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Machines

Add-on Compactor

ACA 350 / 720 / 750 / 1000

www.ammann-group.com



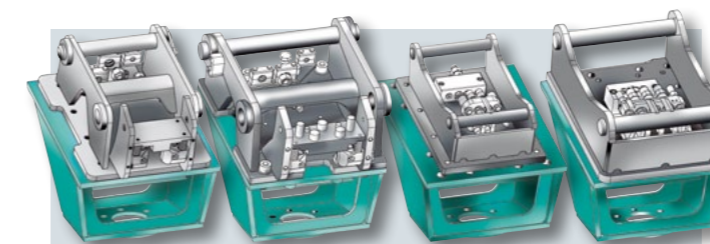
Use on any terrain

Universal and efficient

For optimization of workflow on construction sites



1...2...3...
Ready to use in seconds ...



Advantages:

- universal attachment option for all adapters on the market
- fully automatic change systems can be used just like fully manual systems (with bolts)
- easy changing from one system to another at any time

Ammann add-on compactors

The add-on compactors ACA developed by our subsidiary Rammax complement the reliable compaction machines of the Ammann Group. The add-on compactors are easy to fit to any excavator boom within seconds by means of hydraulic quick-coupling systems for a form-fitting and hydraulic connection.

Trench, slope and embankment compaction are just a few of the many applications of the various add-on compactors. Optimum compaction results can be reached in narrow work spaces in development areas or rebuilding in city centres using the rotary engines.

These machines enable effective utilization of excavator capacity and offer potential for a rational use of machinery and personnel!

Flexible adaptation devices

The add-on compactors are delivered as standard with a universal adapter plate with Krupp drill pattern and a hydraulic connection termina. The connection to all common fully automatic, semi automatic or mechanical coupling systems is possible by screwing on a corresponding change adapter. This allows a time efficient workflow during installation.

Universal fields of application

- Pipeline construction
- Development areas
- Embankment and slope compaction
- Narrow work spaces, manhole compaction
- Structure backfill work
- Landfill construction
- Railroad construction



Flexibility in the narrowest space



ACA 350 without rotating device in pipeline construction



ACA 350-RE with extended upper part used in deep trenches



Versatile in every application, optimum compaction on any construction

ACA 350 (R / RE)

The ACA 350 is excellent for mini excavators due to the simple oil circuit with only two connections. Optionally, it is available with a 160° mechanical rotating device. Additionally, a version with a hydraulic 360° infinite hydraulic rotary engine (-R) and a version with an extended upper part (-RE) is available to make compaction in deep trenches and along pipes easier. The high compaction performance of the compact add-on compactors is remarkable.



ACA 720

The add-on compactors for the 10-tonne excavator class. The choice between ACA 350 and ACA 750.

requires only 90 litres of oil particularly suitable for the favourite middle class excavators from 10 to 15 tons identical dimensions like ACA 750

The models ACA 720, ACA 750 and 1000 can be optionally equipped without hydraulic rotary engines. This option is recommended to be used on excavators equipped with tilt rotators or on carriers with only three hydraulic lines.



For any terrain – for any requirement

ACA 750 / 1000

The ACA 750 and ACA 1000 are equipped as standard with a hydraulic 360° infinite rotary engine and are in principle suitable for excavators from 12 to 40 tons. This allows the use of machines in various construction site conditions.

A stepless and infinite adjustment of the compactor into the correct position is ensured. This allows compaction even in narrow work spaces or on any kind of construction. Depending on the soil quality, filling depth up to 1 m can be compacted in a single layer.

To prevent excessive high pressure of the excavator boom and to protect the add-on compactor and the equipment of the excavator against damage, all of the add-on compactors are provided with a patented movement limiting system.

Another important advantage is that the add-on compactors do not have any combustion engine. Therefore, there are no slope limits. Even complicated compaction works on steep slopes and embankments are easily possible.

Besides, the machines are completely maintenance-free and usual service times are not required.

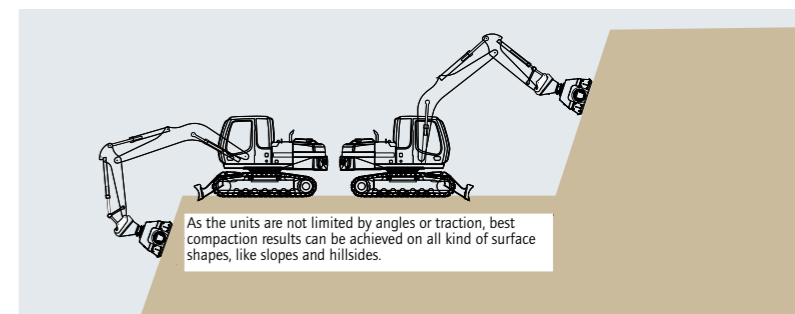


ACA 750

ACA 1000



The patented movement limiting system prevents excessive pressure of the excavator and protects the add-on compactor against damage



As the units are not limited by angles or traction, best compaction results can be achieved on all kind of surface shapes, like slopes and hillsides.

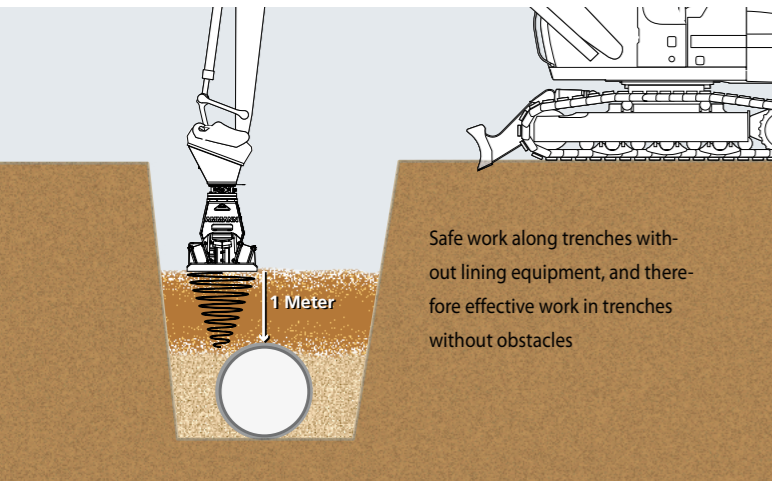


Complicated compaction works on steep slopes and embankments are easily possible

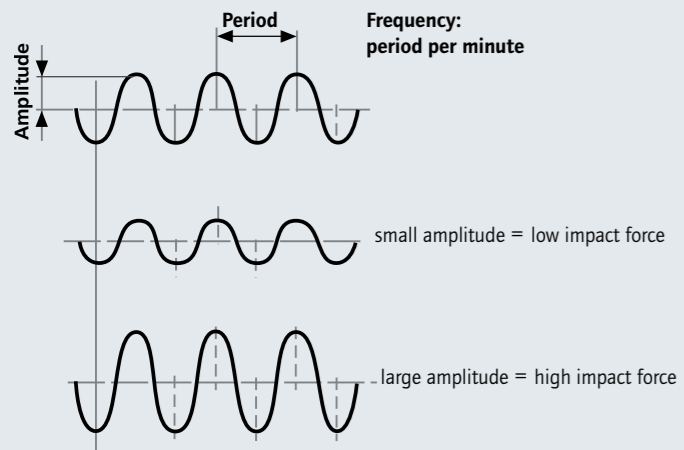


Flexibility – optimum in city centre

The right add-on compactor for everyone



The expensive compaction directly over sewage pipes can be easily realized using these machines extensively and in a short time; filling layer up to 1m!



applicable for all materials
also directly over sewage pipes
ideal for city centres

A = scissors tubing =
changing from the driver's cab

M = hammer tubing =
changing on the valve block

ACA 750-2A / M and 1000-2A / M

The variants 2A and 2M (only for ACA 750 and ACA 1000) allow for the first time to use different compaction forces in one add-on compactor.

Variant 2A

In the case of variant 2A, the impact force can be changed directly from the driver's cab of the carrier. The carrier must be provided with a scissor tubing for this purpose.

Variant 2M

Ammann is the only manufacturer offering this variant on the market at present.

The variant 2M is designed as an alternative for carriers equipped with hammer tubing only. In this variant, the impact force is changed manually using a setting lever on the add-on compactor.

The reduction of the compaction force effects reduction of the amplitude, and therefore the machine is suitable for various soil types as well as city-centre construction sites. Using these machines, even difficult compaction works directly over sewage pipes can be done extensively and in a short time

Setting levers for amplitude intensity

The direction of rotation / amplitude intensity is changed by a setting lever on the valve block⁴ of the add-on compactor.

The valve block controls the hydraulic pressures according to the position of the setting lever.

In the horizontal position⁵, the big amplitude is used.

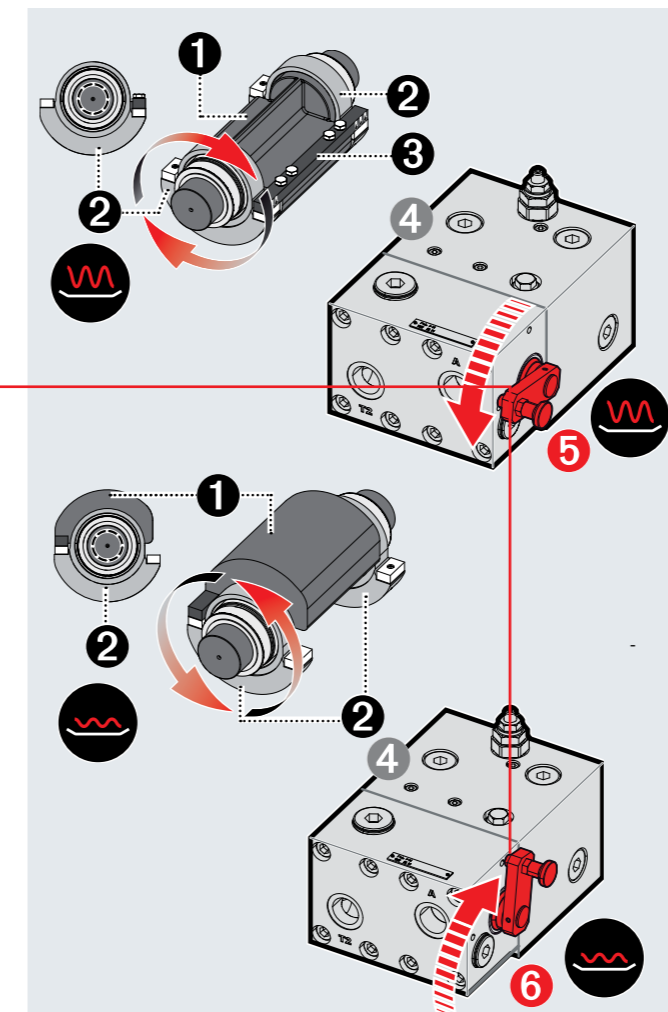
In the vertical position⁶, the small amplitude is used.

Changeable amplitude

The exciter shaft of the compactor consists of a shaft with firmly connected unbalance weight ¹ and two movable unbalance weights. ²

The movable unbalance weights are taken with during rotation of the shaft through a stop bar. ³

Depending on the direction of rotation, the movable unbalance weights are on the same side as the unbalance weight of the shaft and increase the impact force, or they are on the opposite side and decrease the impact force partly. Therefore the exciter shaft has a higher unbalance weight during rotation in one direction than in the other. The impact force and the amplitude can be selected by selecting the direction of rotation of the exciter shaft.



Versions without hydraulic rotary engines

The models ACA 720, 750 and ACA 1000 can be optionally equipped without hydraulic rotary engines. This option is recommended to be used on excavators equipped with tilt rotators or on carriers with only three hydraulic lines.



Fixed variant without rotary engine e.g. for application with tilt rotator





Flexibility all workday long

Simple change - clear advantage

Increase in productivity

In cooperation with the customer, a cost-benefit comparison was made for the LIKUFIX system to prove the economic efficiency of the system. The compared data were determined using hydraulic excavators with/without LIKUFIX. The tools used on the construction sites include dip-pers, grabs and add-on compactor plates as for excavators (with LIKUFIX quick-coupling system). The improvements achieved using tilt rotators, pipe-layers, etc. are not considered in this study. Therefore, the maximum achievable improvements with LIKUFIX are even bigger than determined in the study.



The comparison data were obtained over a period of several months on various construction sites. Examination results:

The capacity of the hydraulic excavator can be increased in pipeline construction by up to 40%.

In this study, an average payback period of about 1.5 year was determined.

As a clear result, it can be stated that the use of LIKUFIX system provides clear benefits in pipeline construction.

Through the optimized attachment tools, particularly the attachment compactor plate, the quality of the compaction could be increased in most cases.

The results obtained in this study are consistent with the field experience with the LIKUFIX system since 2001 at many customers and also at the LIEBHERR-Mietpartner GmbH.

It is important that the improvements are only enabled with a system whose design-related idle times are minimum due to the fast-change systems.

Effective and productive

Very different construction works in size and type can be managed with fewer and fewer machine and manpower costs – this is the challenge of an innovative building contractor.

Market trends

To adapt to the constantly changing market requirements as quickly and optimally as possible, building contractors must be equipped with appropriate equipment at present. However, the personnel costs required for the machines are not allowed to rise. On the contrary: the output per man-hour in pipeline construction is more efficient now and means a competitive advantage in the highly competitive building industry.

Besides, universal and very efficient machines are required that meet the requirements more effectively. To meet the changed requirements for the various building works cost-effectively and universally, Ammann offers the new product range of the add-on compactors.

Advanced fields of application

Since the noise protection becomes more important for highways and railway routes, their realization usually includes construction of embankments and barriers. So far the applied surface layer has only been pressed on unevenly with an excavator scoop.

The consequences include extensive rainfall induced landslides resulting in immense follow-up and rebuilding costs for the contractors. The reason is the insufficient compaction of the individual layers and the bad inter-connection of the individual layers. The pressing on with the excavator scoop results in a relatively smooth surface and less homogeneous compaction. A water film is created between the layers during heavy rainfall resulting in avalanche-like sliding of the upper layers.



Calculation of compaction costs

Activity	Costs - classic compaction			Costs with Ammann add-on compactor		
	Machine	Time	Costs / E	Machine	Time	Costs / E
Compaction beside pipe with rammer	Rammer	1.0h	35.00	Rammer	1.0h	35.00
Lift/take out vibration plate in manhole	Excavator	10 x 5min = 50min	58.33			
Compaction (3 crossings)	Plate	8 x 5min = 40min	26.67			
Excavator rest period	Excavator	40min	23.33			
Change scoop/ add-on compactor				Excavator	3 x 1min = 3min	3.50
Compaction add-on compactor				Excavator	3 x 10min = 30 min	35.00
Total costs		3h 10min	143.33		1h 33min	73.50
Savings compared vibration plate					1h 37min	70.00
					-51%	-49%

o Hourly rates incl. personnel | Rammer 35.00E | Vibration plate 40.00E | Excavator in operation 70.00E | Excavator rest period 35.00E
o Daily rates | Add-on compactor 50E/day | ACR 68 5E/day | Excavator 24t class ca. 630E/day incl. operator



Complicated compaction works on steep embankments and in pipeline construction on a construction site are through the fast-change system effective and easy

Fully hydraulic and much more.

All advantages at a glance:

Completely maintenance-free

Pipe laying suitable for construction site

Flow rate limiters and over pressure valves for protection, pre-set by the manufacturer and installed in front of the rotary engine

360° infinite rotary engine
Option: without rotary engines as "fixed" version with a tilt rotator

Frame designed for extreme pressure loading of the excavator

Flexible use – in the variants 2A and 2M, the impact force can be changed directly from the driver's cab or manually

Centrally placed maintenance-free vibration unit

Optimized base plate ensures balanced operation

Small and large Krupp drill pattern!
All common fully automatic, semi automatic or mechanical change systems are possible by means of an appropriate change adapter.



and much more

Pipe laying suitable for construction site

Rubber-bonded metals mounted at angle to allow maximum lifetimes

Drive of the exciter shaft through hydraulic motor

The patented movement limiting system on both sides protects the frame and the rubber-bonded metals as well as the carrier

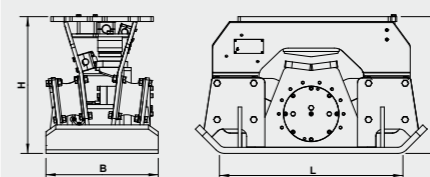


Technical data

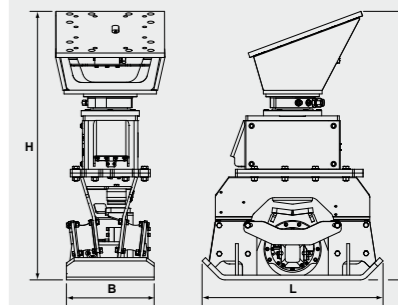
	ACA 350*	ACA 350-R	ACA 350-RE	ACA 720	ACA 750**	ACA 750-2	ACA 1000	ACA 1000-2
Working width (B)	mm (in) 460 (18)	460 (18)	460 (18)	740 (29)	740 (29)	740 (29)	880 (35)	880 (35)
Total length (L)	mm (in) 950 (37)	950 (37)	950 (37)	1142 (45)	1142 (45)	1142 (45)	1295 (51)	1295 (51)
Total height (H)	mm (in) 560 (22)	1492 (59)	2192 (86)	1425 (56)	1425 (56)	1425 (56)	1415 (55)	1415 (55)
Operating weight without frame	kg (lb) 380 (838)	750 (1653)	900 (1984)	870 (1978)	870 (1978)	930 (2050)	1000 (2204)	1180 (2336)
Frequency	Hz (vpm) 36 (2160)	36 (2160)	36 (2160)	36 (2160)	36 (2160)	36 (2160)	36 (2160)	36 (2160)
Centrifugal force	kN (lbf) 55 (12365)	55 (12365)	55 (12365)	90 (20233)	90 (20233)	90/45 (20233/10116)	110 (24729)	110/60(24729/13489)
Required oil quantity for vibration	l/min (gal/min) 70 (15)	70 (15)	70 (15)	90 (20)	165 (36)	165 (36)	165 (36)	165 (36)
Required operating pressure	bar (PSI) 250 (3626)	250 (3626)	250 (3626)	250 (3626)	250 (3626)	250 (3626)	250 (3626)	250 (3626)
Maximum back pressure/Drain oil line	bar (PSI) 10 (145)	10 (145)	10 (145)	10 (145)	10 (145)	10 (145)	10 (145)	10 (145)
Recommended size of the carrier	to. (lb) > 5 (11023)	> 8 (17637)	> 9 (19841)	> 10 (22046)	> 12 (26455)	> 12 (26455)	> 12 (26455)	> 12 (26455)

Changes in the sense of the technical progress reserved * without rotary engine / Option with rotating device

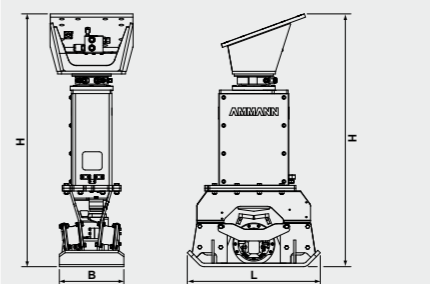
ACA 350



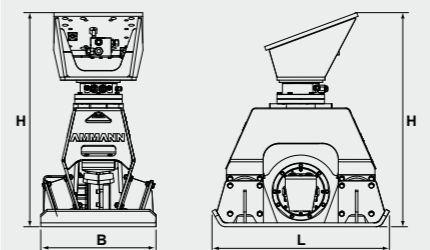
ACA 350-R



ACA 350-RE



ACA 720 / 750



ACA 1000

