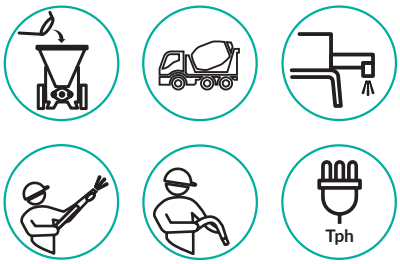
STEP 120 three-phase

Eccentric screw mortar pump

Step 120 400V / 50Hz Tph 2 speed - 3.6 / 4.8 kW
1106091

Planetary mixer 400V / 50Hz Tph 1.1 kW
1107573



C310 piston compressor, integrated and protected under the cover. Electrically excludable via On / Off button, when not needed.

The generous sized agitator shaft located inside the hopper allows the material to move when the machine starts working again after a long stop with the material inside, preventing segregation.

Description

The three-phase Step 120 mortar pump is engineered to handle multiple applications. It is suitable for pumping or spraying:

- Traditional lime / cement plasters (Standard version)
- premixed / pre-dosed cement / lime based plasters (also colored)
- premixed / pre-dosed structural plasters
- premixed / pre-dosed restorative plasters
- Insulating plasters based on polystyrene or cork
- Mortars for fiber-reinforced
- Masonry mortar
- Binders / mortars for consolidation injections
- Filling concrete with metal fibers / polypropylene / carbon / glass
- Fiber-reinforced concrete (grain size max. 12 mm)
- Self-levelling cement / anhydride based screeds
- Lightweight polystyrene-based screeds
- Fireproofing
- Refractory mortars (only for wet application)
- Mortar for fill core grout or grouting (max grain size 12 mm)
- Fiber-reinforced concrete (max grain size 12 mm)
- Self-levelling screeds with a maximum flow rate of 6 mc / h
- Shotcrete until 12 mm grain size

The low loading height of the hopper allows it to be load by any type of external mixer:
- Planetary mixer series "MIX"
- Continuous mixer "SPIN 30"
- Concrete mixer series "SYNTESI"

For greater compactness and ease of handling, the planetary mixer to be integrated into the machine is available as an accessory.

Operation

The mixture prepared in the mixer is poured directly into the hopper through a vibrating grid that filters out any inert material of excessive size. The material is sucked by the eccentric screw pump and pushed into the hose until it reaches the opposite end where the spray gun is located.

The air is provided by the standard integrated compressor projects the material through the gun onto the application area. The machine can be started and stopped directly via the air tap located on the spray gun.

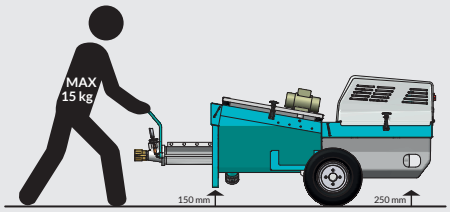
In the case of filling mortars / grouts or self-levelling screeds, "open hose" is used. For these applications, the On / Off wired remote control is available as an optional accessory.

Equipped with an exclusive IMER IM25L pumping unit capable of satisfying most pumping and spraying needs. It can be further optimized for specific needs, due to a wide range of optional accessories.

Step 120 three-phase offers two pumping speeds to adapt the pump to different applications.

In some applications where the quantities of material to be pumped are significant, the machine can be equipped with a high-performance pumping unit and loaded directly by a concrete mixer or dumper.

Essential electrical panel with rotation direction selector, double speed selector of the eccentric screw and missing grid warning light and power line presence.



Extremely handy and light. Easy to move on construction sites thanks to the considerable ground clearance in the displacement position.
15 kg (with mixer on board) is the maximum weight it reaches when the operator moves it to the construction site.

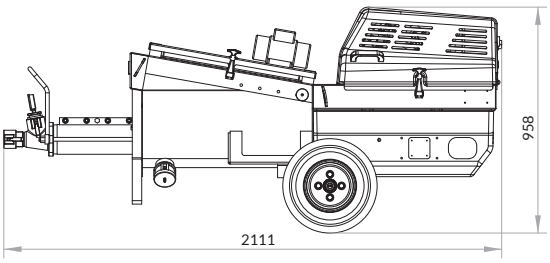
Standard equipment (Cod. 1106091 400V/50Hz)

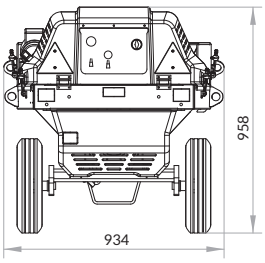
- Power supply panel
- IM25L stator and rotor
- Gun for traditional / premixed plaster
- Vibrating grid
- Compressor 310 l / min.
- 30 m (20 + 10) Ø 35 material hose
- Air hose 31 m Ø 13
- Hose holder band
- Accessory box
- Accessory for cleaning material hose by air or water
- Sponge balls for washing hoses DN35
- Power cable 20 m
- Remote control predisposition
- Ø 50 hose connection (Ø 35 adapter in the hose)
- Solid rubber wheels

Technical data

Version	-	with mixer	without mixer
Motor power	kW	3.6 to 1 speed/4.8 to 2 speeds	3.6 to 1 speed/4.8 to 2 speeds
Mixer motor power	kW	1,1	-
Electric piston compressor	-	2.2 kW - 310 l/min	2.2 kW - 310 l/min
Grain size (IM 25L)*	mm	8	8
Flow rate*	l/min	17/35	17/35
Pumping distance*	m	60	60
Pumping height*	m	20	20
Hopper capacity	l	120	120
Hopper loading height	mm	–	700
Mixer capacity	l	120	-
Mixer loading height	mm	1300	–
Dimensions w / l / h	mm	934/2111/1273	934/2111/958
Machine weight	kg	404	280
Packed machine dimensions w / l / h	mm	1000/1650/1600	1000/1650/1100
Packed machine weight	kg	460	340

(*) The values indicated are subject to variations based on the characteristics of the materials used, their consistency, the type of stator / rotor installed and the size of the hose used.

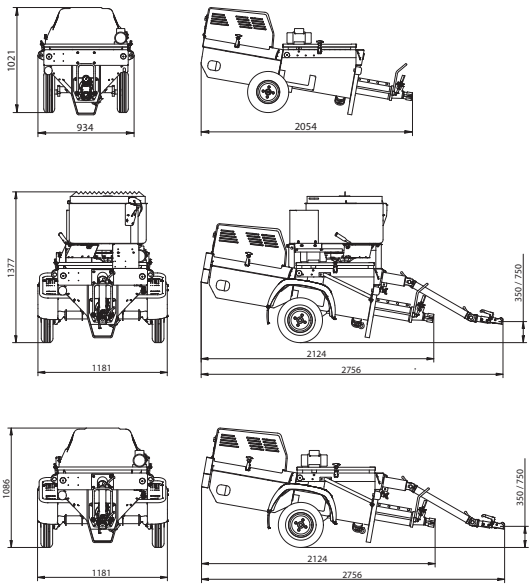




	230V60Hz Tph	230V60Hz Tph	230V60Hz Tph	400V 60Hz Tph	400V50Hz Tph	400V50Hz Tph	400V50Hz Tph	400V50Hz Tph	400V50Hz Tph	400V50Hz Tph
	1106181	1106086	1106055	1106087	1106091	1106089	1106074	1106057	1106176	1106044
	STEP UP	STEP UP	STEP 120 R+M	STEP 120	STEP 120	STEP 120 F	STEP 120	STEP 120 Grouting	STEP 120 FPROOF	STEP 120 GRM
	Basis for customizations	Standard	Standard Towable with mixer	Standard	Standard	Conventional Mortar long distance pumping	Conventional Grouting	Premix Grouting Hi-Flow	Fireproofing	Standard Towable with mixer
Planetary mixer			✓						✓	✓
Predisposition for optional planetary mixer		✓		✓	✓	✓	✓	✓		
Towable on road (European approval)	✓		✓							✓
Rigid axle and solid rubber wheels		✓		✓	✓	✓	✓	✓	✓	
Vibrating sieve		✓		✓	✓	✓	✓			✓
Grid for premixed materials	✓		✓					✓	✓	
IM25L pumping unit	✓	✓	✓	✓	✓	✓	✓		✓	✓
1.5 L7 Pumping unit (4.2Mc/h)								✓		
310 l/min Air piston compressor		✓	✓	✓	✓	✓			✓	✓
Predisposition for optional 310 l/min piston air compressor	✓									
Spray gun Ø 35		✓	✓	✓	✓	✓				✓
Spray gun Ø 25, 1.43m long with anti-spreading valve and air flow control.									✓	
Flat duse Ø12 and Ø14		✓	✓	✓	✓	✓			✓	✓
Conical deflectors Ø 14 and Ø 16		✓	✓	✓	✓	✓			✓	✓
Ø13 air hose with quick couplings		20m + 10m	20m+10m	20m +10m	20m + 10m	20m+10m			20m+10m +5m	20m + 10m
Ø25 material hose with Ø35M - Ø25M fittings L5m									✓	
Ø35 material hose with MF cam fittings	10m	20m + 10m	10m+10m+10m	20m + 10m	20m + 10m	20m	20m + 10m		20m + 10m	20m + 10m
Ø50 material hose with MF cam fittings						10m		20m + 10m		
Conical reduction with cam connection Ø50M - Ø35F	✓	✓	✓							
Sponge ball for washing hoses Ø 35	✓	✓	✓	✓	✓	✓	✓		✓	✓
Sponge ball for washing hoses Ø50						✓		✓		
Wired remote control L 37m							✓	✓		
Predisposition for wired remote control	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Electric box with control panel	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Electric power cable L20 m	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Electric motor 3,6/4,8 kw	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hose support band	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hoses cleaning accessory with compressed air or water	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Accessory box	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hopper loading height (mm)	700	700	1377	700	700	700	700	700	1377	1377
Dimensions w / l / h (mm)	1181/2124/1086	934/2054/1021	1181/2124/1377	934/2054/1021	934/2054/1021	934/2054/1021	934/2054/1021	934/2054/1021	934/2054/1300	1181/2124/1377
Machine weight (Kg)	240	280	400	280	280	280	240	262	390	400

STEP 120 Road Towing

European approval



Technical data

		Step 120 Towable on the road	
Towing ball hitch Ak 160b	mm/inc	50 -2	50 - 2
Tubeless tires	Inc	4.8/4.00-8	4.8/4.00-8
Maximum speed limit	Km/h	130	130
Lighting system power supply	Volts	12 – 13.8	12 – 13.8
Car trailer round connection 7 pin	D/mm	36	36
Hopper / Mixer loading height	mm	1377	700
Dimensions w / l / h	mm	1181/2124/1377	1181/2124/1086
Machine weight	Kg	400	290
Packed machine dimensions w / l / h	mm	1181/1195/1650	1181/1195/1050
Packed machine weight	Kg	460	350

WEIGHT AND MEASURES STEP 120 PACKED

Code	Model	Packed machine weight	Packed machine dimensions w / l / h (mm)
1106181	STEP UP 230V 60Hz Tph	260 kg	1181 / 1995 / 1100
1106086	STEP UP 230V 60Hz Tph	340 kg	934 / 1650 / 1100
1106055	STEP 120 R+M 230V 60HzTph	460 kg	1181 / 1995 / 1650
1106087	STEP 120 400V 60Hz Tph	340 kg	934 / 1650 / 1100
1106079	STEP 120 400V 60Hz Tph	290 kg	934 / 1650 / 1100
1106091	STEP 120 400V 50Hz Tph	340 kg	934 / 1650 / 1100
1106089	STEP 120 F400V 50Hz Tph	340 kg	934 / 1650 / 1100
1106074	STEP 120 400V 50Hz Tph	290 kg	934 / 1650/ 1100
1106057	STEP 120 400V 50Hz Tph	325 kg	934 / 1650/1100
1106176	STEP 120 FPROOF 400V 50Hz Tph	450 kg	934 / 1650 / 1600
1106044	STEP 120 GRM 400V 50Hz Tph	460 kg	1181 / 1995 / 1650
1106054	STEP 120A 230V 60Hz Tph	350 kg	1181 / 1995 / 1100
1106094	STEP 120A 400V 50Hz Tph	360 kg	934 / 1650 / 1100

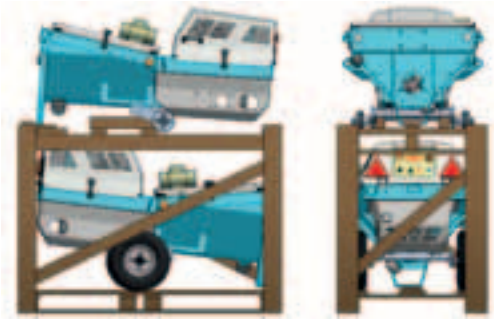
Please note: weights estimated with a tolerance of 5%.

Wood crate for superposing No.2 Step 120 without mixer

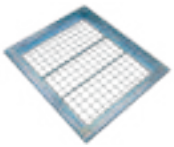
Dimensions of the wooden case w / l / h	(mm)	1250 / 1750 / 1000
Weight of the wooden crate	Kg	100
Packaging dimensions w / l / h	(mm)	2030 / 1750 / 1000
Packaging weight	Kg	According to the model

Can be used with the following STEP 120 models

1106086	STEP UP230V60Hz Tph	1106089	STEP 120 F400V50Hz Tph
1106087	STEP 120 400V 60Hz Tph	1106074	STEP 120 400V50Hz Tph
1106079	STEP 120 400V 60Hz Tph	1106057	STEP 120 400V50Hz Tph
1106091	STEP 120 400V 50Hz Tph	1106094	STEP 120A 400V50Hz Tph



Optional accessories for customized setups **STEP 120** three-phase

Particularly suitable for mixing all pumpable products with the Step 120 three-phase.	1107573		Three-phase mixer 400V / 50 Hz 1.1 kW
	1107509		Three-phase mixer 230V / 50 Hz
Particularly suitable for mixing: • Mortars for protecting metal structures from fire • Binders / mortars for consolidation injections • Waterproofing seal	1107618		Mixer rubber paddles
To be used with all pre-dosed or premixed products. Indispensable in the case of fiber reinforced products	1107569		Premixed grid
Specific use in combination with the 1.5 L7 pumping unit for pumping concrete up to 12 mm	1107046		Step 120 three-phase vibrating screen passage 12 mm
Exclusive accessory for customizing STEP UP 120 230V60Hz TPH Code 1106181 Spray mortar applications	1107585		Kit Air piston compressor 310 l/min 230V / 60Hz Tph

Setups for specific applications **STEP 120** three-phase

A

• Cement / lime based premixed / pre-dosed plasters

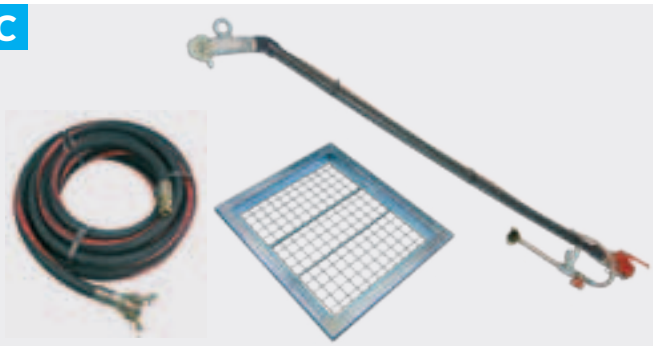
1107074 Ø 25 Hose 5 m M35M25 (gun adapter Ø25)
1107530 Air hose Ø 13 - 5 m with quick couplings
1107540 Ø 25 F spray gun for traditional /premixed plaster with Ø14 duse
1107569 Premixed grid (use only for premixed or pre-dosed products)
1107519 10 pieces sponge kit for cleaning hose Ø 25

B

• Premixed / pre-dosed plasters based on cement / lime / Colored plaster

1107074 Ø 25 Hose 5 m M35M25 (gun adapter Ø25)
1107530 Air hose Ø 13 - 5 m with quick couplings
1107568 Ø 25F spray gun with no spreading ball valve and air flow regulator
1107569 Premixed grid (use only for premixed or pre-dosed products)
1107519 10 pieces sponge kit for cleaning hose Ø 25

C



- Fireproofing
- Cement / lime based premixed / pre-dosed plasters

1107074	Pt pipe Ø 25 5m M35M25 (gun adapter Ø25)
1107549	Elongated gun Ø25 1.43 m with no spreading ball valve and air flow control
1107569	Premixed grid (use only for premixed or pre-dosed products)
1107519	10 pieces sponge kit for cleaning hose Ø 25

D

➡ Recommended for pumping at distances greater than 40 m with Ø 35 guns and accessories supplied or Ø 25 Spry gun.
Flow rate 0.8-1.6 mc / h, pressure 30 bar, maximum grain size 6 mm.
- Binders / mortars for consolidation injections (low flow high pressure)
- premixed / pre-dosed plasters based on cement / lime / Colored plaster
- premixed / pre-dosed structural plasters
- premixed / pre-dosed restorative plasters
- Fiber-reinforced reinforcement mortars (for pumping over long distances)

1107088	2L6 pumping kit
1107569	Premixed grid (use only for premixed or pre-dosed products)

E

➡ Recommended for open hose pumping.
High flow rates 2.2-4.5 mc / h, pressure 20 bar, maximum grain size 10 mm
- Self-levelling cement / anhydride based screeds
- Lightweight polystyrene-based screeds

1107090	60.12 pumping kit
1107533	10 m Ø 50 material hose with cam Camlock connection
1107534	20 m Ø 50 material hose with cam Camlock connection
1107569	Premixed grid (use only for premixed or pre-dosed products)
1107521	Kit of 10 sponges for washing Ø50 tube

F

➡ Recommended for free tube pumping.
High flow rates 4.2 mc / h (used only in first speed), pressure 15 bar, particle size 12 mm, agitator shaft included.
- Grouting grain size max 12 mm
- Grouting with metal fibers / polypropylene / carbon / glass
- Self-levelling cement / anhydride based screeds
- Lightweight polystyrene-based screeds

1107660	1.5 L7 pumping kit
1107533	10 m Ø 50 material hose with cam connection
1107534	20 m Ø 50 material hose with cam connection
1107569	Grid for premixed materials
1107521	Kit of 10 sponges for washing Ø50 tube

G

➡ Recommended for spraying shotcrete, with the aid of an additional external compressor. Min. 4500 l / min.
Flow rate 4.2 mc / h (used only in first speed), pressure 15 bar, particle size 12 mm.

1107660 1.5 L7 pumping kit
- Stator 1.5 L7
- Rotor 1.5 L7
- Agitator shaft complete with rubber joints and pins
- Material manifold complete with tie rods and support flange
- Victaulic joint with seal
- Reduction cone with pressure gauge camlock connection Ø50

1107533	10 m Ø 50 material holder tube with cam connection
1107534	20 m Ø 50 material holder tube with cam connection
1106250	Shotcrete gun Ø 50-2 way
1107046	Step 120 three-phase vibrating screen passage 12 mm
1107521	Kit of 10 sponges for washing Ø50 tube

Stators and Rotors

IM 25L Blue

➡ Recommended for:
- Traditional lime / cement plasters
- Premixed / pre-dosed plasters based on cement / lime / colored plaster
- Premixed / pre-dosed structural plasters
- Premixed / pre-dosed restorative plasters
- Insulating plasters based on polystyrene or cork
- Fiber-reinforced mortar
- Masonry mortars
- Binders / mortars for consolidation injections
- Filling grout also with metal / polypropylene / carbon / glass fibers
- Concrete also fiber-reinforced (Max grain size 8 mm)
- Lightweight polystyrene-based screeds
- Fireproofing
- Refractory mortars (wet only)
- Self-levelling screeds with a maximum flow rate of 2.1 mc / h (three-phase Step)
- Shotcrete application with a maximum flow rate of 2.1 mc / h (three-phase Step)

Step 120 three-phase
Pressure 15 bar
Maximum grain size 8 mm
Flow rate 17 - 35 l / min

Step 120 single-phase
Pressure 15 bar
Maximum grain size 8 mm
Flow rate 4 - 20 l / min

1107110 Stator IM 25L CLAMP

1107111 Rotor IM 25L

2L-6 Yellow

➡ Recommended for pumping with Ø 35 and Ø 25 guns and accessories of:
- Binders / mortars for consolidation injections (low flow high pressure)
- Premixed / pre-dosed plasters based on cement / lime / Colored plaster
- Premixed / pre-dosed structural plasters
- Premixed / pre-dosed restorative plasters
- Fiber-reinforced mortars (for pumping over long distances)

Step 120 three-phase
Pressure 30 bar
Maximum grain size 6 mm
Flow rate 13 - 27 l / min

1107077 Stator 2L-6

1107078 Rotor 2L-6

1.5 L7 White

➡ Recommended for free tube pumping:
- Grout Core-fill grout max. grain size 12 mm
- Grout with metal / polypropylene / carbon / glass fibers
- Self-levelling cement / anhydride based screeds
- Light weight polystyrene-based screeds
- Refractory mortar (wet application only)
- Shotcrete

Step 120 three-phase
Pressure 15 bar
Maximum 12 mm grain size
Flow rate 70 l / min (only in first speed)

1107219 Stator 1.5 L7 CLAMP

1107218 Rotor 1.5 L7

60.12 / 2L74 Yellow

➡ Recommended for open hose pumping.
- Self-levelling cement / anhydride based screeds
- Lightweight polystyrene-based screeds

Step 120 three-phase
Pressure 20 bar
Maximum 8-10 mm grain size
Flow rate 38 - 75 l / min

Step 120 A
Pressure 20 bar
Maximum 8-10 mm grain size
Flow rate 117 l / min

1107081 Stator 60.12 CLAMP

1107083 Rotor 60.12

Common accessories **STEP 120** single-phase / three-phase

Spray guns and nozzles

1107568		Ø 25 F spray gun with no-spreading ball valve and air flow regulator • Premixed / pre-dosed plasters based on cement / lime / Colored plaster (Monokote) • Fireproofing
1107577		Ø 35 M spray gun for traditional plasters / premixed / stucco ➡ Recommended for spraying: • Insulating plasters based on polystyrene or cork • Mortars for fiber-reinforced reinforcement • premixed / pre-dosed structural plasters • premixed / pre-dosed restorative plasters • Traditional lime / cement plasters
1107549		Ø 25 F spray gun, 1.43 m long for fireproofing and premixed plaster • Premixed / pre-dosed plasters based on cement / lime / colored plaster (Monokote) • Fireproofing
1106250		Shotcrete gun without additive inlet - Ø 50 Camlock coupling and air inlet with 1/2″ quick connection ➡ The use of the pumping unit 1.5 L7 and hoses is recommended • Shotcrete
1107011		Ø 25 F spray gun for finishing coat / filling / touch pointing / injections without deflectors, with air flow regulator and no-spreading ball valve ➡ Recommended for: • Finish for thermal insulating coatings • Waterproofing seal (only for large surfaces) • Adhesives for thermal insulation coatings
1107604		Deflectors kit 5-6-8-12-16 hardened steel
1107566		Kit 3 deflectors with hose nozzle Ø 16 ➡ Recommended for: • Mortars filling grout • Adhesives for thermal insulating coatings (laying glue on panel)
1107499		Conical tube gun for spacing Ø 25 ➡ Recommended for: • Filling grout or tuckpointing
1107570		U bend steel pipe Ø 25 ➡ Recommended for: • Core fill grout

Deflectors

1107551		10 pcs kit deflectors Ø 10 (Duse) in polyurethane for premixed plaster	**1107557**		5 pcs kit deflectors Ø 10 in polyurethane for traditional plaster
1107552		10 pcs kit deflectors Ø 12 (Duse) in polyurethane for premixed plaster	**1107558**		5 pcs kit deflectors Ø 12 in polyurethane for traditional plaster
1107553		10 pcs kit deflectors Ø 14 (Duse) in polyurethane for premixed plaster	**1107559**		5 pcs kit deflectors Ø 14 in polyurethane for traditional plaster
1107554		10 pcs kit deflectors Ø 16 (Duse) in polyurethane for premixed plaster	**1107560**		5 pcs kit deflectors Ø 16 in polyurethane for traditional plaster
1107561		Kit 3 deflectors Ø 5 hardened steel for finishing coat and decorative plaster	**1106251**		Deflectors for shotcrete gun, without additive inlet
1107562		Kit 3 deflectors Ø 6 hardened steel for finishing coat and decorative plaster			
1107563		Kit 3 deflectors Ø 8 hardened steel for finishing coat and decorative plaster			
1107564		Kit 3 deflectors Ø 12 hardened steel for fills deep spaces by spraying the mortar			

Common accessories **STEP 120** single-phase / three-phase

1107574 Electric remote control 37 m

1107544 Remote control extension cable 15 m

1107515 Pressure control group with pressure switch

Hoses extension

1107528 Material hose Ø 35 - 10 m with camlock coupling

1107533 Material hose Ø 50 - 10 m with camlock coupling

1107534 Material hose Ø 50 - 20 m with camlock coupling

Hoses extension with reduction couplings

1107074 Material hose Ø 25 M35 / M25 L5 m with camlock coupling

1107075 Material hose Ø 35 M50 / F35 L20 m with camlock coupling

1106178 Camlock coupling adapter Ø 35 F - Ø 50 M

Air hose extensions

1107530 Air hose Ø 13 - 5 m with quick couplings

1107531 Air hose Ø 13 - 10 m with quick couplings

1107532 Air hose Ø 13 - 16 m with quick couplings

1107076 Air hose Ø 13 - 20 m with quick couplings

Hoses cleaning accessories

1107104 Cleaning kit for Ø 50 hoses Accessory for cleaning Ø 50 hoses with air or water

1107087 Cleaning kit for Ø 35 hoses Accessory for cleaning Ø 35 hoses with air or water

1107103 Cleaning kit for Ø 25 hoses Accessory for cleaning Ø 25 hoses with air or water

1107521 Kit 10 pcs sponge balls for cleaning Ø 50 hoses

1107520 Kit 10 pcs sponge balls for cleaning Ø 35 hoses

1107519 Kit 10 pcs sponge balls for cleaning Ø 25 hoses