



**BOSCH**

Invented for life

Driven by

# AUTONOMY



## A/C maintenance for experts

A/C service units for refrigerants  
R134a and R1234yf

# Everything for your air conditioning service

Air conditioning systems in vehicles require regular maintenance. Accordingly, the market potential for intelligent air conditioning service is steadily increasing. In this context, workshops availing of expertise and the right equipment have the upper hand: A/C service units offered by Bosch enable you to keep a cool head and fully exploit the advantages of comfort, precision and fully-automatic operation.

## Driving comfort and safety offered by A/C systems

Air conditioning systems are meanwhile standard equipment in vehicles. Currently, more than 60 percent of small vehicles and over 90 percent of mid-range and premium-range models are fitted with air conditioning. And these shares are steadily on the rise.

## In the future: A/C service on systems equipped with R134a refrigerant will remain an everyday workshop task

Despite the launch of the new R1234yf refrigerant, vehicle manufacturers were authorized to supply A/C units equipped with the R134a refrigerant in new vehicles until 2016. With an average vehicle service life of 20 years, R134a A/C service units will remain key pillars of revenue generation for workshop service for a long time.



- ▶ Even most small cars feature air conditioning as standard or as an extra option.
- ▶ This trend is on the rise for both passenger cars and commercial vehicles.
- ▶ Sooner or later, there will be only very few vehicles without air conditioning.

### ACS 863

Premium equipment for R1234yf A/C service. Fully-automatic A/C service unit for passenger cars and commercial vehicles; compatible with hybrid and electric vehicles, incl. refrigerant identification

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### ACS 763 / 753

Best in class for R134a and R1234yf A/C service units. Fully-automatic A/C service units for passenger cars and commercial vehicles; compatible with hybrid and electric vehicles

p.08



### ACS 663 / 653

The new standard in R134a and R1234yf air conditioning service units. Fully-automatic A/C service units for passenger cars and commercial vehicles; compatible with hybrid and electric vehicles

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### ACS 661

Fully-automatic A/C service unit for vehicles equipped with R1234yf refrigerant

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### ACS 561

Fully-automatic entry-level A/C service unit for vehicles equipped with R1234yf refrigerant

p.10



The new ACS units offered by Bosch:

11 models for every workshop profile

### ACS 810

Automatic A/C service unit specially for buses, trucks and commercial vehicles, with large internal tank (35 kg) and liquid pump for swift filling with refrigerant

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### ACS 652

Complete, fully-automatic A/C service unit without manual valves for passenger cars and commercial vehicles; compatible with hybrid and electric vehicles

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### ACS 511

Fully-automatic AC service unit with fast return on investment

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### ACS 611

Fully-automatic A/C service unit for passenger cars and commercial vehicles

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**Air conditioning service units offered by Bosch** achieve a refrigerant recovery rate of 99%. Accordingly, you not only save time and money but also improve the efficiency and service quality in your workshop, as well as being environmentally-friendly and conserving resources.

**99%** Refrigerant recovery

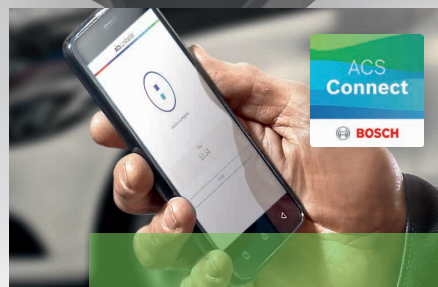


# The new range of A/C service units



Innovative ACS equipment is the key to successful air conditioning service maintenance.

The new range of Bosch A/C service units combines service speed, flexible applications, automation and connectivity – as well as safeguarding optimal maintenance and the profitability of your workshop.



**Swift and easy control of the new ACS units using the Bosch app on your smartphone** – wherever you are in the workshop. You can query the current work status at any time, and receive a push notification when the maintenance function or other activities necessary on the vehicle are complete – enabling you to handle other tasks during ongoing A/C service.

## ACS 863: Fully-automatic A/C service in perfection



R1234yf



### Premium equipment for R1234yf A/C service

The fully-automatic R1234yf service units meet the highest requirements on service units for air conditioning systems in passenger cars and commercial vehicles. They are compatible with hybrid air conditioning systems and meet the specifications of German car manufacturers as well as the SAE, EGEA and European Union standards.

### Safe and efficient – for professional and economical air conditioning service

A/C service units combine all maintenance functions in a single device. The corresponding functions are easy for users to operate and manage. During the development of this system, maintenance-friendliness was a top priority, thereby facilitating access to internal components.

### Maintenance service for hybrid and electric vehicles

Two oil injection bottles for PAG and POE lubricants and an automatic flushing function make the unit compatible for service on hybrid and electric vehicles.



### Order number

ACS 863: S P00 000 112

ACS 863-Nx: S P00 000 127

ACS 863-OE: S P00 000 129

## The advantages of the ACS 863 at a glance

- ▶ Swiveling control panel for optimal user-friendliness
- ▶ Maintenance-friendly design for easy and efficient access to the internal components of the A/C service unit
- ▶ Facilitated by the smartphone app: remote control of the A/C service unit at the touch of a button
- ▶ Integrated leak test for inert gas (nitrogen, forming gas)
- ▶ Deep recovery function for full evacuation of the vehicle A/C system
- ▶ Innovative oil bottle system for vehicles with combustion engines and hybrid vehicles (PAG/POE)
- ▶ Designed on the basis of user experience, these products offer the perfect combination of robustness and flexible mobile use
- ▶ Integrated database with wireless connection to Bosch Connected Repair and the ASA network
- ▶ 99% recovery rate (Deep Recovery)

## ACS 763 and ACS 753: Meeting the highest standards in the workshop



R1234yf



R134a



### Best in class for R1234yf and R134a A/C service units

The fully-automatic R1234yf and R134a service units meet the highest requirements on service units for air conditioning systems in passenger cars and commercial vehicles. They are compatible with hybrid air conditioning systems and meet the specifications of German car manufacturers as well as the SAE, EGEA and European Union standards.

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### Maintenance service for hybrid and electric vehicles

Two oil injection bottles for PAG and POE lubricants and an automatic flushing function make the unit compatible for service on hybrid and electric vehicles.



#### Order number

ACS 763 (R1234yf): S P00 000 113  
ACS 753 (R134a): S P00 000 110

## ACS 663 and 653: The new standard in A/C service



R1234yf



R134a



### The new standard in R1234yf and R134a air conditioning service units

With high-precision measuring technology and fully-automatic service, the ACS 663 and ACS 653 enable efficient service work on A/C systems in passenger cars and commercial vehicles. Complying with the highest requirements of the technically demanding US standard SAE J-2788 for air conditioning systems and meeting the appropriate European standards as well. Suitable for fully-automatic maintenance and repair work on all passenger car and commercial vehicle air conditioning systems.

### Safe and efficient – for professional and economical air conditioning service

The A/C service units combine all maintenance functions in a single device. The corresponding functions are easy for users to operate and manage. During the development of these systems, maintenance-friendliness was a top priority, thereby facilitating access to internal components.

### Maintenance service for hybrid and electric vehicles

Two oil injection bottles for PAG and POE lubricants and an automatic flushing function make the unit compatible for service on hybrid and electric vehicles.



#### Order number

ACS 663-P (R1234yf): S P00 000 133  
ACS 663-RI (R1234yf): S P00 000 134  
ACS 653-P (R134a): S P00 000 136

The advantages of the  
ACS 763, ACS 753,  
ACS 663 and ACS 653  
at a glance

- ▶ Swiveling control panel for optimal user-friendliness (ACS 863, ACS 763, ACS 753)
- ▶ Maintenance-friendly design for easy and efficient access to the internal components of the A/C service unit
- ▶ Facilitated by the smartphone app: remote control of the A/C service unit at the touch of a button (ACS 863, ACS 763, ACS 753)
- ▶ Integrated leak test for inert gas (nitrogen, forming gas) (ACS 863, ACS 763, ACS 753)
- ▶ Deep recovery function for full evacuation of the vehicle A/C system
- ▶ Innovative oil bottle system for vehicles with combustion engines and hybrid vehicles (PAG/POE)
- ▶ Designed on the basis of user experience, these products offer the perfect combination of robustness and flexible mobile use
- ▶ Integrated database with wireless connection to Bosch Connected Repair and the ASA network (ACS 863, ACS 763, ACS 753)
- ▶ 99% recovery rate (Deep Recovery)



## ACS 661 and ACS 561: Air conditioning service for R1234yf made easy



### Air conditioning technology offered by Bosch for R1234yf

After launching the first vehicle models featuring the new R1234yf air conditioning systems in 2011, Bosch collaborated closely with the vehicle industry to develop this new A/C service unit. The cutting-edge ACS 661 and ACS 561 offer reliable workshop applications and are gentle on the environment.

### Safety, user-friendliness and precision thanks to technical competence

The ACS 661 and ACS 561 guarantee easy, time-saving and precise maintenance of modern R1234yf air conditioning systems. Bosch technology and an attention to detail ensure compliance with all of the relevant hose and safety standards, including the service units for R1234yf refrigerant.



#### Order number

**ACS 661: S P00 000 086**

**ACS 561: S P00 000 100**

## ACS 611 and ACS 511: Fully-automatic entry-level air conditioning service



### Air conditioning technology offered by Bosch for R134a

The ACS 611 is a modern air conditioning service unit for passenger cars and commercial vehicles. Like all fully-automatic units offered by Bosch, the ACS 611 is suitable for the maintenance of R134a-based A/C systems requiring minimum manual intervention. The device automatically controls each maintenance step, including recovery, recycling and refilling of oil and refrigerant, without necessitating manual intervention by a mechanic.

The manual mode also enables the user to control each individual step. The powerful dual-stage vacuum pump featured by the ACS 611 guarantees swift and effective evacuation of the system. Like all Bosch units, the ACS 611 features a database providing details on the requisite volumes of oil and refrigerant for the respective vehicle's air conditioning system. The ACS 611 also has an integrated printer for drawing up detailed reports.

Our ACS 511 model is an alternative for workshops with reduced A/C service levels. This less powerful compressor also meets the requirements for professional operations without compromising on the typically high quality offered by Bosch.



#### Order number

**ACS 611: S P00 000 082**

**ACS 511: S P00 000 081**

## The advantages of the ACS 661 and ACS 561 at a glance

- ▶ Fully-automatic service or manual selection of individual service steps
- ▶ Vacuum pump 170 l/min. (ACS 661); 72 l/min. (ACS 561)
- ▶ Refrigerant tank 20 kg (ACS 661); 8 kg (ACS 561)
- ▶ Compressor 3/8 PS (ACS 661); 1/4 PS (ACS 561)
- ▶ Service hoses with flushing function for compatibility with hybrid/electric vehicles
- ▶ Separate bottles for injecting oil/UV dye (ACS 661)
- ▶ Powerful deep vacuum function
- ▶ With optional integrated flushing program
- ▶ Electronic control of the internal air exchange
- ▶ Automatic purge of non-condensable gas
- ▶ Easy maintenance of the internal filter
- ▶ Serviceability: easy filter dryer and vacuum pump oil change
- ▶ Printer

## The advantages of the ACS 611 and ACS 511 at a glance

- ▶ Fully-automatic service or manual selection of individual service steps
- ▶ Deep vacuum (vacuum pump 170 l/min. for ACS 611)
- ▶ Bottles for injecting oil/UV dye
- ▶ Large internal tank (20 kg for ACS 611)
- ▶ Step-by-step menu guidance
- ▶ Integrated database for passenger cars and commercial vehicles
- ▶ Charge with automatic compensation of service hoses
- ▶ With optional integrated flushing program
- ▶ Multi-phase refrigerant recycling during the vacuum phase
- ▶ Integrated, guided performance test for A/C systems
- ▶ Automatic purge of non-condensable gas
- ▶ Easy maintenance of the internal filter
- ▶ Easily-accessible vacuum pump for uncomplicated oil changes
- ▶ Printer

## ACS 652:

Comprehensive expertise for passenger cars and commercial vehicles



R134a



### Top equipment for a professional air conditioning service

The ACS 652 is optimized for workshops with medium to high workloads in air conditioning service. High-precision measuring technology and fully-automatic processes enable environmentally-friendly service work on air conditioning systems in passenger cars and commercial vehicles alike.

### Maintenance service for hybrid and electric vehicles

Two oil injection bottles for PAG and POE lubricants. The flushing function of the service hoses makes the device suitable for both hybrid and electric vehicles.

### Fully-automatic work steps

The ACS 652 performs the following tasks without requiring manual intervention: refrigerant extraction and recycling, used oil draining, evacuation followed by leak testing, refilling of new oil and UV dye, and precise refrigerant filling.



**Order number**  
**ACS 652: S P00 000 070**

## The advantages of the ACS 652 at a glance

- ▶ Fully-automatic service or manual selection of individual service steps
- ▶ Powerful dual-stage vacuum pump (170 l/min.)
- ▶ Large internal tank (20 kg)
- ▶ Suitable for vehicles with combustion engines and hybrid vehicles (PAG/POE)
- ▶ Integrated database for passenger cars and commercial vehicles
- ▶ Charge with automatic compensation of service hoses
- ▶ LCD display (80 characters)
- ▶ Integrated performance test for air conditioning systems
- ▶ Quick-start function
- ▶ Quick selection for the last 10 vehicles
- ▶ Multi-phase refrigerant recycling
- ▶ With optional integrated flushing program
- ▶ Automatic purge of non-condensable gas
- ▶ Serviceability: easy filter dryer and vacuum pump oil change
- ▶ No manual valves
- ▶ Printer

## ACS 810:

Air conditioning service at peak performance



R134a



### Air conditioning technology for heavy-duty vehicles

The ACS 810 is specially aligned toward the requirements of buses and trucks as well as R134a-based, high-capacity air conditioning systems. The unit automatically controls the recovery, recycling and refilling of refrigerant. The 5-meter service hoses permit easy connection to the A/C systems.

Thanks to integrated 2-liter oil bottles for injecting and recovering oil, the ACS 810 can hold a large volume of compressor lubricant. The double fan ensures excellent temperature control and constant refrigerant pressure during the recovery phase. It also protects the internal components from overheating. The high-performance filling pump allows fast and comprehensive filling with refrigerant.

The unit guarantees professional air conditioning servicing for heavy trucks and buses and also features a printer for drawing up detailed reports.



**Order number**  
**ACS 810: S P00 000 083**

## The advantages of the ACS 810 at a glance

- ▶ Fully-automatic service or manual selection of individual service steps
- ▶ Fast and deep vacuum (vacuum pump 283 l/min.)
- ▶ Large oil tanks (2000 ml)
- ▶ Large internal tank (35 kg)
- ▶ Long service hoses as standard (5 m)
- ▶ Liquid pump for filling with refrigerant
- ▶ Integrated database for passenger cars and commercial vehicles
- ▶ With optional integrated flushing program
- ▶ Multi-phase refrigerant recycling during the vacuum phase
- ▶ Integrated, guided performance test for A/C systems
- ▶ Automatic purge of non-condensable gas
- ▶ Easy maintenance of the internal filter
- ▶ Easily-accessible vacuum pump for uncomplicated oil changes
- ▶ Printer

Specifications

ACS 863, ACS 763, ACS 753, ACS 663 and ACS 653

Model	ACS 863	ACS 763 / ACS 753	ACS 663 / ACS 653		ACS 661	ACS 561	ACS 652
Refrigerant	R1234yf	R1234yf / R134a	R1234yf / R134a		R1234yf	R1234yf	R134a
Operating mode	Fully-automatic	Fully-automatic	Fully-automatic		Fully-automatic	Fully-automatic	Fully-automatic
Functions							
Recovery function	Automatic	Automatic	Automatic		Automatic	Automatic	Automatic
Recovery rate	> 99%	> 99%	> 99%		> 95%	> 95%	> 95%
Refrigerant detection	Yes	Optional	Optional (integrated in ACS 663-RI)		Optional	Optional	No
Oil drain	Automatic, with electronic scale	Automatic, with electronic scale	Automatic, with electronic scale		Automatic	Automatic	Automatic, with electronic scale
Vacuum function	Automatic	Automatic	Automatic		Automatic	Automatic	Automatic
Leak test	Automatic	Automatic	Automatic		Automatic	Automatic	Automatic
Pressure leak test	Yes	Yes	Yes		Yes	ACS 561	No
Pressure leak test (N2 / N2H2)	Yes	Yes	Optional		No	No	No
Hybrid oil function	Yes	Yes	Yes		Yes	Flushing the service hoses	Yes
Oil injection	PAG/POE Automatic, with electronic scale	PAG/POE Automatic, with electronic scale	PAG/POE Automatic		PAG/POE Automatic	Automatic	PAG/POE Automatic, with electronic scale
UV dye injection	Automatic, with electronic scale	Automatic, with electronic scale	Automatic		Automatic	No	Automatic
Refrigerant volume	Automatic, with electronic scale	Automatic, with electronic scale	Automatic, with electronic scale		Automatic, with electronic scale	Automatic, with electronic scale	Automatic, with electronic scale
Flushing function	Optional	Optional	Optional		Optional	Optional	Yes (via optional kit)
Printer	Yes	Yes	ACS 663-P ACS 663-RI ACS 653-P		Yes	Yes	Yes
Ventilation system	Electronic control	Electronic control	Electronic control		Electronic control	Automatic	Automatic

Specifications

Valves, HP/LP	–	–	–		2	2	–
Pressure gage, HP/LP	100 mm, pulse-free	100 mm, pulse-free	100 mm, pulse-free		63 mm, pulse-free	63 mm, pulse-free	80 mm, pulse-free
Tank pressure display	Digital	Digital	Digital		Digital	No	40 mm
Service hoses	2.5 m (5 m optional)	2.5 m (5 m optional)	2.5 m (5 m optional)		2.5 m	2.5 m	2.5 m (2.5 m and 5 m extension optional)
Display	7" color display	7" color display	4.3" color display		160 x 120 monochrome display	160 x 120 monochrome display	LCD display
Compressor	1/4 HD	1/4 HD	1/4 HD		1/4 HD	1/4 HD	3/8 HD
Vacuum pump	170 l/min. (6 CFM)	170 l/min. (6 CFM)	170 l/min. (6 CFM)		170 l/min. (6 CFM)	71 l/min. (3 CFM)	170 l/min. (6 CFM)
Refrigerant tank	19.5 kg	19.5 kg/21.5 kg	19.5 kg/21.5 kg		23 kg	8 kg	20 kg
Oil bottles	2 x 250 ml (hermetically-sealed)	2 x 250 ml (hermetically-sealed)	2 x 250 ml (hermetically-sealed as an option)		2 x 250 ml	1 x 250 ml	2 x 250 ml
Used oil bottle	1 x 250 ml	1 x 250 ml	1 x 250 ml		1 x 250 ml	1 x 250 ml	1 x 250 ml
UV dye bottle	1 x 250 ml (hermetically-sealed)	1 x 250 ml (hermetically-sealed)	1 x 250 ml (hermetically-sealed as an option)		1 x 250 ml	No	1 x 50 ml
Dimensions in cm (L x W x H)	105 x 75 x 77	105 x 75 x 77	105 x 75 x 77		128 x 69 x 69	107 x 61 x 76	128 x 69 x 69
Weight (with empty refrigerant tank)	112 kg	112 kg	112 kg		110 kg	107 kg	110 kg
Power supply	230 V 50/60 Hz	230 V 50/60 Hz	230 V 50/60 Hz		230 V 50/60 Hz	230 V 50/60 Hz	230 V 50/60 Hz

Accessories

Vehicle database	Yes	Yes	Yes		Yes	Optional	Yes
Programmable user database	Yes	Yes	Yes		No	Yes	Yes
A/C system performance test	Yes	Yes	Yes		No	No	Optional
Vehicle flushing adapter kit	Optional kit	Optional kit	Optional kit		Optional kit	Optional kit	Optional kit
USB port	Yes	Yes	Yes		Yes	Yes	No
Wi-Fi connection	Yes	Yes	Optional		No	No	No
App connection	Yes	Yes	Optional		No	No	No

Technical data

ACS 661, ACS 561 and ACS 652



# Specifications

## ACS 611, ACS 511 and ACS 810

Model	ACS 611	ACS 511	ACS 810
Refrigerant	R134a	R134a	R134a
Operating mode	Fully-automatic	Fully-automatic	Automatic
Functions			
Recovery function	Automatic	Automatic	Automatic
Recovery rate	> 95%	> 95%	> 95%
Refrigerant detection	No	No	No
Oil drain	Automatic, with electronic scale	Automatic, with electronic scale	Automatic
Vacuum function	Automatic	Automatic	Automatic
Leak test	Automatic	Automatic	Automatic
Pressure leak test	No	No	No
Pressure leak test (N2/N2H2)	No	No	No
Hybrid oil function	No	No	No
Oil injection	Automatic, with electronic scale	Automatic, with electronic scale	Manual, with magnetic control
UV dye injection	Automatic	Automatic	No
Refrigerant volume	Automatic, with electronic scale	Automatic, with electronic scale	Automatic, with electronic scale
Flushing function	Yes (via optional kit)	Yes (via optional kit)	Optional
Printer	Yes	Yes	Yes
Ventilation system	Automatic	Automatic	Automatic

Specifications			
Valves, HP/LP	2	2	2
Pressure gage, HP/LP	80 mm, pulse-free	80 mm, pulse-free	80 mm, pulse-free
Tank pressure display	40 mm	40 mm	40 mm
Length of service hoses	2.5 m (2.5 m and 5 m extension optional)	2.5 m (2.5 m and 5 m extension optional)	2.5 m (2.5 m and 5 m extension optional)
Display	LCD display	LCD display	LCD display
Compressor	3/8 HD	1/4 HD	1/2 HD
Vacuum pump	170 l/min. (6 CFM)	71 l/min. (3 CFM)	283 l/min. (10 CFM)
Refrigerant tank	20 kg	8 kg	35 kg (40 l)
Oil bottles	1 x 250 ml	1 x 250 ml	1 x 2000 ml
Used oil bottle	1 x 250 ml	1 x 250 ml	1 x 2000 ml
UV dye bottle	1 x 50 ml	1 x 50 ml	No
Dimensions in cm (L x W x H)	128 x 69 x 69	128 x 69 x 69	128 x 69 x 69
Weight (with empty refrigerant tank)	110 kg	100 kg	120 kg
Power supply	230 V 50/60 Hz	230 V 50/60 Hz	230 V 50 Hz

Accessories			
Vehicle database	Yes	Yes	Yes
Programmable user database	Yes	Yes	Yes
A/C system performance test	Optional	Optional	Optional
Vehicle flushing adapter kit	Optional kit	Optional kit	Optional kit
USB port	No	No	No
Wi-Fi connection	No	No	No
App connection	No	No	No

# The right equipment for your service

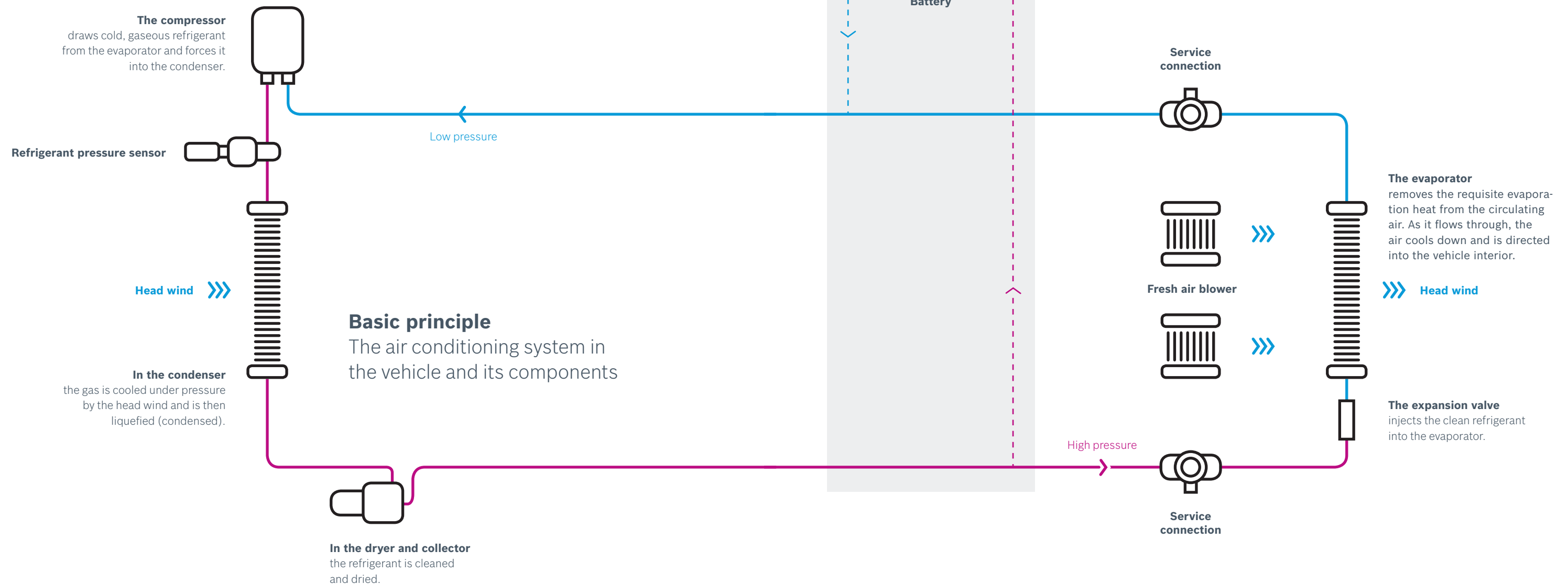
Designation	Order number	Description
Flushing kit	<b>S P00 101 174</b>	ACT550: Flushing kit R134a – Installation kit for ACS x11; ACS 652
	<b>S P00 101 173</b>	ACT550-SFK: Flushing kit R1234yf & R134a for ACS 752 and ACS xx3
	<b>S P00 101 175</b>	ACT1234: Flushing kit R1234yf & R134a – Installation kit for ACS 752 and ACS xx3
	<b>S P00 101 176</b>	ACT1234-SFK: Flushing kit R1234yf & R134a for ACS 752 and ACS xx3
Leak detection	<b>S P00 101 740</b>	ACT1234-NXK: N2 / N2H2 kit for new generation ACSxx3 unit
	<b>S P00 101 018</b>	Twister Oil injector
	<b>S P00 101 465</b>	R1234yf for Twister Oil injector
	<b>1 692 600 144</b>	RA16286B: Universal UV Dye 240 ml for R134a and R1234yf
	<b>1 687 001 591</b>	UV55: UV leak detector kit
	<b>1 687 550 014</b>	UVPRO: UV lamp (internal battery)
	<b>F 002 DG1 430</b>	12 Volt UV Lamp: UV lamp (vehicle-battery)
	<b>S P00 101 824</b>	RA43230EU: Digital Thermometer
	<b>1 687 234 012</b>	LS780B: Electronic leak detector (2 adjustable sensitivities)
Special adapters	<b>S P00 101 700</b>	HP Service Port Adapter - HP Extension Service Port R1234yf
	<b>S P00 101 825</b>	ACT12688: LP Service Port Adapter - LP Extension Service Port R1234yf
	<b>S P00 101 344</b>	ACT12686: HP Service Port Adapter - HP Extension Service Port R134a
	<b>S P00 101 826</b>	ACT12689: LP Service Port Adapter - LP Extension Service Port R134a
	<b>S P00 101 829</b>	ACT12690: HP-LP Service Port Adapter - Service Port R1234yf
	<b>S P00 101 408</b>	RA6050KIT: Bus and Heavy Duty kit
Consumables	<b>S P00 100 086</b>	5604052: Vacuum Pump Oil (1 bottle 600 ml)
	<b>S P00 101 034</b>	PAG 100 Oil Bottle (250 ml) for R134a systems
	<b>S P00 101 035</b>	PAG 150 Oil Bottle (250 ml) for R134a systems
	<b>S P00 101 036</b>	PAG 46 Oil Bottle (250 ml) for R134a systems
	<b>S P001 01 422</b>	PAG 46 Oil Bottle (250 ml) for R1234yf systems
	<b>S P00 101 586</b>	POE Oil Bottle (250 ml) for Electrical & Hybrid systems for R134a
	<b>S P00 101 827</b>	POE Oil Bottle (250 ml) for Electrical & Hybrid systems for R1234yf
	<b>S P00 101 828</b>	PAG Oil Bottle (250 ml) for Electrical & Hybrid systems with SANDEN SPA2 (R134a/R1234yf)
	<b>S P00 100 075</b>	RA245VSK: ACS unit R134a service hoses extension: 2,44 m for ACS x11 and ACS 652
	<b>SP01 100 358</b>	RA500VSK: ACS unit R134a service hoses extension: 5 m for ACS x11 and ACS 652
	<b>S P00 101 877</b>	1234-SH5: R1234yf 5 mt Service hoses kit for ACS xx3 unit
	<b>S P00 101 878</b>	1x34-SH5: R134a 5 mt Service hoses kit for ACS xx3 unit
Special kit	<b>S P00 100 128</b>	A/C Data manager for ACS unit BOSCH
	<b>S P0F 210 059</b>	RA161000: O-Ring kit for A/C Systems
	<b>S P00 101 681</b>	RA162000: Schrader valves kit

Further information can be found at [www.bosch-workshop-world.com](http://www.bosch-workshop-world.com)



# How the A/C system works:

## Comfort and safety functions



When the air conditioning system is switched on with the engine running, the compressor draws cold, gaseous refrigerant from the evaporator and forces it into the condenser. When compressed, the refrigerant heats up to approx. 60 – 100 °C. The hot gas, which is now compressed, is cooled down in the condenser by the external air (head wind or additional blower) blowing past. When the pressure-dependent dew point is reached, the refrigerant condenses and liquefies.

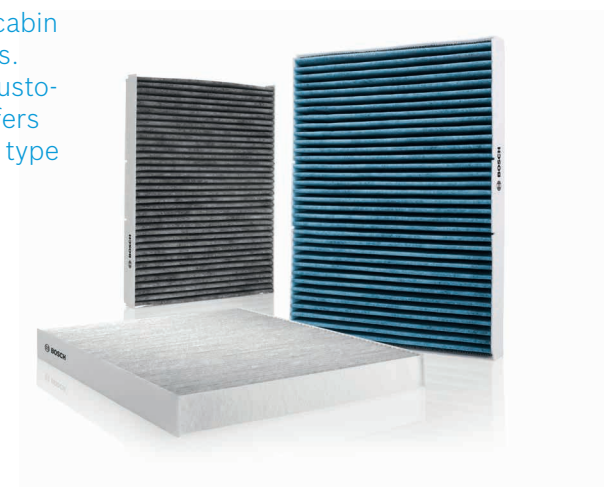
Coming from the condenser, the fully-liquefied refrigerant enters the fluid tank where it is collected. The refrigerant flows through the dryer where any moisture and contaminants are filtered out.

From the fluid tank, the refrigerant flows on to the expansion valve where the highly-pressurized, liquid refrigerant is injected into the evaporator. Its pressure drops and it evaporates. The requisite evaporation heat is drawn from the air flowing past the evaporator fins, causing it to cool. The refrigerant, which is now completely gaseous again, is drawn by the compressor again and compressed once more.

### Tip for workshops

Apart from professional service units, regularly changing the cabin filter is also important when servicing air conditioning systems. After all, the service is only complete and noticeable to your customers with a new filter. The cabin filter program from Bosch offers more comfort, safety and health protection for practically any type of vehicle:

- ▶ Reliable filtration of dirt particles, exhaust gases and ozone
- ▶ Reduced deposits in the blower and on the windshield
- ▶ Binds allergens permanently, eliminates bacteria and filters fine dust





# Driven by efficiency

Technology from Bosch is used in practically every vehicle in the world. For us, the focus is on people and helping them to stay mobile.

We have been dedicated to people for more than 125 years with our pioneering spirit, research, production, and expertise.

And we continue to work on our combination of solutions for spare parts, diagnostic devices, workshop equipment, and services:

- ▶ Solutions for efficient vehicle repairs
- ▶ Innovative workshop equipment and software
- ▶ One of the world's largest selections of new and replacement parts
- ▶ Large dealership network for quick and reliable parts supply
- ▶ Competent hotline support
- ▶ Comprehensive educational and training offerings
- ▶ Targeted sales and marketing support

Find out more:  
[bosch-automotive-aftermarket.com](http://bosch-automotive-aftermarket.com)

What drives you  
drives us

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