

FS80-90-110 Sweeping machines

New FIMAP Sweeping Machines



FS80-90-110 Sweeping machines

FS80-90-110 born from the experience made by the models FS100/120



FS80 B/D

New FS100 B/D



New FS120 B/D/BIFUEL



Big working-time autonomy
Optimisation of energetic absorptions
Performance
Power
Large filtering surface
Completely hydraulic
Comfort



New FS80 B/D



New FS90 B/D



New FS110 B/D

FS80-90-110 born from the experience made by the models FS100/120

FS80 between > Sweeper 80

+ Productivity

- Reduce energy consumption up to 35% thanks to the optimisation of the hydraulic system and the reduction of absorptions (power supply 36 V)
- Possibility to install one battery box of 430 Ah C5 that permit to operate up to 4 hours
- The central brush is floating type and self-adjusts to keep in contact with the ground all the time and to always guarantee a flat cleaning width
- Large filter surface, 7 sq.m (+ 40%)
- Debris hopper capacity 190 l. (+ 30%)

Compact dimensions

- Possibility to have good cleaning results even in narrow spaces

User friendly and comfortable

- Comfortable driver's seat and user-friendly controls
- Strumentation like the one you will find in a car
- Electric filter shaker to keep the vacuum bag filters clean
- Big diameter wheels for reducing mechanical stress and to make working more comfortable

User friendly maintenance operations

- Maximum access to the engine/battery compartment and to the filter for reducing the maintenance

Safety

- Hydraulic breaks
- Possibility to get off from both sides

Reliability

- The movement are completely hydraulic and guarantee performance constancy over time
- Big front box for collecting dirt 190 l. (FS80) is lifted by a 2-piston hydraulic system
- Tubular frame for bigger strength
- Minimum use of electronic components

Concept

FS 80-90-110

- **Enhanced performances for dust collection and control, manoeuvrability and autonomy**
- **Maximum driving comfort for the operator and best accessibility**
- **Best accessibility for ordinary maintenance operations**
- **Reduction of maintenance costs**

FS80-90-110

CLEANING PERFORMANCES AND DUST CONTROL

FS 80-90-110

Cleaning performances

The main brush
is floating and self-adjusting
to maintain constant
contact with the floor



FS 80-90-110

Cleaning performances

CENTRAL BRUSH

The height of the brush from the floor can be adjusted as well as the pressure:

- By rotating the knob counterclockwise pressure is reduced in order to use soft brushes
- By rotating the knob clockwise pressure is increased in order to use harder brushes
- The brush can be easily removed for replacement and this does not require any tools at all



Cleaning performances BENEFITS

Large capacity of the dirt hopper

The front debris hopper with large capacity - 370* l (FS80), 400* l (FS90), 485* l (FS110) - excluding filter compartment - is lifted by a dual-piston hydraulic system that is easily operated from the driver's seat and can reach 1.4 m dumping height



* Total capacity

Cleaning performances Dust control



The fabric pocket filter,
with its large surface
of more than 8 m² (FS90-110 version)
ensures long life and
excellent results
even in environments with high levels of dust.

Cleaning is ensured
by a powerful electric shaker

Cleaning performance Dust control



SUCTION

- Fan directly attached to the hopper, without any flexible tube
- Totally hydraulic
- Power 160 m³/h

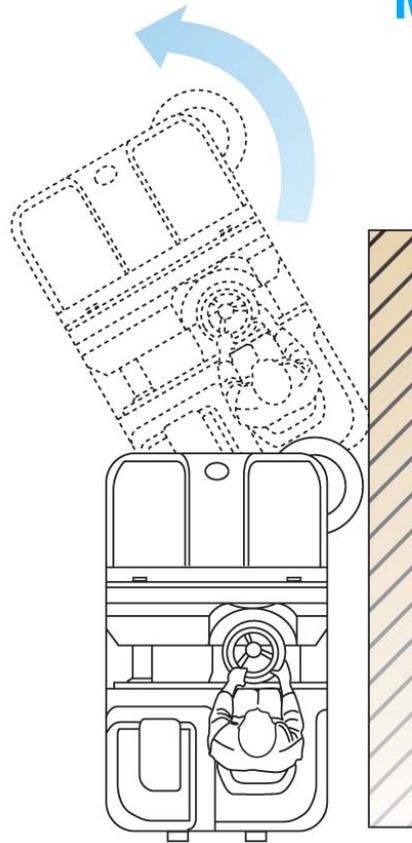
Cleaning performance Dust control

FIMAP NO DUST LIFTING SYSTEM

The vacuumed air is discharged through grilles located high up on the machine. This means that no dust that has settled on the surface surrounding the machine is lifted, thus guaranteeing excellent cleaning results.



CLEANING PERFORMANCE MANOEUVRABILITY



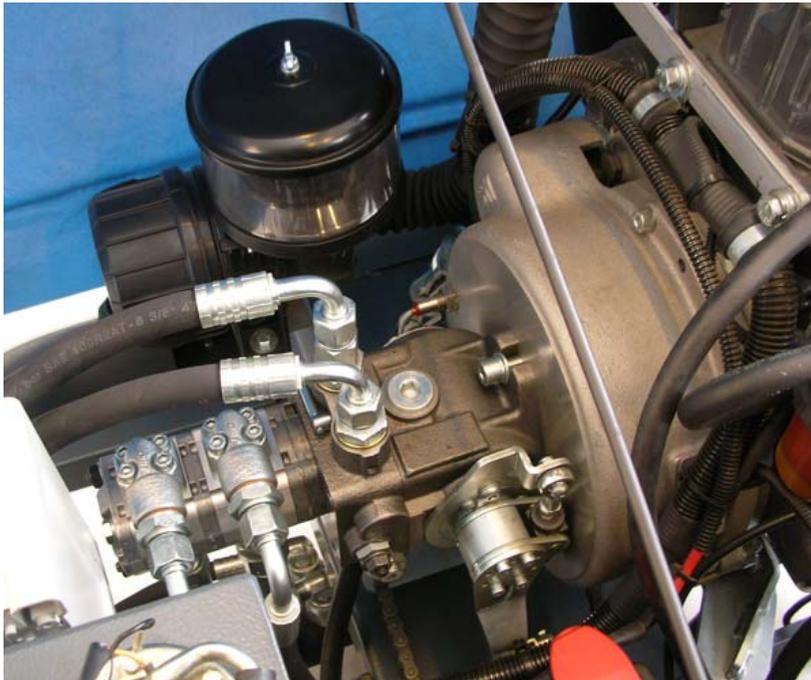
- Traction, with rear drive wheel ensures excellent manoeuvrability and safety as well as a very tight turning radius
- The body with rounded edges and protected by a rubber profile improves sweeper manoeuvrability.
- The mechanically assisted steering wheel makes manoeuvres easier also for the battery version

FS80-90-110

AUTONOMY

AUTONOMY

FS80-90-110



The adopted technical solutions, allow to have the same hydraulic system both for battery and diesel version.

Actually, pumps group with 3 pumps reduces hydraulic oil quantity.

Only needed quantity of oil goes through each pump, avoiding energy wasting and oil heating due to oil speeding in the hoses

AUTONOMY FS 80-90-110



Direct distributors reduce the quantity of electrovalves reducing consumption and improving reliability.

In a few words: up to 11 hours' autonomy for the diesel version and up to 4 hours' autonomy for the battery version (B)

FS80-90-110
Improved
operators' working quality!

BENEFITS

Improved operators' working quality!



The driver's seat has been carefully devised to ensure the most comfortable operating conditions for the operator: the steering wheel comes with adjustable inclination just like the seat back and the arm rests.

BENEFITS

Improved operators' working quality!

The two main control levers are positioned to make driving as easy as possible.

The two levers are:

1. lever to open and close the lid of the dirt hopper.
2. lever to lift the dirt hopper

The levers operate the slide valve directly without any electrical connection.

By means of two other levers the central and side brush can be lowered and lifted. A mechanical system activates and deactivates brushes rotation.



BENEFITS

Improved operators' working quality!



COMFORT

The drive pedal ensures an extremely smooth and precise operation

BENEFITS

Improved operators' working quality!

COMFORT & SAFETY

A special overhead guard is available on request to protect the operator, improving comfort and protection



BENEFITS

Improved operators' working quality!



COMFORT

A convenient step helps the operator to get to the driver's seat

FS80-90-110

**Excellent accessibility
for ordinary and extraordinary
maintenance procedures!**

BENEFITS

Excellent accessibility for ordinary and extraordinary maintenance procedures

The FS80-90-110 **sweeping machines** have been designed to provide best accessibility to the motor compartment (Diesel version) and the battery compartment (battery version).

Thanks to the accurate design, all ordinary and extraordinary maintenance operations can be easily performed on the machine without ever being obstructed.

Just the checking of the oil or changing the filters for instance in the motorised versions, are now so extremely easy.

In the B version, the box housing the electrical devices is centrally-located to allow a quick and easy check of the fluids and of all battery elements.

It is possible to install a battery case with a capacity of up to 480 Ah C5 (FS90-110 B version).



BENEFITS

**Excellent accessibility
for ordinary and extraordinary maintenance procedures**

Filter 10 μ at the end of the hydraulic system

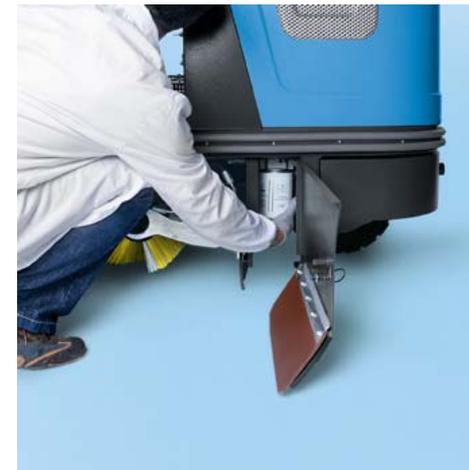
No cock to change the filter to avoid problems at the pumps if the technical operator forgets to reopen the oil cock.

Check every 750 hours and replace (red led on the dashboard)

Another filter of 90 μ on the oil tank for the bigger debris

DIRT

- 30-40 μ can damage the pumps and valves
- >50 μ can break the pumps

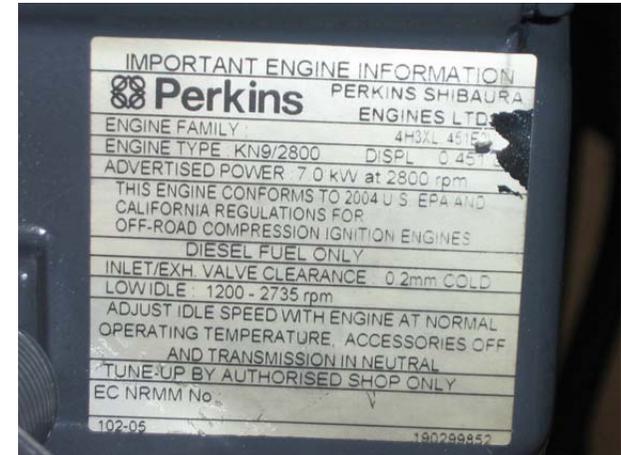


BENEFITS

Excellent accessibility
for ordinary
and extraordinary maintenance procedures

The diesel motor, conforms to 2004
EPA and Californian Regulation
has very simple accessibility.

It has a triple air filter system and it is
ideal also in very dusty
environments.



FS80-90-110

MAINTENANCE COSTS REDUCTION

Maintenance Costs Cut

Wheels are connected with a big steel BAR and the supports are enclosed in a case for stability in the years.



FS80-90-110



The big diameter wheels reduce stress for the machine and operator too.



The side brush is retractable in case of impact.

FS80-90-110 Sweeping machines



The fabric pocket filter requires no maintenance: it has an electric shaker

The fabric pocket filter, with a large filter surface of, 7 m² (FS80) - 8 m² (FS90-110), is long-lasting and ensures excellent suction results, even in environments with a high level of fine dust, thanks to its powerful shaker.

The filter is easy to remove for checks or replacement, without the use of tools.

The fabric pocket filter requires no maintenance: it has an electric shaker.

Fabric filters are also available on request for specific applications.

FS80-90-110 Sweeping machines



FS80-90-110 have adopted a new, automotive-style design for their instrument panel, with immediate visualisation of all functions. The newly steering wheel has been specially designed for greater comfort when driving. The control panel also features the electric shaker, directly controlled by a button on the instrument panel, which allows the suction pocket filter to be kept clean.

Numbers

FS80-90-110

FS80-90-110 Sweeping machines

All numbers FS80-90-110



Working width with
central brush + 1 lateral
brush

FS80 B/D: 112 cm
FS90 B/D: 122 cm
FS110 B/D: 142 cm



Length
FS80-90-110: 203 cm

Numbers

FS 80-90-110

FIMA P	 Working width (with 1 side brush)	 Number of side brushes/ Ø mm	 Power supply V/ traction	 Central brush width	 Front-mounted hopper	 Rear-mounted hopper	 Type of dumping system	 Working capacity up to m ² /h	 Machine dimensions mm L x H x W	 Machine weight kg (without batteries)
FS80B FS90B FS110B 	1120 1220 1420	1-2/500	36/ hydraulic	800 900 1100	•	-	Hydraulic	9.520 10.370 12.070	2020x1430x1130 2020x1430x1230 2020x1430x1430	700 710 750
FS80D FS90D FS110D 	1120 1220 1420	1-2/500	Diesel/ hydraulic	800 900 1100	•	-	Hydraulic	10.080 10.980 12.780	2020x1430x1130 2020x1430x1230 2020x1430x1430	730 770 820

Numbers

FS 80-90-110

TECHNICAL DESCRIPTION		FS80 B	FS80D	FS90 B	FS90D	FS110D	FS110D
Forward speed	km/h	0÷8,5	0÷9	0÷8,5	0÷9	0÷8,5	0÷9
Max gradient	%	10	15	10	15	10	15
Electric motor	V/W	36/5000	-	36/5000	-	36/500	-
Diesel motor PERKINS	HP	-	14/8,2	-	20/12,2	-	20/12,2
Filter shaker motor	V/W	12/110	12/110	12/110	12/110	12/110	12/110
Suction motor	mc/h	Hydraulic 160	Hydraulic 160	Hydraulic 160	Hydraulic 160	Hydraulic 160	Hydraulic 160
Dumping height	mm	1400	1400	1400	1400	1400	1400
Debris hopper capacity (Total)	l	370	370	400	400	485	485
Debris hopper capacity (without filter)	l	190	190	220	220	270	270
Filter surface area	sq.m	7	7	8	8	8	8
Batteries	V/A	36/320	-	36/480	-	36/480	-
Battery weight	kg	350	-	520	-	520	-

FS80-90-110 Sweeping machines



Comparison

Comparison Sweeping machine 80



80 B/D (FIMAP)

120/150 RD (KARCHER)

Jonas 1200 E/D (HAKO)

Xtrema EBDK (EUREKA)

1100(DULEVO)

		80 B/D (FIMAP)	120/150 RD (KARCHER)	Jonas 1200 E/D (HAKO)	Xtrema EBDK (EUREKA)	1100(DULEVO)
Central brush width	mm	800	850	800	800	750
Power B/D	Kw	2,7/7,5	2.3/7.35	4.3/9.8	24 V	2.5/7.8
Cooling cylinders (D)	n/	1/aria	-	2/water	2/-	2/-
Debris hopper capacity	l	150	150	130	150	140
Filter type		Panel filter	polyester cartridge	Panel filter	fabric filter	Fabric Filter
Filter surface area	m²	5	9	5	-	4
Machine dimensions (Lxhxw)	mm	1790 x 1380 x 1080	1900 x 1390 x 1230	1990 x 1520 x 1140	-	-
Hopper	front/rear	front	rear	rear	rear	front
Traction		Electronic/hydraulic	Electric/hydraulic	Electric/hydraulic	Electric/hydraulic	hydraulic/hydraulic
Notes			Filter cleaning system - 6m2 actually usable - Belt action - Electrical version autonomy - Battery from 240 Ah	Container capacity - Available as Power Boss Apex 62 - Sizes		Hopper capacity - Filter dimensions - Accessible only from the right - Mechanical accessibility

Comparison FS80



FS 80 B/D (FIMAP) **SR 1450 B/D (Nilfisk)** **Boxer E/D (RCM)** **PB 115 E/D (ISAL)** **S32 B/D (FIORENTINI)**

		FS 80 B/D (FIMAP)	SR 1450 B/D (Nilfisk)	Boxer E/D (RCM)	PB 115 E/D (ISAL)	S32 B/D (FIORENTINI)
Central brush width	mm	800	800	850	780	780
Power B/D	Kw	4/10.3	2.5/10.2	4.75/9.8	2.5/11	/8.1
Cooling cylinders (D)	n/	2/water	2/water	1/water	1/-	1/air
Debris hopper capacity	l	190	115	240	180	-
Filter type		fabric filter	fabric filter	fabric filter	Panel filter	Panel filter
Filter surface area	m²	7	5	9,6	6	5,9
Machine dimensions (Lxhxw)	mm	2020 x 1430 x 1130	1880 x 1480 x 1170	1900 x 1190 x 1380	1820 x 1360 x 1080	1820 x 1360 x 1080
Hopper	front/rear	front	front	rear	front	front
Traction		hydraulic/hydraulic	hydraulic/-	hydraulic/hydraulic	Electric/hydraulic	/hydraulic
Notes			Container dimensions - Mechanical accessibility - Hydraulic oil quantity - Battery version (320 Ah) autonomy - Filter dimensions	Single cylinder- Rear loading - 320 Ah Battery	Actual power available - Single cylinder - Filter type	Engine type - Cooling - Noise level

Comparison FS90



		FS 90 B/D (FIMAP)	SR 1601 B/D (Nilfisk)	SR 1550 B/D (Nilfisk)	Super Boxer E/D (RCM)	KMR1550 D (KARCHER)	Jonas 1200 E/D (HAKO)	Magnum EB/HDK (EUREKA)	6400 (Tennant)	1300 Star (DULEVO)	90 Elite EH/DK(DULEVO)
Central brush width	mm	900	900	900	850	950	920	902	920	900	900
Power B/D	Kw	4/14.8	9.2/13	5/17.2	4.5/16.2	/14	5.7/10.4	/15	4.5/19.4	2.5/12.5	2.8/10.3
Cooling cylinders (D)	n/	3/water	2-3/water	3/water	2/water	3/water	2/water	-	-	2/water	2/water
Debris hopper capacity	l	220	315	183	300	180	250	220	319	340	270
Filter type		fabric filter	Panel filter	Pocket filter	Pocket filter	polyester cartridge	Panel filter	fabric filter	Panel filter	Pocket filter	Pocket filter
Filter surface area	m²	8	10	8,5	11,1	12	5,6	-	6,9	6	4,3
Machine dimensions (Lxhxw)	mm	2020 x 1430 x 1230	2220 x 1320 x 1460	2030 x 1510 x 1180	2000 x 1190 x 1380	1800 x 1400 x 1290	2230 x 1800 x 1330	-	2100 x 1350 x 1350	2220 x 1320 x 1180	2030 x 1210 x 1450
Hopper	front/rear	front	front	front	rear	rear	rear	front	front	front	front
Traction		hydraulic/hydraulic	electric/hydraulic	hydraulic	hydraulic/hydraulic	-	electric/hydraulic	-	electric/hydraulic	hydraulic/hydraulic	hydraulic/hydraulic
Notes			Ergonomics - Panel filter Large dimensions -	Container dimensions	Two-cylinder - Battery from 320 Ah - Accessible one side only	Dirt hopper - Mechanical brakes - accessibility	Two cylinder - Filter - Dimensions		Dimensions - Filter	Two-cylinder engine - Filter dimensions - Mechanical brakes	Two-cylinder engine - Filter dimensions - Mechanical brakes - Available power - Mechanical brakes

Comparison FS110

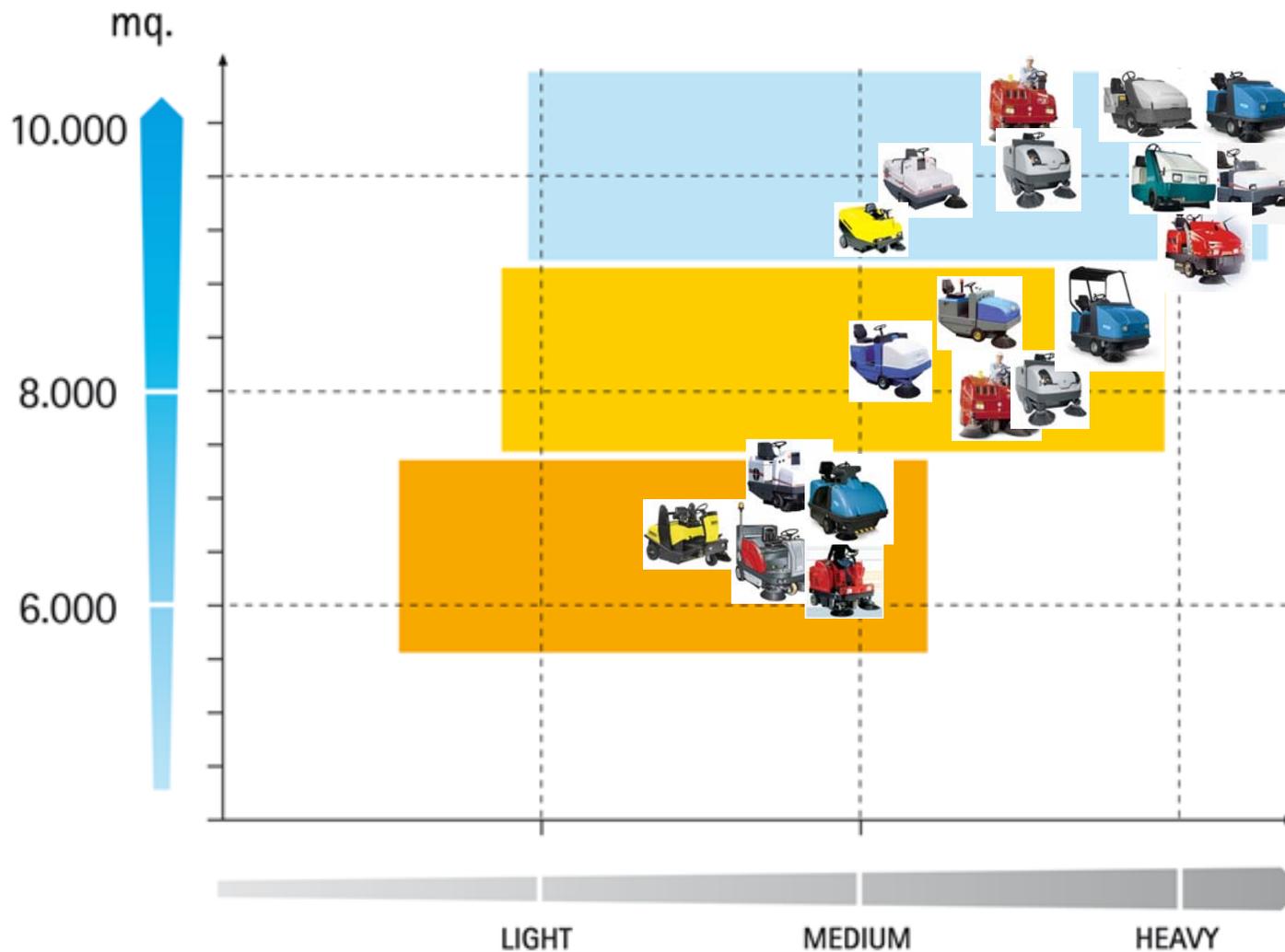


FS 110 B/D (FIMAP) (Nilfisk) **KMR1700 D (KARCHER)** (HAKO) (EUREKA) **S30 (Tennant)** **100 Elite EH/DK (DULEVO)** (RCM)

		FS 110 B/D (FIMAP)	(Nilfisk)	KMR1700 D (KARCHER)	(HAKO)	(EUREKA)	S30 (Tennant)	100 Elite EH/DK (DULEVO)	(RCM)
Central brush width	mm	1100		1100			1145	1000	
Power B/D	Kw	4/12,2		/14			/28	004/18	
Cooling cylinders (D)	n/	3/water		3/water			-	3/water	
Debris hopper capacity	l	485		300			395	400	
Filter type		fabric filter		polyester cartridge			Panel filter	Pocket filter	
Filter surface area	sq.m	8		9			7,5	7	
Machine dimensions (Lxhxw)	mm	2020 x 1430 x 1430		2310 x 1430 x 1510			2360 x 1475 x 1590	2315 x 1530 x 1480	
Hopper	front/rear	front		rear			front	front	
Traction		hydraulic/hydraulic		hydraulic			hydraulic	hydraulic/hydraulic	
Notes				Dirt hopper - Mechanical brakes - accessibility - no battery version			Dimensions - Filter - no battery version	Filter dimensions - Mechanical brakes	

FS110 is positioned in a market segment with not so many competitors. Thanks to its characteristics it can clean big surfaces such as car parks, warehouses and stores reducing operating time and cost as to the smaller (less productive) or bigger (more expensive) models.

Positioning



FS80-90-110 Sweeping machines

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