 25% earth	1.96 t/m ³
Crushed calcareous rock	1.54 t/m ³
Sand and compacted clay	2.40
Sand and wet clay	2.02 t/m ³
Sand and dry gravel	1.72 t/m ³
Damp dry sand	1.69 t/m ³
Dry loose sand	1.42 t/m ³
Dry wet sand	1.84 t/m ³
Crushed slag	1.75 t/m ³



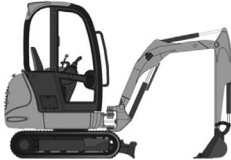
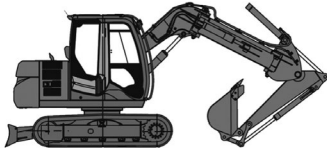
MATERIAL	DENSITY - LOOSE
Compacted dry earth	1.51 t/m ³
Loose wet earth	1.60 t/m ³

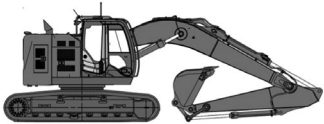
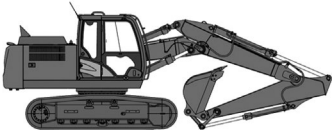
**THERE ARE VARIOUS TOOLS
ON OUR WEBSITE, ACBPLUS.COM,
TO HELP YOU CHOOSE**

Characteristics of couplers and tine classes

Table of characteristics

The data for our range of couplers is shown in the table below.

	S*30 -180	S*40-200	S*45	S*50
				
Min. weight - Max. weight (t)	0.8 to 2.9 t	2.5 to 7 t	5 to 13.5 t	5 to 13.5 t
Max. breakout torque (kN.m)	15	35	88	88
Max. dipperstick width (mm)	144	174	234	214

	S*60	S*70
		
Min. weight - Max. weight (t)	10 to 20 t	17 to 32 t
Max. breakout force (kN)	160	320
Typical bucket radius (mm)	320	356

Tine class table

Each tine has its own specific limits in relation to the breakout force applied by the vehicle. It is therefore essential to select a tine with enough strength to withstand the forces applied, so that the tines do not break or wear prematurely. To help you choose, ACB+ has classified tines on the basis of the breakout force for which they were designed.

The table below lists the main standard tines, by manufacturer, broken down by tine category. **One-piece bolted** tines appear in bold.

TINE CLASS	RANGE OF FORCES AT THE TINE (KN)	BYG FUTURA TWISTER	CAT J	CAT K	C-REX	COMBI C / PRO-CLAWS	ESCO ULTRALOK
D5	35 to 52.5		CAT0 135-9390			MINI T29	
D8	52.5 to 62.5	FT130S	J200 1U3202 / CAT2 6Y6335			MIDI T29	V13SYL
D10	62.5 to 90	FT170S	J225 6Y3222			COT29	V17TYL
D15	90 to 122.5	FT190S	J250 1U3252		R10GPE	CIT35	U20S
D20	122.5 to 150	FT230S	J300 1U3302	K80 220-9089	R14GPE		U25S
D30	150 to 215	FT290S	J350 1U3352	CA90 220-9099	R18GPE		U30S
D40	215 to 270	FT330S	J400 7T3402	CA100 220-9109	R23GPE	W10GPE	U35S
D55	270 to 340	FT390S	J450/J460	K110 220-9119	R29GPE	W20GPE	U40S
D65	340 to 411	FT430S FT510S	J550	K130 220-9119		W25GPE	U45S U55S
D80	411 to 540						U60C

TINE CLASS	RANGE OF FORCES AT THE TINE [KN]	FEURST FASTKEY	FEURST SIDEKEY	JCB	KOMATSU PRIME	MTG / KINGMET / STARMET	VOLVO	OTHER
D5	35 to 52.5	M15				MG5L	5GPC	DE365/17-7
D8	52.5 to 62.5	FKMCE	SDMTLS			MG8L	8GPC	
D10	62.5 to 90	FK1TLR	SD1TLS	531-03205	P004SYL	MG10L	10GPE	
D15	90 to 122.5	FK2TLR	SD3TLS		P005SYL / P010SC	MA15U	15GPE	
D20	122.5 to 150	FK3TLR	SD4TLS		P015SC	MA20U	21GPE	
D30	150 to 215	FK4TLR	SD5TLS		P020SC	MA30U	30GPE	
D40	215 to 270	FK5TLR	SD7TLS		P025SC	MA40U	40GPE	
D55	270 to 340	FK7TLR	SD8TLS		P030SC	MA50U	55GPE	
D65	340 to 411	FK9TLR	SD9TLS		P040SC	MA60U	65GPE	
D80	411 to 540	FK11PR				MA120E1		

The makes and models are listed for information purposes only. This list is not exhaustive and may change.

Coupler range **S+**

Free couplers add weight and require integration work on your machine, which must be taken into account when ordering

To achieve this, ACB+ will work with you to develop a product that is tailored to your needs, performance and machine configuration.

Please refer to our selection guide to choose the appropriate coupler for your activity (page 34).

A joint study will then be carried out to guarantee the perfect compatibility of the coupler / tool combination with your machine, in compliance with the safety standards in force.

ACB+ can support you right up to the installation of your couplers and tools on your machines.

STANDARD

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Hydraulic



POWER/TILT $\pm 90^\circ$

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Hydraulic



ROTO[®] 360°

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Hydraulic



Tiltrotators

with 360° rotation and $\pm 50^\circ$ tilt

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Hydraulic



STANDARD COUPLERS S+

This new generation of S+ couplers is based on three major patents that embody ACB+'s commitment to safety, simplicity, and performance. First pin secured "as soon as possible", hooks with engaging shape to facilitate tool insertion, and a clear and reliable locking indicator: each innovation has been designed to make attachment faster, more intuitive and totally secure.

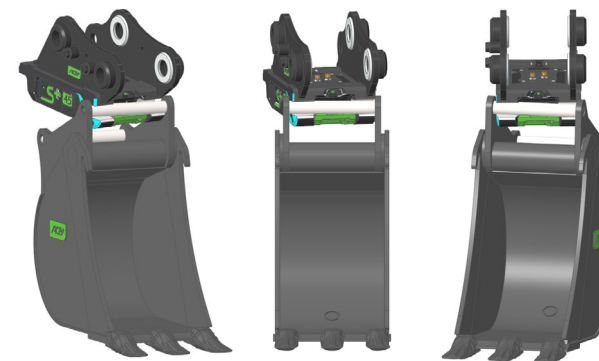
Reversible, high-performance and highly reliable couplers, available in a hydraulic version, for uncompromising use.



Engaging shape to facilitate attachment



Angle tolerance for tool insertion
between 10 and 15°.



S+ couplers are equipped with front hooks with a **patented engaging shape**, specially designed to simplify tool hitching. This geometry offers an **angular tolerance of 10 to 15°**, so you can pick up a tool even when it is in an awkward position with respect to the coupler. This mechanical assistance allows for smoother, faster and safer hitching.

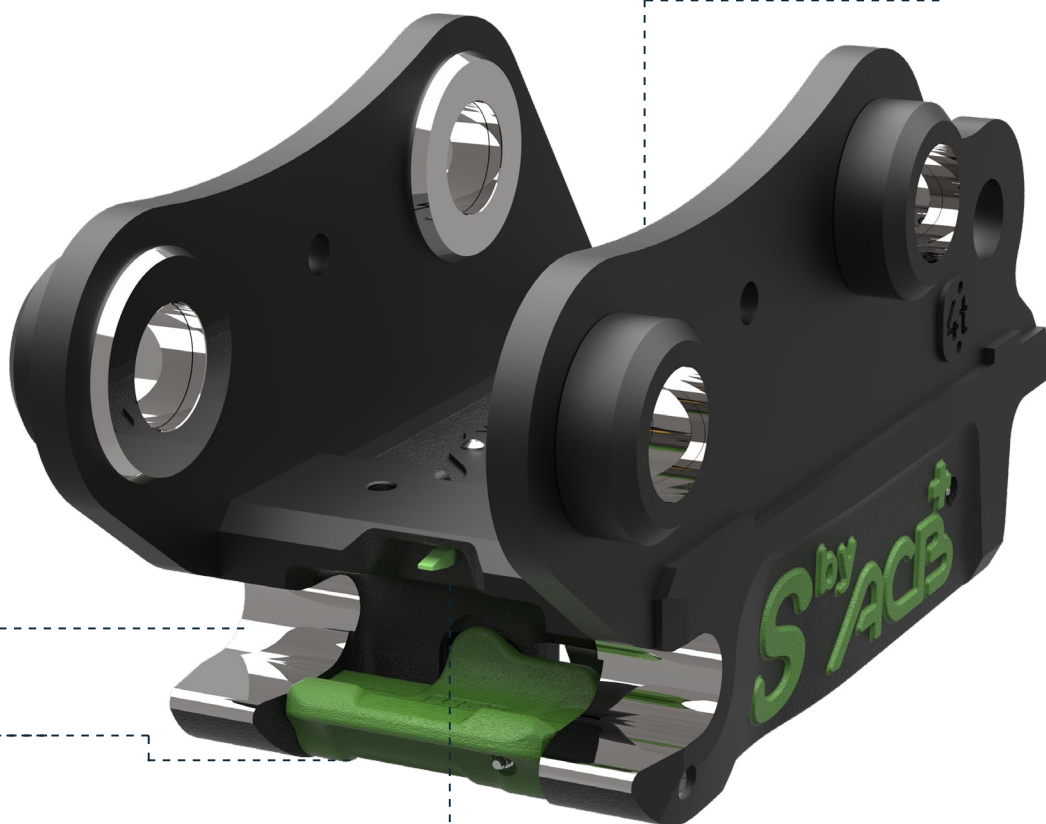


First pin secured "as soon as possible"

On S+ couplers, **the first pin is automatically secured as soon as it is inserted in the hooks**, avoiding any risk of falling during hitching. This first lock, **compliant with the EN 474-1 and ISO 13031 standards**, is activated without any operator action. Once the second pin is engaged, the operator triggers **the final hydraulic lock**, ensuring a totally safe attachment.

**IMMEDIATE SAFETY. FULL COMPLIANCE.
CONTROLLED HANDLING.**

**A SMART SHAPE. EASIER HITCHING.
ENHANCED SAFETY.**



A simple, safe and fully integrated hydraulic lock

S+ couplers are available **in a hydraulic version only** and incorporate a **double-acting actuator** so the operator can lock and unlock the tool **without leaving the cab**. Simplified coupler installation: **just one double-action hydraulic line** is needed to operate the lock. To ensure performance and durability, the actuators are equipped with a **safety valve** and a **pressure relief valve** to protect the system from overpressures. The hydraulic hoses must have a **section of at least DN6** (hoses not supplied) to ensure optimal flow and reliable operation under all conditions.



ACB+ hydraulic locking / unlocking control box
in the cab (optional)

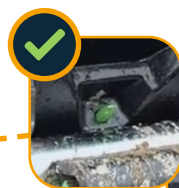
**A SIGNAL. AN INDICATOR.
CONFIRMED SAFETY.**

“Locking complete” indicator

To ensure a perfectly secure attachment, S+ couplers incorporate a **locking indicator** that confirms in an instant that the tool is correctly positioned and that the locks are fully deployed. This check is carried out **in two complementary steps**:

- **an audible signal** emitted by the ACB+ control box (or any other system integrated into the machine), and then,
- **a visual check** of the lock indicator on the coupler.

When this appears, it confirms both that the **tool is in place** and that **the locks are engaged**, guaranteeing optimum safety at each tool change.



Tool reversibility for maximum versatility

The S+ coupler is designed so that tools can be used in both standard and **reversible positions**, providing greater versatility on all types of worksite. This feature lets you operate the tool from different angles, gain easier access to difficult areas, and perform finishing operations with enhanced precision. Reversibility optimises the machine's efficiency, allows any given tool to be used in multiple different ways, and improves day-to-day productivity.



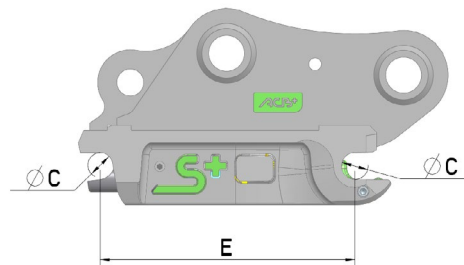
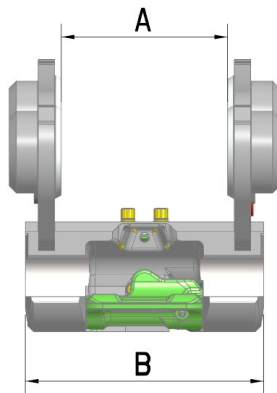
Full compatibility with tools in the S system

S+ couplers are fully compatible with S system tools, providing a versatile solution for all machine configurations. From the mini-excavator to the production excavator, ACB+ has the tool you need, perfectly suited to your requirements. **As specialists in customised products**, we also design tailor-made tools based on your specifications, to provide the perfect solution for your most specific applications. This comprehensive approach makes ACB+ your **one-stop supplier** to equip new machines or complete an existing fleet with perfectly compatible couplers and tools.



Standard coupler range

CHARACTERISTICS	S+30-180	S+40-200	S+45	S+50	S+60	S+70	UNIT
Weight of carrier vehicle	0.8 to 2.9	2.5 to 7	5 to 13.5	5 to 13.5	10 to 20	17 to 32	[t]
Max. breakout torque	15	35	88	88	160	320	[kN.m]
Max. dipperstick width A	144	174	234	214	320	356	[mm]
Width B	180	200	290	270	340	450	[mm]
Diameter C	30	40	45	50	60	70	[mm]
Centre distance E	230	300	430	430	480	600	[mm]
Weight (approx.)	38	51	100	95	190	280	[kg]
Max. load (coupler)	2	3	4	4	2x5	2x7	[t]
Recommended shackle (max. load)	3.25	3.25	6.5	6.5	6.5	9.5	[t]
Hydraulic installation	1/8" BSP		1/4" BSP				
Locking Unlocking pressure			200				[bar]
Flow rate	3		5				[l/min]



POWERTILT FREE COUPLERS

The Power *Tilt* is a high-performance tilting coupler with simple and reliable pin attachment. Available with hydraulic locking, it allows a tilt of $\pm 90^\circ$ while incorporating the characteristics of the S+ coupler at the bottom, for optimal robustness and compatibility.



POWERTILT®

THE ULTIMATE HYDRAULIC
BREAKER-COMPATIBLE
TILTING COUPLER



The advantages of the hydraulic Power *Tilt* S+ for pin attachment

- + The advantages of the classic S+ coupler
- + Tilt driven by a Parker motor
- + Very easy to install, with an auxiliary line for tilting (proportional control highly recommended)
- + Compact coupler for working in narrow trenches
- + Occasional hydraulic breaker usage allowed
- + Rotation sensor for the optional 2D/3D guidance system

Tilt by hydraulic motor **POWER/TILT**

Designed for performance and reliability, our tilt function is based on **Parker / Helac Power Tilt rotary actuators**, specially developed for tool tilting.

It incorporates **a reinforced bearing capable of absorbing the bucket tear-off force**, as well as internal hydraulic passages optimised for quick couplings.

Thanks to its **standard built-in pressure limiter**, the system has an effective internal anti-shock system. Moving parts are fully protected and the hydraulics are designed to operate without internal leakage.

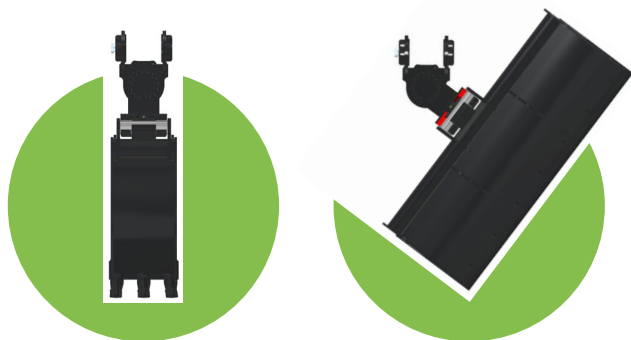
The motor's helical gearing ensures a high holding torque, eliminating the need for an additional valve.



Compact coupler: Performance in confined spaces

Designed to **work effectively in restricted spaces**, this PowerTilt coupler has an especially slim build, ideal for trench work, public works (roads and utilities), slope maintenance and all finishing work. **Its compactness allows reduced trench width** while facilitating **access to extreme positions**, thus improving accuracy and productivity.

The trench bucket widths are defined directly by the coupler, **with narrower motors** to ensure minimal footprint and maximum efficiency in hard-to-reach areas.



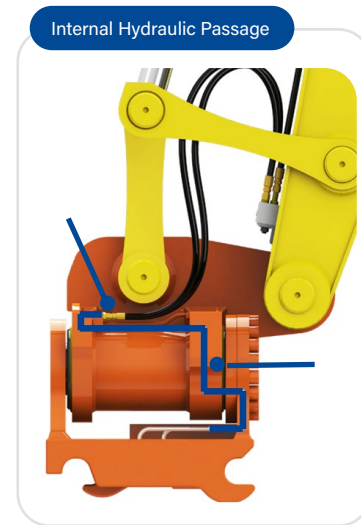
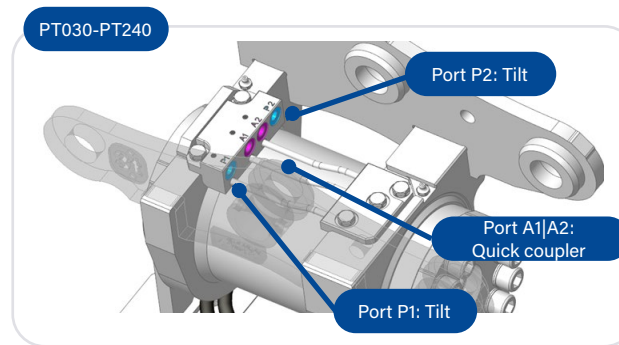
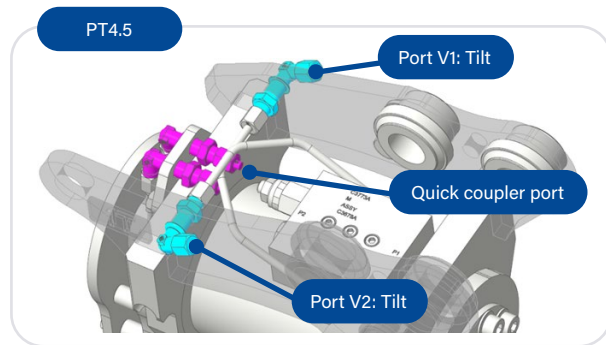
**ASSEMBLY MOUNTED BY FLANGE AND BOLTS GUARANTEEING ROBUSTNESS,
SIMPLICITY OF INSTALLATION AND DURABILITY**

Optimised structure for simplified maintenance

The design of the system is based on a **simplified construction**, combined with dedicated tools to ensure precise mechanical alignments.

The motor is secured to the front bearing by a **large number of screws**, thus ensuring **reliable load bearing** under the highest breakout forces. No specific assembly device is required, which **considerably simplifies maintenance and after-sales service operations**.

The hydraulic environment is optimised thanks to a **built-in distribution block and internal passages** via a **rotating joint** at the bearing, ensuring a clean, compact and durable connection.



Interchangeable tools

- Ability to **change tools without leaving the cab**, which significantly reduces downtime and facilitates operation,
- Possibility of using **hydraulic breakers or vibrating tools**, for simpler and more productive use in the field.

Free coupler range **POWERTILT S+**

CHARACTERISTICS	S+30-180		S+40-200		S+45/+50		S+60	S+70	UNIT
Motor	PT4.5	PT030	PT030	PT050	PT070	PT100	PT180	PT240	
Weight of carrier vehicle (min./max.)	1.4 to 2.2	1.8 to 2.9	1.8 to 4	3 to 7	5 to 10.2	7 to 13.5	12 to 20	18 to 30	[t]
Max. breakout torque	13.5	15	21	35	60	86	160	290	[kN.m]
Tilt angle	2x90	2x90	2x90	2x90	2x90	2x90	2x60	2x60	[mm]
Max. tool width	900	1100	1100	1200	1400	1500	1800	2000	[mm]
Weight (according to machine)	50	80	80	120	150	190	300	440	[kg]

The motor attachment combination is provided for information purposes only. A specific analysis will always be carried out to confirm its suitability according to the make and model of the machine.



The PowerTilt appeals to all users, especially operators, who immediately notice the benefits. Its hydraulic control offers very precise handling, for better control of movements on a daily basis. Appreciated for its robust feel, it also stands out for its smooth use and stable behaviour, guaranteeing comfort and efficiency on all worksites.

This brochure introduces coupler solutions in the S+ system, but the PowerTilt is also available in Morin Original System as in this picture.

ROTO⁺ FREE COUPLERS

The Roto+ coupler in the S+ system offers a high-performance hydraulic solution integrating continuous 360° rotation. Designed to maximise the versatility of attachments, it lets you reach complex areas with precision and fluidity.

More complete than a tilting coupler, the Roto+ opens up new possibilities on site whilst improving productivity and user convenience.



ACHIEVE ALL YOUR AMBITIONS
WITH THE ROTATING COUPLER!

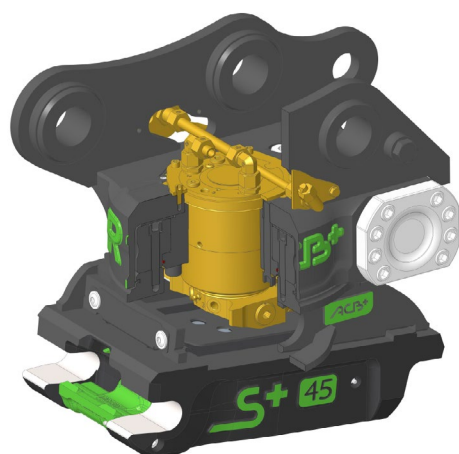
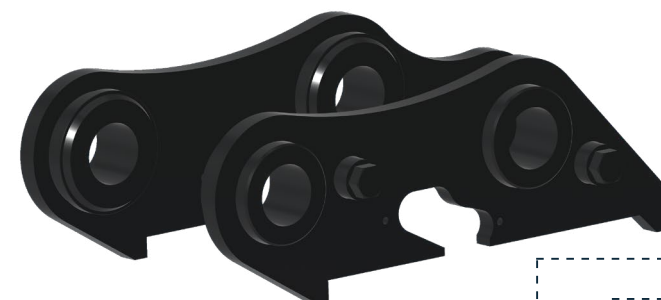
The advantages of the ROTO⁺ S⁺ hydraulic coupler with pin attachment

- + The advantages of the classic S⁺ coupler
- + 360° rotation thanks to its hydraulic power unit and its wheel and worm gear
- + Hydraulic rotary joints (standard for hydraulic couplers) and electrical rotary joints (optional)
- + Very easy to install, thanks to the use of a single auxiliary line for rotation (proportional control highly recommended)
- + Compact and robust design facilitating the occasional use of a hydraulic breaker
- + Fully sealed casing ensuring total protection of the ring
- + Rotation sensor for the optional 2D/3D guidance system

Did you know?

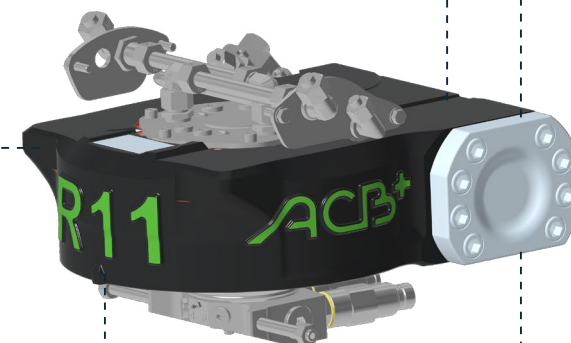
COMPARED TO A TILTROTATOR	COMPARED TO A TILTING COUPLER	COMPARED TO A CONVENTIONAL COUPLER
Performs more than 80% of the work of a tiltrotator	Provides more mobility but also more precision	Time saving of 10% for excavation, 30% for public works and 50% for landscaping work
Lighter, more compact, greater hydraulic flow, easier to install, more economical	Applications: Public works, embankments, trench filling, mounding and riprap work, pallet handling and finishing work around obstacles	Reversibility of the tool in half a turn Rotation that tilts the bucket

THE ROTATING COUPLER IS THE PERFECT RESPONSE TO YOUR NEED FOR VERSATILITY ON YOUR WORKSITES.



Hydraulic and electrical versatility

The Roto+ coupler incorporates a **hydraulic rotary joint** for high throughputs, ensuring the use of various equipment such as a **grapple, cutter or hydraulic breaker**. To meet specific needs, an **optional electric rotary joint** is also available, facilitating the **passage of electrical signals** and further expanding the possibilities of use.



Controlled and precise rotation

The **360° rotation** of the Roto+ coupler is provided by a **hydraulic motor combined with a wheel and worm system**. This **irreversible principle** naturally ensures that **the tool is held in the desired position**, in complete safety. A **visual marker** also makes it possible to accurately identify the **neutral angular position of the quick coupler**, for even more controlled use.





Simple installation and intuitive operation

The distinguishing feature of the Roto+ coupler is its **great simplicity of installation and use**, without the need for **major conversions in the cab** or **extra hydraulic equipment**. As most machines are factory fitted with two auxiliary lines, the **highest speed line is thus kept for supplying tools**, such as hydraulic breakers. **Proportional control is highly recommended**, and **getting started is quick and intuitive** thanks to a compact design and **control via a single hydraulic function in the cab**.

Enhanced protection and built-in security

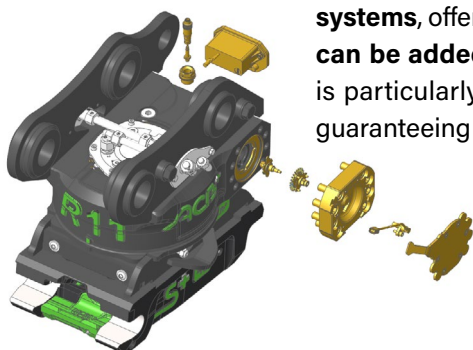
The Roto+ coupler has a **sealed casing** ensuring **total protection of the ring**. The **presence of seals** guarantees effective insulation against external particles, limiting wear and contributing to **significantly extending the life of the product**.

In addition, the system incorporates **protection against overpressure** thanks to **pressure limiters** ensuring the reliability of the assembly. The **ROTO+ R04** rotation motor is thus equipped with limiters rated at **140 bar**, while the **R06, R11 and R19** models have limiters set at **175 bar**, for protection to suit each configuration.



Compatibility with guidance systems

The ROTO+ rotating coupler is **compatible with the majority of 2D/3D guidance systems**, offering easy integration on modern worksites. An optional **rotation sensor can be added** to take full advantage of these guidance technologies. The system is particularly compatible with the TOPCON, TRIMBLE, LEICA and IDIG brands, guaranteeing wide interoperability.



**ROTO+ THE COUPLER DESIGNED
AND DEVELOPED BY ACB+**

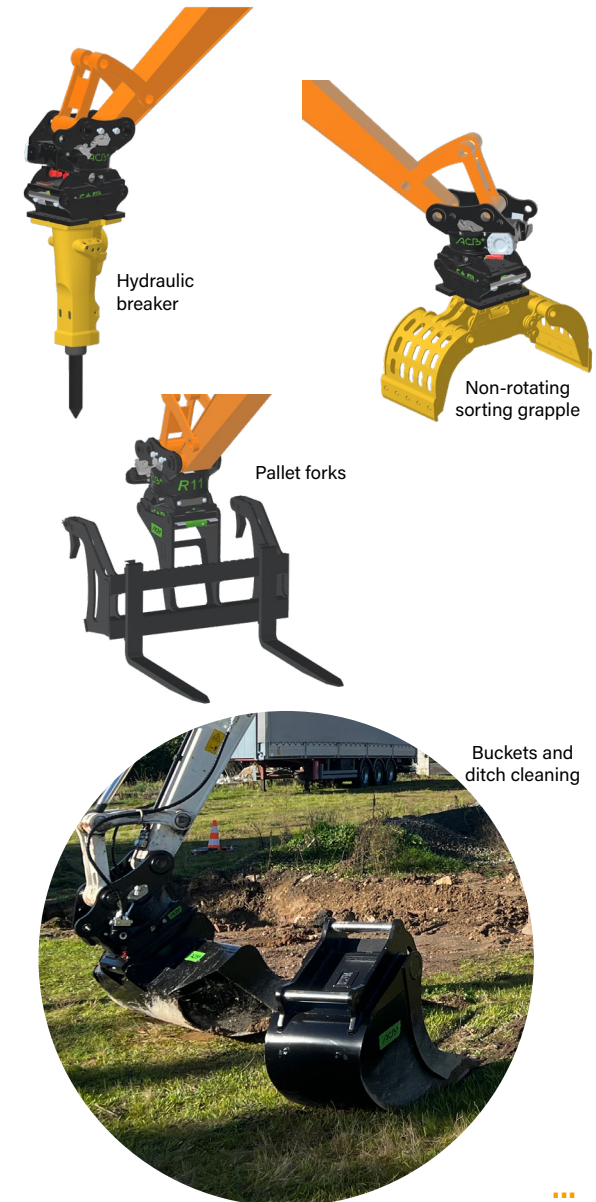


ROTO⁺ coupler range S⁺

CHARACTERISTICS		S*30-180	S*40-200		S*45	S*50	S*60	UNIT
		R04-360	R04-360	R06-360	R11-360	R11-360	R20-360	
Weight of carrier vehicle		2 to 2.9	2 to 3.8	3.5 to 6.5	5.5 to 13.5	5.5 to 13.5	10 to 20	[t]
Weight (according to machine)		90	115	170	250	250	480	[kg]
Max. breakout torque		15	33	57	95	95	175	[kN]
Max. tool width		1000	1000	1200	1400	1400		[mm]
Max. speed with proportional control		9	9	10	10	10		[rpm]
Max. speed with on/off control		5	5	5	5	5		[rpm]
Max. rotation pressure		140 Integrated limiter	140 Integrated limiter	175 Integrated limiter	175 Integrated limiter			[bar]
Nominal rotation flow rate with proportional control		16	16	40	40	40		[l/min]
Nominal rotation flow rate with on/off control		9	9	20	20	20		[l/min]
Port 1 and 2: Hydraulic control	Pmax	250	250	300	300	300		[bar]
	Max. flow rate	45	45	45	90	90		[l/min]
	Male connector	3/8" - DN10*	3/8" - DN10*	3/8" - DN10*	1/2" - DN10*	1/2" - DN10*		ISO 16028
Port 3 and 4: Quick coupler control	Pmax	250	250	300	300	300		[bar]
	Max. flow rate	24	24	24	24	24		[l/min]
	Pmax			100	100	100		[bar]
Port 5: Drain	Max. flow rate	Not available		24	45	45		[l/min]
	Male connector			1/4" - DN6 - ISO 6028	3/8" - DN10 - ISO 6028	3/8" - DN10 - ISO 6028		-

* With pressure relief

The height of versatility



TILTRO- TATOR^{NOX INSIDE} FREE COUPLERS

The TILTROTATOR^{Nox Inside} is a multi-function hydraulic coupler that combines continuous 360° rotation and ±50° tilt for maximum versatility. Designed to optimise precision and productivity on site, it allows complex operations to be carried out smoothly, while improving the operator's convenience and control.



AVAILABLE IN A HYDRAULIC S⁺
VERSION ONLY

The advantages of the Tiltrotator^{Nox Inside} S hydraulic coupler with pin attachment

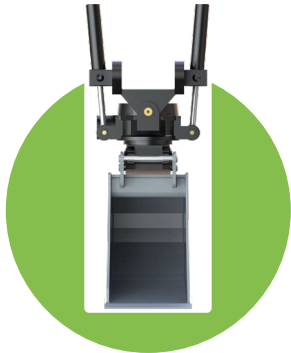
- + Multi-function coupler with 360° rotation and ± 50° tilt
- + Proportional control system for quick and precise working
- + Hydraulic extra functions for controlling tools incorporated into the tiltrotator thanks to a factory-fitted hydraulic rotary joint.
- + Optional electrical rotary joint
- + Low construction height, minimising the loss of breakout force for all tools attached to the tiltrotator
- + Rotation sensor for the optional 2D/3D guidance system

Functions

The tiltrotator is the most complete coupler in terms of features, and is used on hydraulic excavators from 3.5 to 25 tons.

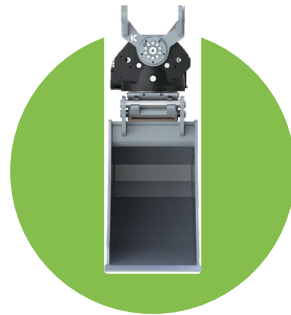
The 360° rotation and $\pm 50^\circ$ tilt **allow the tool** attached to the coupler **to be moved simultaneously in all directions**.

Our tiltrotator ^{nox inside} is tried and tested and is **the most compact on the market**. Unlike other tiltrotators **no parts protrude beyond the coupler**, allowing you to work in narrow trenches or in a forest environment.



Tiltrotators with exposed actuators

- High structure to ensure sufficient clearance
- Exposed actuators, which are susceptible to impacts in narrow trenches
- Necessary maintenance of articulation bearings and actuator bearings
- The assembly is overhead and exposed depending on the model.



Tiltrotator ^{nox inside} without actuators

The patented tilt function is based on an elliptical piston and a helical gear system to provide the tilt function. **This arrangement allows for a low construction height**, minimising the loss of breakout force for all tools attached to the tiltrotator, with **no visible actuators**.

Tiltrotator ^{Nox Inside} without exposed actuators

With the patented tilt system:

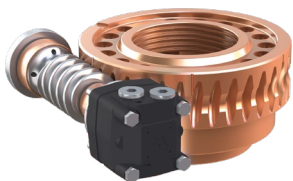
- The assembly is compact and fully integrated, The height is reduced by design
- the coupler's width is smaller by around 120 mm depending on the model
- The tilting torque is constant over the entire angular range



**THE MOST COMPREHENSIVE
COUPLER IN TERMS
OF FEATURES**

Robust and proven positioning

The wheel and worm gear system of the slewing ring is generously dimensioned to absorb breakout forces. It operates in a completely sealed oil bath, with no maintenance required for a long working life.



DF4 control system

The DF4 control system needs two dual-action hydraulic circuits. (DF4 i.e. 4 connecting hoses).



Rotation and tilting can be executed simultaneously with the machine's original proportional control system.

The DF4 cab control unit can also electrically divert the tilt function to:

- Two hydraulic extra functions to supply your hydraulic tools
- or one extra function for your tool and the other for the optional integrated grapple, if required.

Naturally, the hydraulic rotary joint is factory fitted, an optional electrical rotary joint is available.

Machine requirements for the DF4

A high-speed auxiliary line with proportional control to control tilting, as well as the extra functions

A medium-speed auxiliary line with proportional control to control rotation

One ON/OFF button per extra function is required on the existing levers to control their switching. If necessary, ACB+ can provide supplementary buttons as an option.



Tiltrotator coupler range

SIZE	TONNAGE	TOOL PIN DIAMETERS [mm]	TOOL CENTRE DISTANCE [mm]	HYDRAULIC VERSION
S40-200	2.5t – 6t	40	300	TR07
S45	5t – 11t	45	430	TR11
S50	5t – 11t	50	430	TR11
S60	10t – 18t	60	480	TR14 TR19
S70	18t – 30t	70	600	TR25



Choosing the right type of excavator quick coupler for your business

		STANDARD COUPLER S+	POWER TILT COUPLER S+	ROTO+ COUPLER S+	DF4 TILTROTATOR NOX INSIDE	SOLUTIONS NOT RECOMMENDED BY ACB+	
						DF4 SANDWICH TILTROTATOR NOX INSIDE	CSP SANDWICH TILTROTATOR NOX INSIDE
Degree of freedom		Fixed	±90° or ±60° tilt (depending on the model)	360° rotation	360° rotation and ±50° tilt (90° combined movement)	360° rotation and ±50° tilt (90° combined movement)	
Machine	Breakout force (BOF)	++	++	++	+	+	+
	Lifting capability	++	++	++	+	+	+
	Equivalent jib offset	0	0	++	++	++	++
	Machine equipment	1 QC line*	1 QC line* + 1 auxiliary line	1 QC line* + 1 auxiliary line	1 QC line* + 2 auxiliary lines	1 quick coupler line + 2 auxiliary lines	
	Hydraulic flow rate at the rotary joint for tools	0	0	++	+ (standard version) ++ (High Flow version)	Low to very low or High Flow option	
	Thumb compatibility	++	0	0	0	0	0
	Driver familiarisation time	0	2 to 3 days	1 week	3 to 4 weeks	3 to 4 weeks	4 to 6 weeks
	Installation time	1 to 4 hours	4 to 8 hours	4 to 8 hours	6 to 12 hours	7 to 20 hours	16 to 36 hours
	Price	€	€€	€€€	€€€€	€€€€€	€€€€€€
	Use of tilt + rotation + extra function in simultaneous proportional mode	Not applicable			No	No	Yes
Tools	Mound working	++	++	++	++	++	++
	Max. bucket width	++	+	+	+	++ (removal)	++ (removal)
	Backhoe/grapple compatibility	++	0	0	0	0	0
	Universal ditch cleaning bucket	+	+	++	++	++	++
	Pallet forks (excavator with valves)	++	+	++	+	++	++
	Sorting grapple	Rotating	Rotating	Fixed	Fixed	Fixed	Fixed
	Rock excavation use	Occasional	Prohibited	Prohibited	Prohibited	Continuous with removal	Continuous with removal
	Hydraulic breaker use	Continuous	Occasional	Occasional	Prohibited	Continuous with removal	Continuous with removal
Compatible coupling system		NA	Morin Original CW L S S+	Morin Original CW L S S+ SW	Morin Original CW L S SW	Morin Original CW L S SW	Morin Original CW L S SW

Key: 0 = Incompatible or unsuitable use | + = Average performance | ++ = Maximum performance | * Quick coupler line | ** Mound working possible with reversible kit or mound tool

HYDRAULIC KIT

Full symmetrical double acting control kit for hydraulic couplers

Mini-excavators and excavators with double-acting hydraulic couplers can be fitted with our hydraulic kit.

Kit part number

COUPLERS*	ITEM CODE
S*30-180 to S*70	5176476

(*) CLASSIC, TILTING AND ROTATING COUPLERS

(Not suitable for tiltrotators)

(***) Some kit components are available individually,

Kit composition***

Cab control unit

- EN 474 compliant
- For window-mounting (bracket supplied)
- 12-24 V DC power supply (connection supplied)
- 12 V DC output on M12 connector and "HIRSHMAN" head supplied

2-port junction block for dipperstick

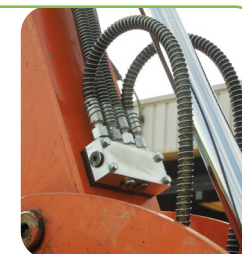
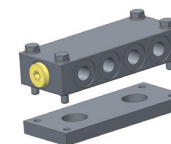
- Pmax = 400 bar
- Removable zinc-plated steel body and weld-on base
- 4 1/4" BSP locations per port for all connection configurations

Double-acting hydraulic block

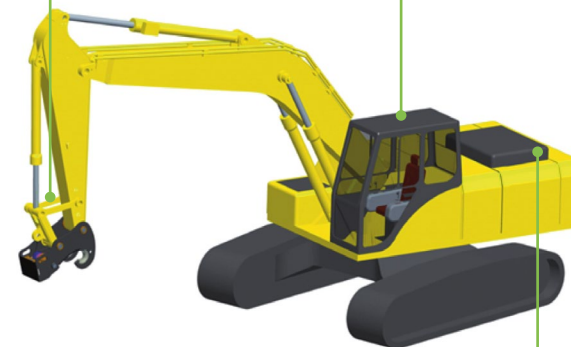
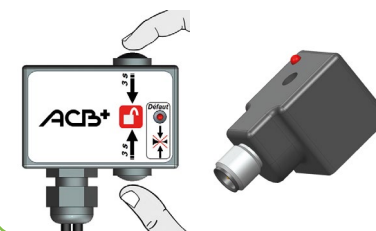
- Zinc-plated steel body
- Pmax = 400 bar
- 2 x 9 mm diameter mounting holes
- 1/4" BSP locations
- Supplied with 2 pressure control sockets
- Release pressure regulated at 200 bar (factory-set pressure)
- Locking pressure regulated at 45 bar (factory-set pressure)

Control coil

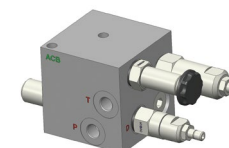
2-port junction block for dipperstick



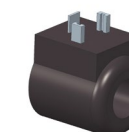
Cab control unit



Double-acting hydraulic block



Control coil



ACB +TOOLS

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BACKHOES

EACH TOOL CAN BE CUSTOMISED
TO MEET YOUR NEEDS



HD-XHD backhoes

The backhoe bucket range is designed for **trenching and excavation work** in a constrained environment. Available in several widths and wear attachments, it **adapts to many applications**.

There are several versions: grapple, skeleton, banana-shaped or cemetery backhoe buckets. **Compatible with common options** (blades, tines, counterblades), these buckets offer precision and efficiency for limited trench depths.

Nordic backhoes

The original feature of the new Nordic profile is its **lower hitch construction** and a **more advanced profile**, optimising the ground penetration capability. This design improves

- the filling of the bucket: fuller buckets will mean fewer cycles to be carried out, and therefore significant time savings for the project.
- bucket dumping: gradual dumping of materials, providing more precision and control.

This bucket retains a deep profile with clean lines, while incorporating a **double bottom** as standard to ensure a long working life. The Nordic profile is therefore **perfectly suited to S+ couplers**.

The XHD versions remain **fully customisable**, with the addition of flats, shields, shoes and other equipment, to cope with the most demanding environments.





Quarry backhoes

The backhoe bucket range for quarries and heavy worksites is **designed for the most demanding applications**, where robustness, wear resistance and performance are essential. It includes specialised tools such as rock handling, rock ripper and quarry buckets.

- **The rock handling bucket** combines gripping capacity and installation accuracy thanks to a reinforced structure, protected sides and a thick and advanced blade.
- **The rock ripper bucket**, with its narrow, open and tapered profile, makes it easy to purge rocky walls and work in constrained environments such as tunnels.
- **Quarry buckets** are developed tailor-made to the specifics of each extraction site, with a rigorous choice of materials and manufacturing processes guaranteeing excellent resistance to fatigue and wear.

Suitable protections and configurations make it possible to optimise their durability and effectiveness on the most severe sites.



Rakes

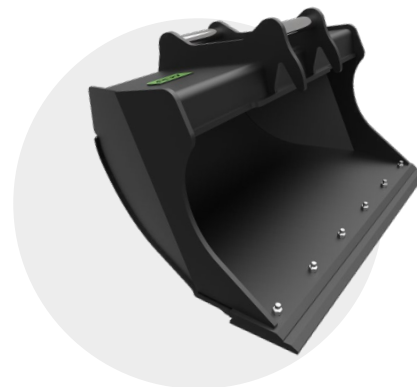
The range of backhoe buckets dedicated to forestry and landscape applications includes multi-purpose tools designed for gripping, sorting and soil preparation. It includes rake, front and rear rake and forestry root rake buckets. This equipment ensures efficiency and accuracy for all outdoor landscaping operations.



DITCH CLEANING BUCKETS

Ditch cleaning buckets

The ditch cleaning bucket, or levelling bucket, is a wide bucket for ditch cleaning, sloping and large area adjustment. Its high capacity makes it ideal for top soil recovery. A 2x45° **tilting version** is available to achieve precise slopes and finishes. It can be equipped with a reversible counterblade, a rear blade and also comes in **skeleton or grid versions** for sorting materials.



Universal ditch cleaning buckets

The universal ditch cleaning bucket is specially designed for rotating couplers and tiltrotators. Its bevelled sides avoid bottoming during excavation work and allow you to work closer to poles, culverts and other site obstacles. They also facilitate optimum tipping via the bucket corners, when filling trenches, for example. The advanced blade and the flat cutting profile make it **the perfect tool for levelling and public works**.

OTHER TOOLS

Bolt-on adapters

The bolt-on adapter attaches tools via a bolted interface that perfectly fits the tool's drilling template.

Optimised to reliably and constantly transfer forces between the connection kit and the tool, our adapters incorporate carefully positioned reinforcements that ensure excellent strength under operating conditions. They are all **machined after welding of the connecting face**, guaranteeing **perfect geometry** and precise mounting for increased performance and longevity.



Ripper teeth and stump planers

Equipped with a sharp tine for optimum penetration, the ripper tooth is ideal for **carrying out your ripper work in complete confidence**. Its rounded rear design provides excellent ground contact for an efficient "crowbar" effect. The biggest models adapt perfectly to quarry work, where their full potential can be exploited.

The stump planer allows you to reduce stump heights below ground level and to work on tree roots in situ. The central spike, equipped with front cutters in a left, right or dual position (on each side) will enable you to split the stump and then plane it down.





Grapple thumbs

The grapple thumb is the ideal tool for landscaping work. It positions and loads rocks, trunks and branches very precisely. Its kinematics allows **it to be retracted under the arm**, out of the work zone, when not in use, to preserve all the versatility of the machine.

With a **robust construction**, it is hinged on the axle at the end of the dipperstick and is equipped with an **actuator with discharge valve**, allowing it to retract under the force applied by the bucket. This type of equipment requires **a specific kinematics design analysis**, guaranteeing optimised working and stowed positions.

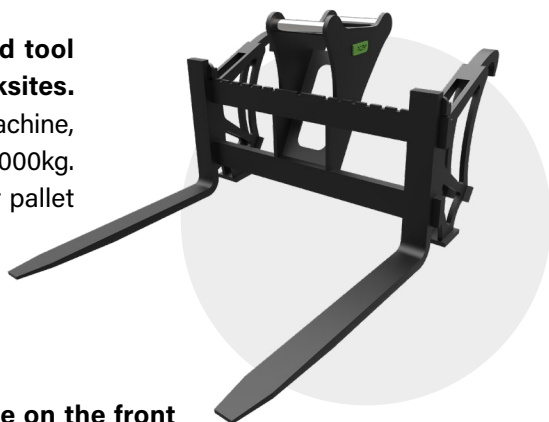


Pallet forks

Pallet forks are a dedicated tool for handling pallets on worksites.

Depending on the size of the machine, it can lift loads of 800, 1500 or 3000kg. There are two versions of our pallet forks:

- **a simple version**, for attachment using a quick coupler only
- **a version with a structure on the front blade**, allowing the pallet forks to be attached to the blade, for use on sites only.



Sorting grapples

Our sorting grapples are robust tools, designed for demolition, sorting and handling work.

There are three different casing finishes and two versions: one is fixed, for use with rotating coupler (to benefit from alignment), the other is rotary, with a motor and a slewing ring.

4xl buckets

The **4xl tool** is a **multi-purpose accessory** designed to offer the following four functions:

- Loading: Conventional bucket function
- Trench filling: Opening the moving section deposits just the right quantity of gravel in the trench.
- Gripping: Opening the moving section allows stumps, branches and stones, etc. to be gripped.
- Levelling: Scraping and filling uneven ground as necessary.



Trapezoidal buckets

Creation or reprofiling trapezoidal buckets are designed with a flat central part, making it possible to effectively smooth the bottom of the ditch, and two inclined sides intended to create or restore its profile.



Asphalt cutters

The **asphalt cutter** can be coupled to the end of your machine, ideally with a rotating coupler or tiltrotator, **allowing you to cut your asphalt finely and precisely to the required profile**. The weight of the vehicle generates the necessary pressure for cutting, which is a few centimetres deep.



Grader blades

The grader blade is the perfect tool **for levelling large areas while minimising machine movements**. A height-adjustable rear roller allows you to level and compact your materials. Its performance is boosted by pairing it with a rotating coupler or tiltrotator.





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