

Chapter 6



Blow-In Systems 🕒





Fibre optic cable laying

Cable Laying Machinery

Pipe Renewal Winches

Asphalt Recycler

Accessories



Specifications are subject to change without notice. Output details are depending on use conditions.



Accessories for calibration of the protection pipes

Cable Laying Machines

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Cable avoidance and transmitter locating system

Current laying techniques also includes direct blow-in methods, for which the cable ducts have to be gauged beforehand to check them for any internal deformations. This will ensure unhampered blow-in. The gauge, which contains a sonde, is blown through the cable duct by compressed air.

If the gauge with the sonde gets stuck in transit, its position can exactly be pinpointed down to a depth of 7 m by passing a receiver along the course of the cable duct. As soon as the receiver approaches the sonde, a continuous optical and acoustic signal will be emitted, which will reach its maximum level right above the location where the sonde got stucked.



Sonde (Ø18mm) Order-No.: 009.674.10

The additionally applications are the localization of underground laid cables, metal lines and house service lines. Lines can be irradiated with the transmitter that the signal will be strong enough for the receiver.

	Order No.	Weight	Batteries	Service life
Receiver	009.675.30	2.2 kg	8 x LR6	>40 h
Frequency 32768 Hz -			(1.5V)	
5 Hz				
Sending gripper 100mm	009.675.34			
Transmitter	009.675.32			
Bag	009.675.31			
Sonde	009.674.10	0.08 kg	1x CR 1/3N	5 h



Calibration arbor

Inner duct-Ø	Weight	Order No.
28 mm	0.20 kg	009.677.00
35 mm	0.25 kg	009.677.10
40 mm	0.30 kg	009.677.20
Delivered without sonde, just for illustration.		

Specifications are subject to change without notice. Output details are depending on use conditions.



Accessories for calibration of the protection pipes

Cable Laying Machinery

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Optical fibre plunger, flexible

Inner duct-Ø	Weight	Order No.
40 mm	0.30 kg	009.957.00
50 mm	0.35 kg	009.958.00

Optical fibre plunger, flexible

for pipes with an implemented cable.

Inner duct-Ø	Weight	Order No.
35-55 mm	0.45 mm	009.962.40

Optical fibre cable

pulling grip made of galvanised steel wire, one thimble, double, reduced single bound.

Cable- ø	Order-No.
2.5 – 5.6mm	009.646.00
5.3 – 9.2mm	009.646.01
8.1 – 12.5mm	009.646.02
10.7 – 15.8mm	009.646.03
13.5 – 19.1mm	009.646.04
16.3 – 22.4mm	009.646.05
19.1 – 25.5mm	009.646.06

Cable slip oil Gliss F

25l Can

Order-No. 117.053.00

Arrester barrier for sleeved pistons and calibration arbor with sonde.

Weight: 2.5 kg

Order-No. 111.041.00

Pressure gauge with logging For leak test

Could be connected to the end sizing installation **Order No.** 111.445.00



Accessories for calibration of the protection pipes

Cable Laying Machines

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End sizing installation with pressure gauge and compressed air connection.

Weight: 3.1 kg

Order No. 111.042.00

End sizing installation similar 111.042.00, with connection to pressure gauge with logging (not illustrated)

Order-No. 111.042.01

Fitting for 10 mm pipes (not illustrated)

Order-No. 111.042.02



for Microflow und Miniflow. It nebulises the lubricant whereas the amount is adjustable. Alternatively, the airflow could be bypassed. The lubricator is suitable for any micro pipe.

Order-No. 111.450.00





Air booster

for blowing cable in compressed air pipes of already installed copper cables of the German Telekom. An additional amount of air could be brought via the compressed air pipes into the copper cable.

Order-No. 111.451.00

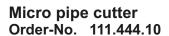




Pipe Cutter for Pipe-ø 50mm For lengthswise and crosswise cuts Order No. 111.444.00



Micro pipe cutter Order No. 111,261,50





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Pipe Renewal Winches

Asphalt Recycler

Accessories



Y-Fitting

To blow in a second cable, or micro pipes the Y-Fitting joins the old pipe with an intermediate pipe which is connected with the Powerflow. The protective pipe gets locked on both sides.

Order No. 111.242.00 (without pipe and cable)



Separable connector for pipe with inner-Ø 40 - 44 mm

to connect flush mounted pipes in ducts for blowing-in cabel / Pipe up to dia. max. 25 mm.

Bestell-Nr. 111.500.00



Automatic lubrication unit

This pump enables a precise dosing for constant lubrication and increases the cable laying length a lot (for Powerflow und Multiflow).

Order No. 111.244.00 (without can of cable slip oil)

Uncoiling cage for fibre optic cable

If it is not possible to insert the whole length in one step, the cable drum has to be positioned in the middle of the trail. The first length gets inserted in one direction and the remaining cable laid into the cage.

The uncoiling cages all owes a controlled and efficient uncoiling of the cable off the drum. The large version is dismountable for transport.

Diameter	Height	Weight	Order-No.
2400 mm	1700 mm	77 kg	111.245.00
880 mm	990 mm	25 kg	111.246.50

Specifications are subject to change without notice. Output details are depending on use conditions.



111.246.50

111.245.00

Blow-In System for Fibre Optic Cables and Micro Pipes - Summary

Cable Laying Machines

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Injection System Powerflow

For blowing in fibre optic cables 8-27 mm.

Maximum speed: 80 m/min. Required air flow: 10 m³/min. Required air pressure: 12 bar Control unit and Power Pack (125

bar / 15 l/min) essential!

Order No. 111.200.00



Injection System Miniflow

for blowing in fibre optic cables 4-11mm in tubes Ø: 10-20 mm

80 m/min. Maximum speed: Required air flow: 1 m³/min. Required air pressure: 15 bar

Control unit and Power Pack (125

bar / 15 l/min) essential!

Order No. 111.301.00



Injection System Multiflow

for blowing in micro tubes and convertible for fibre optic cable 8-27 mm.

Maximum speed: 60 m/min. Required air flow: 10 m³/min. Required air pressure: 12 bar

Control unit and Power Pack (125 bar / 15 l/min) essential!

Order No. 111.250.00



Injection System Microflow Touch

for blowing in optical fibres 1-5 mm in tubes Ø: 5.7 or 10 mm

90 m/min. Maximum speed: Required air flow: 1 m³/min. Required air pressure: 15 bar Required electric power supply: 230 V Rating: 180 W Order No. 111.351.00

- Compressors must be equipped with an air cooler Alternatively Powerflow und Multiflow can also be operated by water!

Specifications are subject to change without notice. Output details are depending on use conditions.

Email: export@bagela.de



Blow-In System for Fibre Optic Cables and Micro Pipes - Summary

Cable Laying Machinery

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Accessories



Power Pack BHA 125/15

The Power Pack is required for Bagela Powerflow, Multiflow and Miniflow.

Hydraulic pressure: 125 bar Flow rate: 15 l/min Weight: 84 kg Order No. 010.120.00

Hydraulic tube 10m for BHA 125/15 Order-No. 003.558.02



Hydraulic control unit

With the control unit pressure and speed are regulated. The chains of the particular injection system are set in motion by the lever. The control unit is required for Bagela Powerflow, Multiflow and Miniflow.

Order No. 111.420.00



Compressor Mobilair M 17/15

Suitable for Miniflow and Microflow

Air pressure max.: 15 bar
Air flow: 1 m³/min.

Order No. 111.430.00

(An air cooler is necessary!)



Compressor Mobilair M 125

suitable for Powerflow and Multiflow between 6-14 bar steplessly variable.

Air pressure max.: 14 bar Air flow: 11,5 m³/min. **Order-No.** 111.435.00

Air cooler included!



Blow-In System Powerflow and Accessories

Cable Laying Machines

Pipe Renewal Winches

Asphalt Recycler

Accessories

Injection system Powerflow

Designed to blow in optical fibre cable from dia.: 8-27 mm into ducts of a dia. 32-50 mm. It is suitable for air- and water blowing. The drive chains are propelled by two low-wear and low-noise hydraulic motors which enable for- and backward movement of the cable. Only a few changes are necessary to change to different cable or pipe sizes.

Max. speed:

Required air flow:

Required air pressure:

Order No.

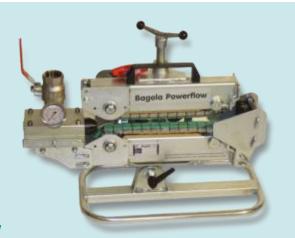
80 m/min.

10 m³/min.

12 bar

111.200.00

Control unit and Power Pack (125 bar / 15 L/min) required!



Blowing Junction Block

Consisting of a water or compressed air connection, the adapter for the pipe connection and the sealed cable guide. Adapter: The connection must adapt to the pipe size and is available in three dimensions.

Outer duct-Ø Order-No. 32 mm 111.230.00 40 mm 111.231.00 111.232.00

Cable guide for Blowing Junction Block

The cable guide is to be inserted into the Blowing Junction Block.

Cable-Ø Order-No. 8-12 mm 111.235.00 13-17 mm 111.236.00 18-22 mm 111.237.00 23-27 mm 111.238.00

Cable sealing ring

The sealing is to be inserted into the Cable guide (3 pieces per cable guide)

Cable-Ø 0rder-No. 8 mm 111.210.08 9 mm 111.210.09 10 mm 111.210.10 27 mm 111.210.27







Specifications are subject to change without notice. Output details are depending on use conditions.

Email: export@bagela.de

Pipe Renewal Winches

Asphalt Recycler

Accessories



Digital Odometer for Powerflow and Multiflow

The measuring instrument is integrated in the Miniflow. It shows depending to the forward and back movements the actual length. The data could be transferred to your EDP system. Measuring range: 0 - 9999 m.

Order No. 111.240.20



Chain rail

The chain rail, made from brass, supports the upper and lower drive chain. It is recommended to change the top / bottom rail at the same time.

Order No. 111.220.00



Drive chain

The drive unit constructed for cable dia. 8-22mm consists of two superimposed conveyor chains, provided with special rubber profile. The drive chains pull the cable from the drum into the blowing junction block wherefrom it is inserted into the tube by air or water pressure. It is recommended to change both drive chains at the same time.

Order No. 111.222.00



Cable guide rollers, horizontal

The horizontal cable guide rollers lead and protect the fibre cable by the entry into the Powerflow.

Order No. 111.224.00



Cable guide rollers, vertical Order No. 111.225.00



Blow-In System Multiflow and Accessories

Cable Laying Machines

Pipe Renewal Winches

Asphalt Recycler

Accessories

Blow-in system Multiflow

Designed to blow in multiple micro ducts or single large size cables into ducts with a dia. of 32 up to 50 mm. It is suitable for air- and water blowing. The drive chains are propelled by two low-wear and low-noise hydraulic motors which enable for- and backward movement of the cable.

For fibre optic cable: 8-22 mm

Maximum speed: 60 m/min.
Required air flow: 10 m³/min.
Required air pressure: 12 bar
Order No. 111.250.00

Control unit and Power Pack: (125 bar / 15 L/min) required!



Blowing Junction Block for micro ducts

Multiple micro ducts can be injected into protective ducts of 32, 40 and 50 mm dia. by air.

Order No. 111.282.00



Cable guide "flex" for single cable

Cable-Ø	Order No.
8-12 mm	111.235.10
13-17 mm	111.236.10
18-22 mm	111.237.10
23-27 mm	111.238.10



Nylon-Applicator for micro ducts

This applicator assistance for micro duct is fastened to the multi-flow and bundles the different pipes. The number of holes can vary. Please specify this when ordering.

Order No. 111.285.00



Specifications are subject to change without notice. Output details are depending on use conditions.

Pipe Renewal Winches

Asphalt Recycler

Accessories



Sealing for micro ducts, 7 pieces

The sealing is for the use of the blowing junction block with micro ducts. Many different combinations are possible regarding size and number of holes to micro ducts. Please specify when ordering.

	Order No.
Sealing for micro ducts - 1 hole	111.290.00
Sealing for micro ducts - 13 holes	111.291.00
Sealing for micro ducts - 15 holes	111.292.00
Sealing for micro ducts - 5 holes	111.293.00
Sealing for micro ducts - 7 holes	111.294.00
Plug for a 10mm sealing	111.294.10



Plug for micro ducts

The plug is equipped with a o-ring for 100 % sealing. It is easy to mount with self cutting thread. It is available in other sizes. Please specify when ordering.

	Order No.
Plug for 7mm micro duct	111.296.00
Plug for 10mm micro duct	111.297.00
Plug for 12mm micro duct	111.298.00



Sealing unit with manometer

Laterally of the drum is the inner end of the duct where this unit is to be inserted and remain fixed during the injection procedure. A pressure loss will become visible at the manometer immediately.

Order No. 111.261.00



Overpressure testing unit

Before the injection process all micro ducts are pressurised. This unit facilitates this procedure and shortens the temporal expenditure to a minimum. A pressure loss will become visible at the manometer immediately.

Order No. 111.260.00

(the connecting tubes to 111.261.00 are included)



Blow-In System Multiflow Accessories, Spare parts

Cable Laying Machines

Pipe Renewal Winches

Asphalt Recycler

Accessories

Guidance unit for micro ducts

The guidance unit is to be positioned between the micro duct drums and the Multiflow. It ensures a regular uncoiling of the ducts.

Order No. 111.262.00



This acceptance fits in all trailers of the series BKT 18 up to BKT 27.

Order No. 028.328.02

Chain rail

The chain rail, made from brass, supports the upper and lower drive chain. It is recommended to change the top / bottom rail at the same time.

Order No. 111.270.00

Drive chain

The drive unit consists of two superimposed conveyor chains and is provided with special rubber profile. Depending on the number and diameter of the Micro ducts appropriate chains are available. The drive chains pull the cable from the drum into the blowing junction block wherefrom it is inserted into the tube by air or water pressure. It is recommended to change the two drive chains at the same time.

Order No. 111.272.00 Chain for 7 duct bunch dia. 10mm

111.273.00 Chain for 5/3 duct bunch dia. 10mm

111.269.00 Chain for a single cable

Cable guide rollers, horizontal

The horizontal cable guide rollers lead and protect the fibre cable by the entry into the Multiflow.

Order No. 111.224.00

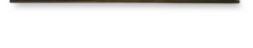
(can be used alternatively to 111.285.00)

Cable guide rollers, vertical

Order No. 111.225.00

(can be used alternatively to 111.285.00)











Specifications are subject to change without notice. Output details are depending on use conditions.

Pipe Renewal Winches

Asphalt Recycler

Accessories



Micro Pipe Pulling Unit

Each strand has a tensile load of max. 300 kg. Attention: Please follow the tensile load limit restrictions of the appropriate micro pipe.

The single strands are to be assembled, please make your choice.

Order No.:	Outer dia. mm	Thickness mm	Strand length cm
111.295.11	1 x 7	1	40
111.295.12	1 x 7	1	50
111.295.13	1 x 7	1	60
111.295.14	1 x 7	1	70
111.295.21	1 x 10	1	40
111.295.22	1 x 10	1	50
111.295.23	1 x 10	1	60
111.295.24	1 x 10	1	70
111.295.31	1 x 12	1	40
111.295.32	1 x 12	1	50
111.295.33	1 x 12	1	60
111.295.34	1 x 12	1	70
111.295.41	1 x 14	2 2 2 2	40
111.295.42	1 x 14	2	50
111.295.43	1 x 14	2	60
111.295.44	1 x 14	2	70
111.295.51	1 x 16	2 2 2 2	40
111.295.52	1 x 16	2	50
111.295.53	1 x 16	2	60
111.295.54	1 x 16	2	70
111.295.61	1 x 20	2	40
111.295.62	1 x 20	2	50
111.295.63	1 x 20	2 2 2 2	60
111.295.64	1 x 20	2	70
107.070.00	Shackle for pulling unit		
		d with the stran	ıds)



Pipe Renewal Winches

Asphalt Recycler

Accessories

Microsondes for calibration of micro pipes 33 kHz Simple localisation of pipe damages

Range: 2-3 m

Scope of delivery: 1 Sonde, 2 Batteries, Storage Box

Diameter: 6,4mm Order-No.: 009.675.61



Diameter: 4,6mm Order-No.: 009.675.63



Battery

Order-No.: 009.675.62 (without illustration)

Cable protection hood Sizes and order-no. on request







Specifications are subject to change without notice. Output details are depending on use conditions.

Pipe Renewal Winches

Asphalt Recycler

Accessories



Especially for thinner cables there is a danger of compression. The display at the afloat bedded blowing junction unit indicates sequentially the rise of the friction forces between pipe and cable what enables an immediate reaction with increasing the aerial amount or a reducing the pushing speed.

Please use categorical Bagela lube B50 Order No. 111.340.00

Blow-in system Miniflow

The Miniflow is used for blowing in fibre optic cables from 4 up to 11 mm into ducts from 10 up to 20 mm. The Miniflow has a robust and compact design and is very simple to operate. The drive chains are propelled by two low-wear and low-noise hydraulic motors which enable for- and backward movement of the cable.

Duct diameter:

Maximum speed:

Required air flow:

Required air pressure:

Order No.

DA 10-20 mm
80 m/min.
1 m³/min.
15 bar
111.301.00

Control unit and Power Pack (125 bar / 15L/min) required!



Insert

The insert is available in different sizes and has to be reconciled to the actual size of the cable and the duct. Please specify the outer duct size.

Order-No.:	Pipe-ø mm
111.301.03	10
111.301.10	12
111.301.11	14
111.301.12	16
111.301.14	20



Cable sealing ring (At least 2 pieces are necessary!)

Order-No.:	Cable-ø mm
111.318.00	4.0
111.319.00	4.5
111.320.00	5.0
111.321.00	5.5
111.326.00	8.0



Blow-In System Miniflow Accessories, Spare- and Wear-Parts

Cable Laying Machines

Pipe Renewal Winches

Asphalt Recycler

Accessories

Afterblow adapter for mini cable

With the loops can be reduced down to approx. 70 mm. This rest could be carefully inserted into the micro pipe and the pipe ends connected with a bushing.

Duct diameter:	Order-No.
7 mm	111.341.30
10 mm	111.341.00
12 mm	111.341.10
14 mm	111.341.20



Nylon applicator

The applicator leads the cable directly into the Miniflow

Order No. 111.334.00





Drive chain

The drive unit consists of two conveyor chains and is provided with special rubber profile. The drive chains pull the cable into the Miniflow. It is recommended to change the two drive chains at the same time.

Order No. 111.315.00



Digital meter counter

The measuring instrument is integrated in the Miniflow. It shows depending to the forward and back movements the actual length. The data could be transferred to your EDP system. Measuring range: 0 - 9999 m.

Order No. 111.333.00



Specifications are subject to change without notice. Output details are depending on use conditions.

Email: export@bagela.de

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Pipe Renewal Winches

Asphalt Recycler

Accessories



Blow-in system Microflow Touch

The Microflow is used for blowing in small fibre optic cable 1- 4 mm. With the Microflow cable blowing is fully automated. It is operated by touch-screen. The continuously variable operation speed and the maximum speed are pre-selectable.

A micro sensor supervises the linear course of the fibre optic. A lateral swivel out due to the rising friction or obstacles will cause an immediate stop and the cable is moved backwards.

Max. Speed: 90 m/min.
Required air flow: 1 m³/min.
Required air pressure: 15 bar
Required electric power supply: 230 V
Rating: 180 W
Order-No. 111.351.00



Adaption set

This is a complete set of format parts consisting of nylon fibre guide, wheels, top blowing junction block, bottom blowing junction block, fibre cable sensor arm and o-rings for the wheels. The Adaption set is available in different sizes and must be used according to the actual size of fibre cable and micro duct. Please specify the size of the fibre cable and micro duct.

Order-No.	Set	Cable-Ø mm	Pipe-Ø mm
111.352.00	Α	1,0 - 1,7	5
111.351.02	В	1,8 - 2,6	7
111.354.00	С	2,7 - 3,8	10
111.355.01	D	3,9 - 4,6	10



Nylon Applicator

The applicator leads the cable into the Microflow. It is available in different sizes according to the actual size of the fiber cable.

Order-No.	Applicator	Cable-Ø mm
111.362.00	Α	1,0 - 1,7
111.363.00	В	1,8 - 2,6
111.364.00	С	2,7 - 3,8
111.365.00	D	3,9 - 4,6



Blow-In System Microflow Accessories, Spare- and Wear-Parts

Cable Laying Machines

Pipe Renewal Winches

Asphalt Recycler

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Wheel

Two wheels pull the cable into the Microflow. The wheel is available in different sizes according to the size of the cable.

Order-No.	Wheel	Cable-Ø mm
111.366.00	Α	1,0 - 1,7
111.367.00	В	1,8 - 2,6
111.364.00	С	2,7 - 3,8
111.365.00	D	3,9 - 4,6



Sensor

It is available in different sizes according to the actual size of the fibre cable.

Left No.	Right No.	Sensor	Cable-Ø mm
111.380.01	111.380.00	Α	1,0 - 1,7
111.381.01	111.381.00	В	1.8 - 2.6



O-Ring for wheel

It is available indifferent sizes according to he size of the wheel/cable.

Order-No.	O-Ring	Cable-Ø mm
111.385.00	Α	1,0 - 1,7
111.386.00	В	1,8 - 2,6
111.388.00	C + D	2.7 - 4.6



Lubricant Bagela lube B 50

This lubricant is characterized by excellent slipping quality. It is urgently recommended for the application with Miniflow and Microflow.

Order-No. 111.340.00



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Email: export@bagela.de

Pipe Renewal Winches

Asphalt Recycler

Accessories



Blowing-in system Nanoflow

For fibre to home installation, independent of other machines or tools, powered by rechargeable battery, double fibre protection, LED display showing speed, distance, fibre protection. Delivered in practical carrying case with quick guide, adapter set for fibre: 1.3 and 1.8 mm and sealings for pipes 3; 5;7; 8 and 10 mm.

Pipe diameter: 3 - 10 mm
Fibre diameter: 0,8 - 2,8 mm
Required air pressure: 0-10 bar
Order-No. 111.550.00



Reel holder for Nanoflow

Order-No. 111.550.00



Compressor Premium Compact 200/4

Air pressure max.: 10 bar
Air flow: 113 l/min.

Order-No. 111.425.00