FIBERNET

OPERA

USER MANUAL

Ver. 1.5 - December 2025

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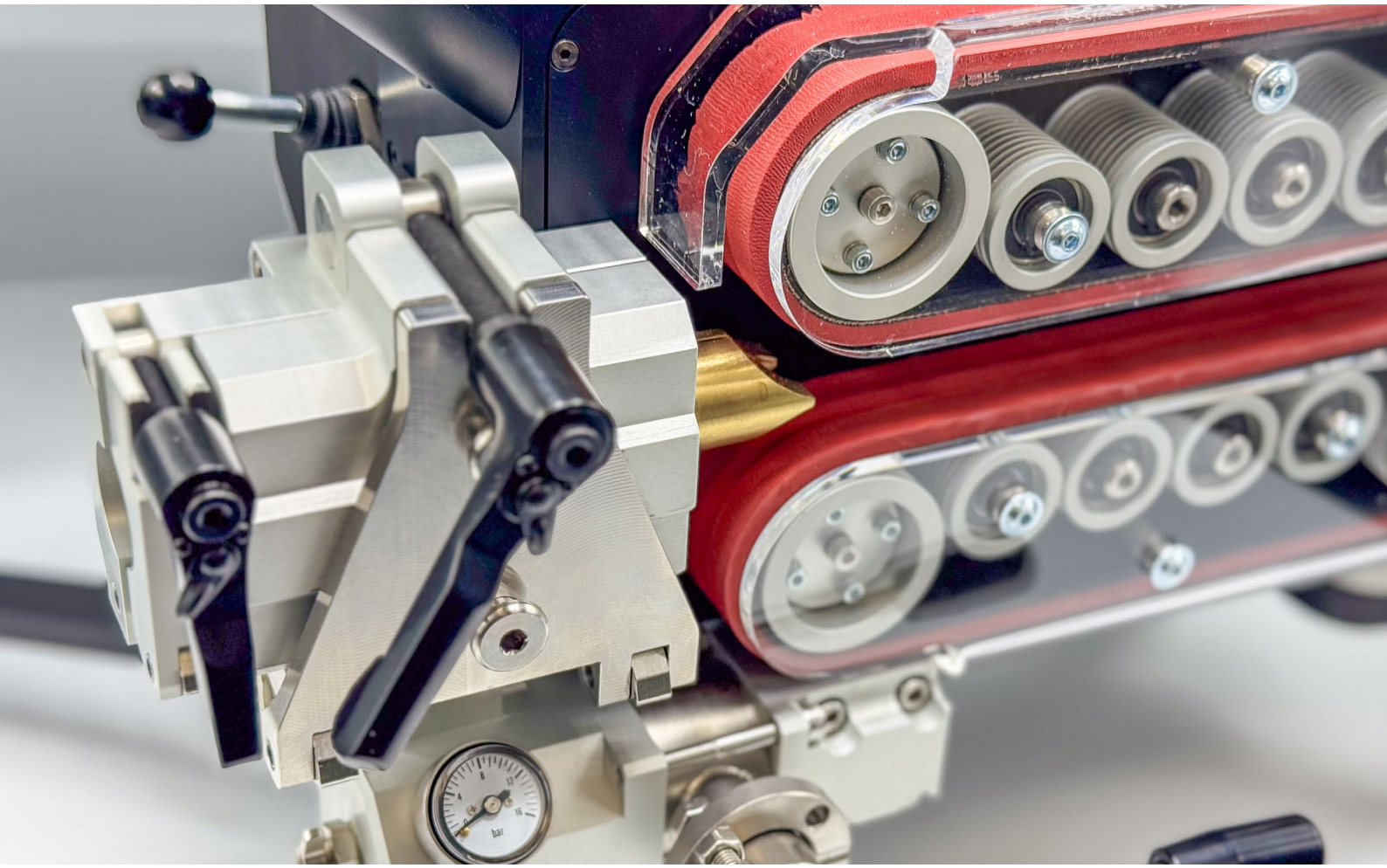
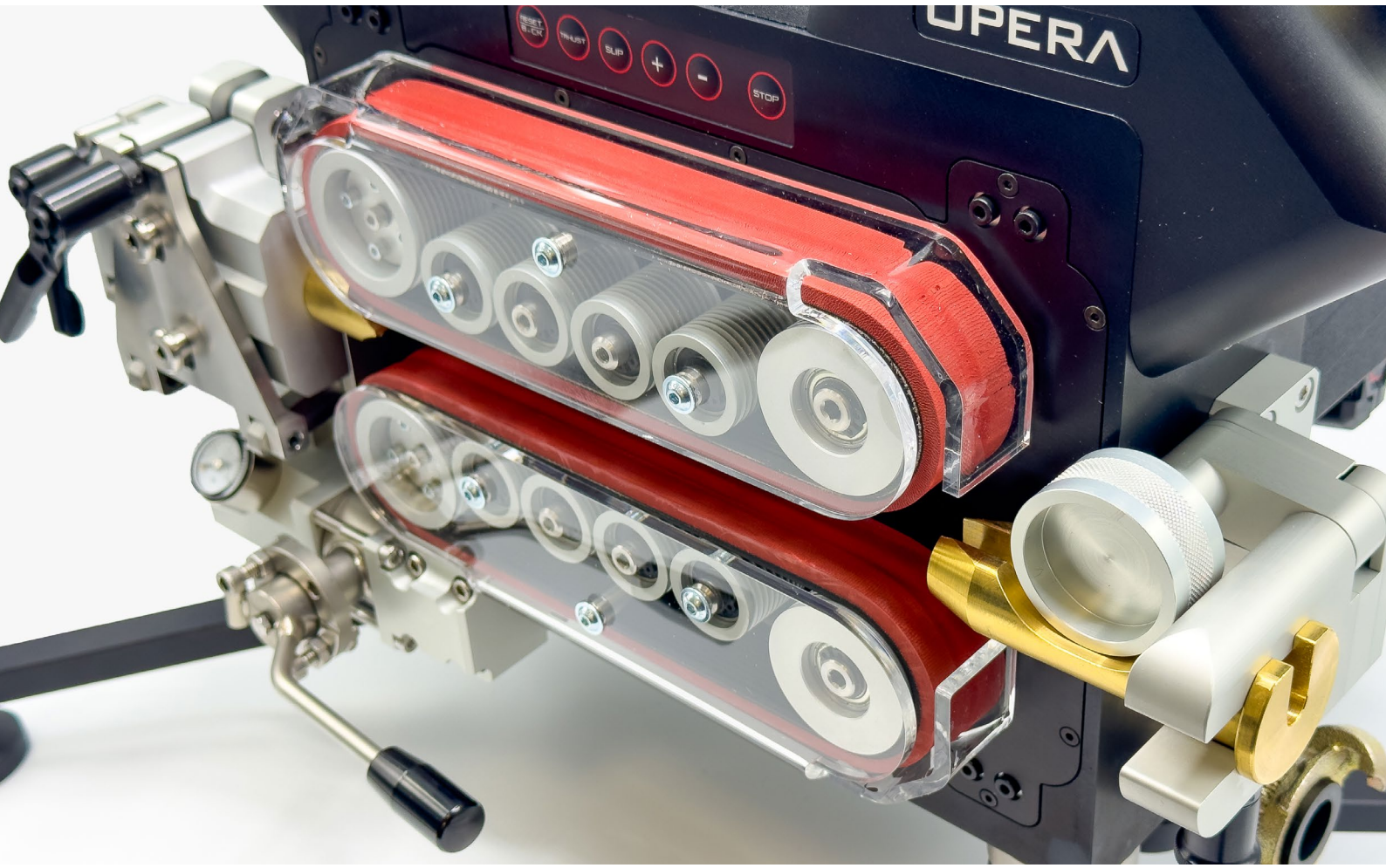
INDEX

PAGE




OPERA
RESET B-CK
PURGE
SLIP
+
-
STOP

OPERA

Opera is a technologically advanced cable blowing machine designed for the installation of cables over long distances, ensuring an efficient and safe installation. It is capable of laying cables with diameters ranging from 4 to 16 mm inside ducts with diameters from 7 to 63 mm (from 7 to 20 mm with an internal adapter and from 22 to 63 mm with an optional external adapter).

The machine is equipped with an integrated multi-function touch screen display, allowing a precise management of the different laying parameters and real-time monitoring of the installation process. If the set laying parameters are exceeded, **Opera has a cable protection system** that automatically stops the machine to prevent cable breakage.

It is possible to create a comprehensive report of the operation performed thanks to the dedicated Fibernet APP, obtaining a detailed account for documentation and verification purposes.

Opera is a product entirely conceived, developed, and manufactured in Italy, characterized by a typically Italian design that combines functionality and aesthetics.

Opera blowing machine ensures optimal performance with cables ranging from 4 to 12 mm in diameter.

Both Opera and the Fibernet APP are certified by Deutsche Telekom.

SAFETY REGULATIONS

The air pressure shall not exceed the limit of 16 bar under any circumstances.

The adapter clamps shall not be opened during normal operation unless the emergency stop has been engaged.

Before use, ensure that the device is positioned and securely fastened on a stable surface or on its dedicated case. Verify that the cable blower is properly coupled to the duct and that the cable is correctly aligned between the two drive belts.

Before starting operation, ensure that no one is standing in the vicinity of the cable reels.

Do not touch the cable while it is being fed into the machine, as this may cause hand injuries. Avoid any cable entanglement, as this could create a hazardous situation.

Before closing the drive belts, ensure that the area between them is clear and that no one is standing near the machine. Keep hands and clothing away from the belts while the machine is operating and the emergency stop is disengaged.

Do not remove the plexiglass guards while the machine is operating, as this may cause hand injuries.

SEE PAGE 24 FOR THE FULL LIST OF SAFETY PRECAUTIONS

TECHNICAL SPECIFICATIONS

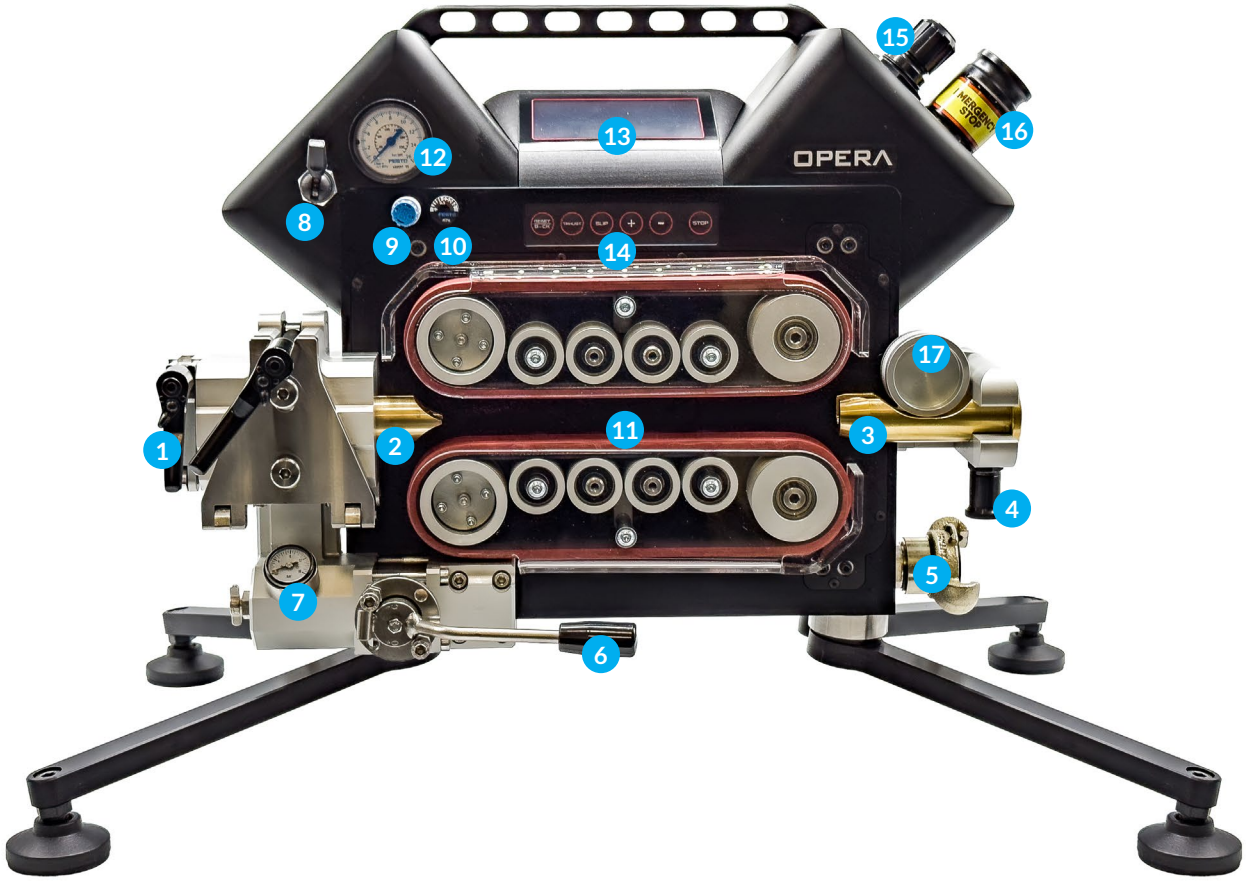
Drive: pneumatic
Maximum laying speed: 90 m/min
Recommended speed: 60 m/min
Cable diameter*: ø 4 to 16 mm
Duct diameter**: ø 7 to 63 mm (from 22 to 63 mm with external adapter)
Maximum air pressure: 16 bar
Pushing force: 0 - 900N
Maximum clamping force on the cable: 3200 N
Weight: approximately 25 kg
Dimensions: 565 x 252 x 360 mm

- 4.3" TFT touch screen display with operational information (speed, distance, belt clamping force, actual cable pushing force, maximum pushing force, cable slippage, maximum cable slippage, compressed air pressure).
- Automatic installation stop upon reaching maximum pushing or slippage levels.
- Wi-Fi connection for remote management and data acquisition (requires Tablet with Fibernet APP see page 32).

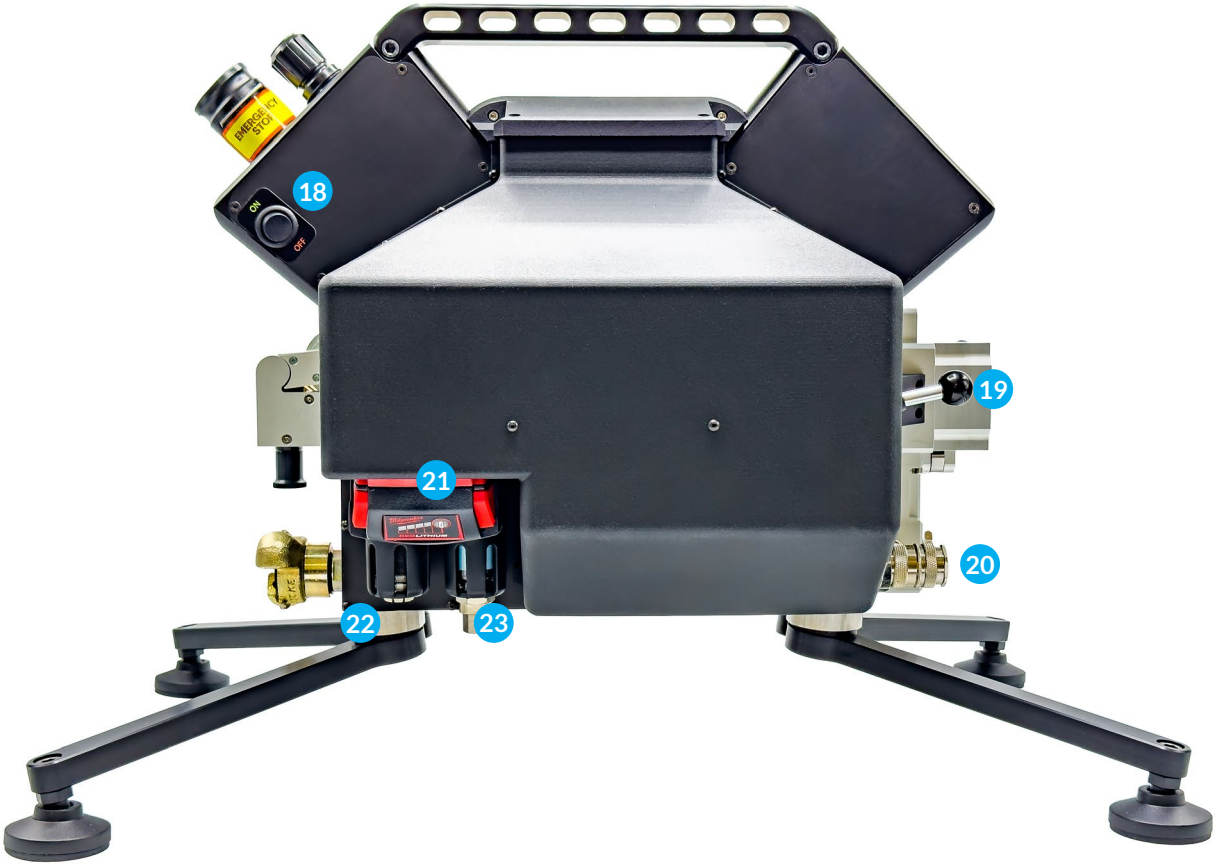
* Cable adapters size available: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 mm

*Duct adapters size available: 7, 8, 10, 12, 14, 16, 18, 20, 22, 25, 32, 40, 50, 63 mm
Other available sizes in inches: 0.75, 1, 1.25, 1.5, 2 "

COMPONENTS



1 DUCT ADAPTER
2 CABLE ADAPTER
3 CABLE ENTRY GUIDE
4 CABLE ENTRY GUIDE RELEASE KNOB
5 COMPRESSED AIR INLET CONNECTOR
6 LEVER TO ADJUST COMPRESSED AIR LEVEL INSIDE DUCT
7 DUCT AIR PRESSURE MANOMETER
8 BELT OPENING/CLOSING
9 BELT CLOSING FORCE ADJUSTMENT
10 BELT CLOSING FORCE PRESSURE MANOMETER
11 BELTS
12 MOTOR PRESSURE MANOMETER
13 MULTI-FUNCTION DISPLAY
14 CONTROL PANEL
15 MACHINE START / MOTOR SPEED ADJUSTMENT
16 EMERGENCY STOP
17 METER COUNTER



18 ON/OFF BUTTON
19 FORWARD/REVERSE SELECTOR
20 SECONDARY COMPRESSED AIR OUTLET
21 DISPLAY BATTERY
22 ENGINE OIL
23 AUTOMATIC CONDENSATION DRAIN FILTER

INCLUDED ACCESSORIES

1 Rugged Case

1 pc Air Hose (10 meters)

1 pc Milwaukee battery charger

1 pc Oil 1 liter

1 pc Wrench set

1 pc Duct cutter

1 pc Fibernet lubricant

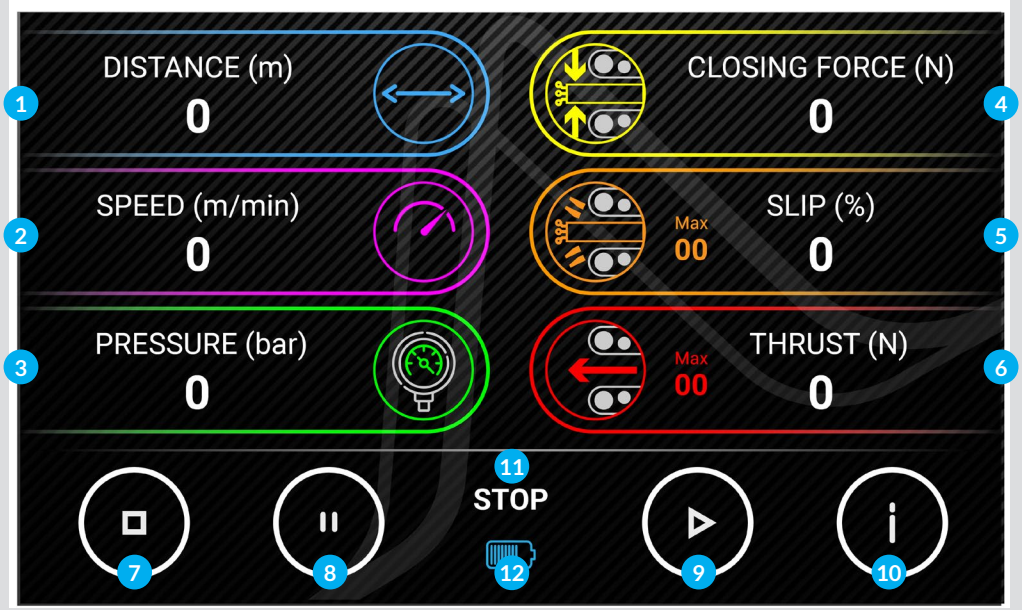
10 pc Sponges
(14/10 - 12/100)
5 5

1 pc Oil reservoir wrench

1 pc Safety Whip

1 pc Secondary air outlet valve

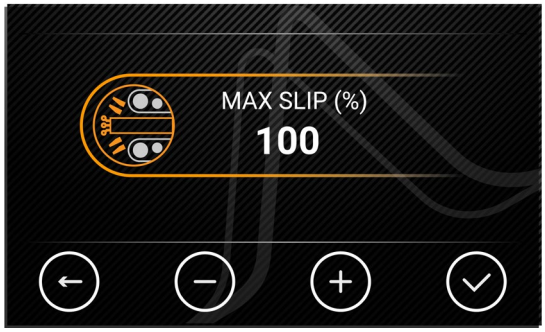
DISPLAY - DESCRIPTIONS AND FUNCTIONS



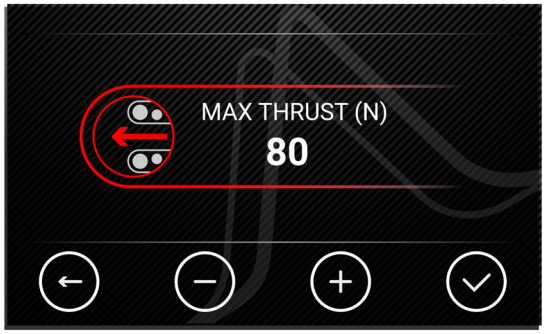
1 DISTANCE (m)
2 SPEED (m/min)
3 PRESSURE (bar)
4 BELTS CLOSING FORCE (N)
5 SLIPPAGE (%)
6 THRUST (N)
7 STOP THE OPERATION
8 PAUSE / FREEZE FRAME
9 PLAY - START OPERATION
10 INFORMATION SCREEN
11 MACHINE STATUS / USER MANUAL
12 BATTERY LEVEL DISPLAY

SLIPPAGE AND MAXIMUM FORCE SETTINGS SCREENS

Slippage Settings Screen



Maximum Force Settings Screen



DISTANCE - Shows the meters of cable laid; this value can be positive or, in case of cable rewinding, negative.

BELT CLOSING FORCE - Displays the amount of force, expressed in Newtons, that the belts apply to the cable once clamped.

SPEED - Represents the cable laying speed.

SLIPPAGE - Indicates the speed difference, expressed in percentage between the belts and the cable. A slippage of 100% means the belts are moving at twice the distance compared to the cable. The "Max" value can be set and indicates the limit beyond which the machine is automatically stopped.

PRESSURE - Displays the pressure measured in bars inside the duct.

THRUST - Represents the force the machine is applying to push the cable into the duct. The "Max" value can be set* and indicates the limit beyond which the machine is automatically stopped.

STOP - Button to stop the motors while keeping the belts clamped at the set pressure.

PAUSE / SCREEN SHOT - This button does not stop the motors but freezes the data displayed on the screen at that moment, while the laying procedure continues. This function allows the operator to display a static screen, enabling clear reading of the laying parameters at a specific moment. Current data becomes available again when the machine is returned to Play mode.

MACHINE STATUS - Represents the current state of the machine (Play - Stop - Pause).

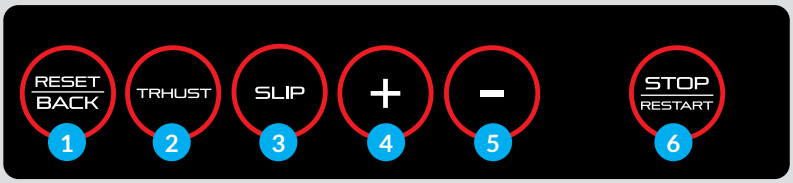
BATTERY LEVEL - Displays the charge level of the battery of the electronic components (screen).

PLAY - Represents the operational state of the machine and the state it must be in to start laying.

INFORMATION SCREEN - Contains the machine's name and SSID for the APP connection, the total distance laid by the machine, the currently installed firmware version, and the machine's language. Available languages are Italian, German, and English. **This screen also includes a QR code that allows the user to view and download Opera's user manual.**

*NOTE: To set the maximum values of slippage and maximum pushing force, tap the corresponding icon on the touch screen, select the values using the ⊕ and ⊖ buttons, and confirm with the ⌄ button. If you navigate away without confirming, the values will not be saved.

CONTROL PANEL



1 BACK / RESET DISTANCE LAID (HOLD FOR 5 SECONDS)
2 PUSHING FORCE ADJUSTMENT / CONFIRM SET VALUE
3 SLIPPAGE ADJUSTMENT / CONFIRM SET VALUE
4 INCREASE VALUES
5 DECREASE VALUES
6 STOP / RESTART LAYING

CONTROL PANEL

It is possible to use the control panel as an alternative to the touch screen.

BACK - Returns to the previous menu screen. Holding the button for 5 seconds will reset the distance counter for laid meters.

PUSHING FORCE ADJUSTMENT / SLIPPAGE ADJUSTMENT These buttons open the corresponding menu on the screen. To set a value, use the buttons ⊕ and ⊖ as an alternative to those on the display. To confirm the chosen value, click the icon of the adjustment again. To exit the screen without saving changes, press Back ↺.

STOP / RESTART LAYING - Press the button ⏻ to stop the laying process and put the machine in "Stop" mode. Press it again to resume laying.

USAGE OF THE MACHINE

PRELIMINARY OPERATIONS

To prepare Opera for its first use, follow these steps:

- **ENGINE OIL:**

- Unscrew the oil reservoir using the dedicated tool provided (Fig. 1).

- Fill the reservoir with oil up to ¾ of its capacity. Note: Use oil suitable for pneumatic applications.

- Screw the reservoir back onto the machine (Fig. 2).

Fig. 1

Fig. 2

ALWAYS CHECK THE OIL LEVEL BEFORE EACH USE.

RUNNING WITHOUT OIL WILL DAMAGE THE MOTORS.

Note: The lubricator is delivered pre-set (1 drop of oil every 30 seconds). No further adjustments are necessary.

- **BATTERY CHARGING:**

- Press the test button on the battery itself (Fig. 1) to check the charge level. The charge level can also be viewed on the Opera screen once it is powered on (Fig. 2).

- If the battery is low or partially charged, charge it accordingly.

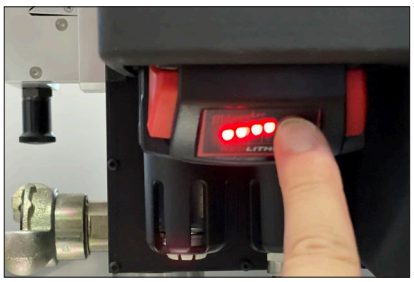


Fig. 1

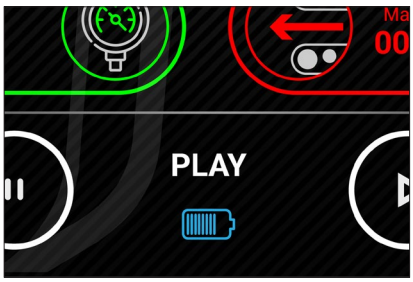


Fig. 2

- **TUBE AND CABLE ADAPTER:**

If you plan to use a tube or cable of a different size than the one currently mounted on the machine, follow these steps:

- Choose the appropriate adapters and seals for the new size. These can be purchased from your trusted distributor.

- Unscrew the current tube and/or cable adapter (Fig. 1).

- Place the new adapter into its designated slot.

- Screw the new adapter into place.

- Ensure that the linear seals in the air chamber are correctly positioned in their slots (Fig. 2).

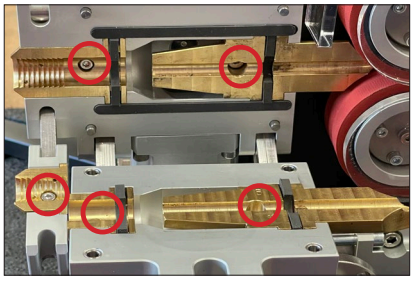


Fig. 1

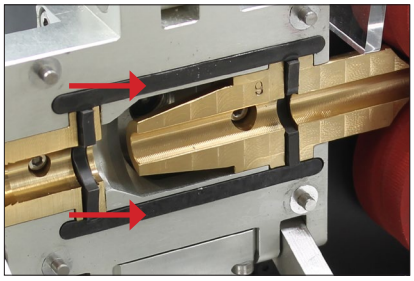
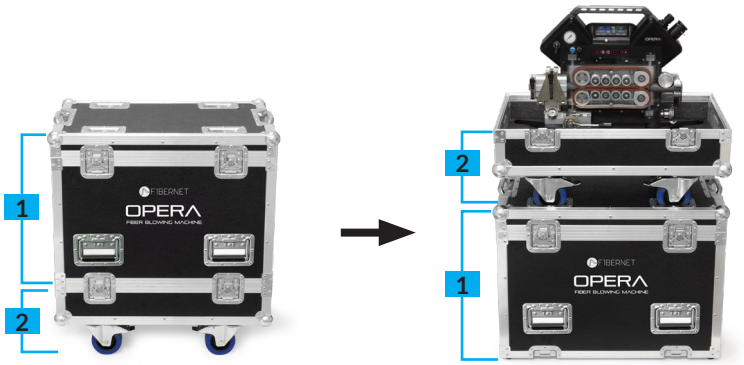
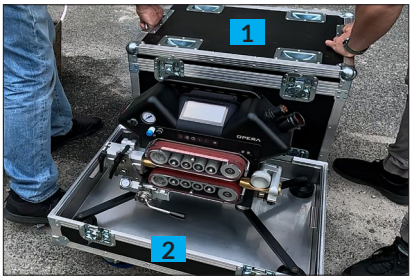


Fig. 2

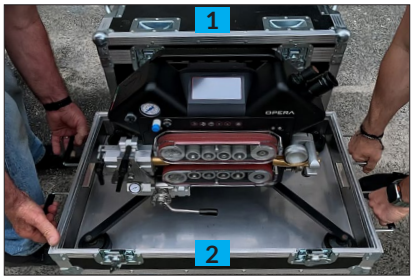
OPERA CASE

The Opera case has been designed to be the ideal support for the machine during installation work.

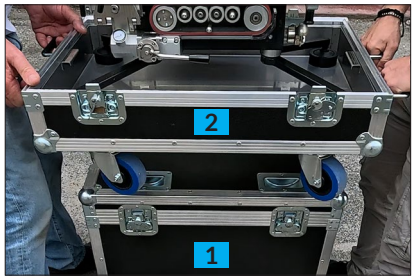




open and remove the upper part (1)



lift the lower base (2)



place the base (2) on the upper part (1)

PRE-OPERATION CHECKS

- Ensure that the orange central part of the emergency stop button is not pressed in (Fig. 1). This indicates that the button is enabled and the machine will not apply pressure until it is supposed to, which is crucial for safety during preparation. If the orange part is pressed in, it means the button is disabled and the machine could activate (Fig. 2).

- Make sure the compressed air adjustment lever is in the lowered position (Fig. 3).

- Ensure that the air release valve, located behind the adapter block, is fully tightened (Fig. 4).

- Check the machine's oil level (Fig. 5).

- Ensure that the automatic condensation drain filter does not contain any water (Fig. 6). If water is present, either visually or upon inspection, contact technical support.

- Turn on the display (Fig. 7).

- Check the battery level on the display or directly on the battery indicator (Fig. 8). The battery should be at least 20% charged.

Fig. 1

Fig. 2

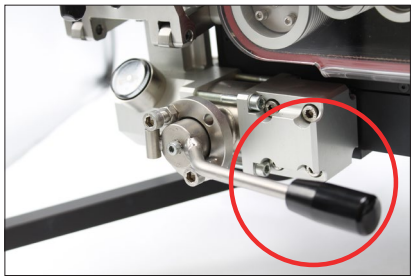


Fig. 3


Fig. 4

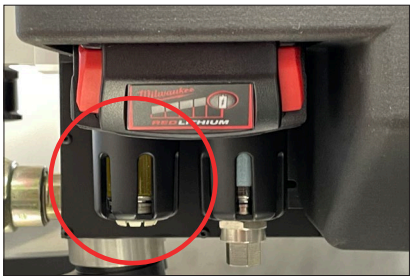


Fig. 5

Fig. 6

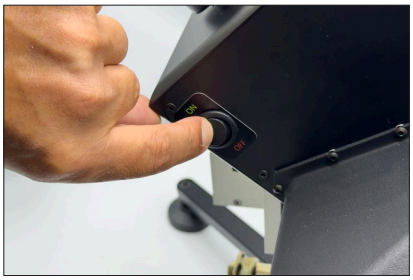


Fig. 7

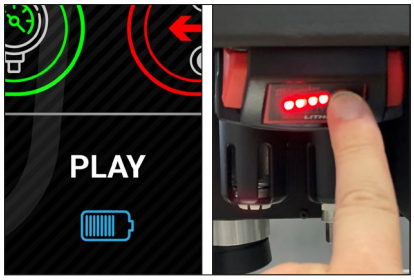


Fig. 8

INSERTING THE DUCT

- Ensure that the duct is prepared so that it does not have an excessive bend once inserted into the machine. If necessary, cut it to the appropriate length.

- Open the clamps of the duct adapter and the cable adapter, and insert the tube into the duct adapter (Fig. 1).

- Secure the tube between the first gasket and the cable adapter, ensuring there is enough space to allow air to enter the duct (Fig. 2). This is the chamber where the pressurized air is directed into the tube along with the cable.

- Tighten the duct adapter clamp until the movable part is aligned with the fixed part (Fig. 3).

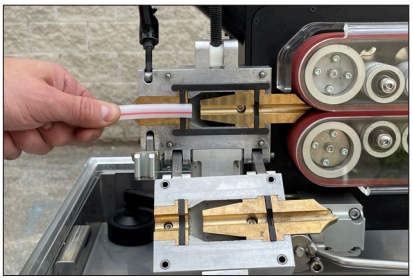


Fig. 1

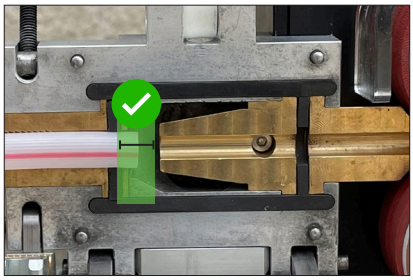


Fig. 2

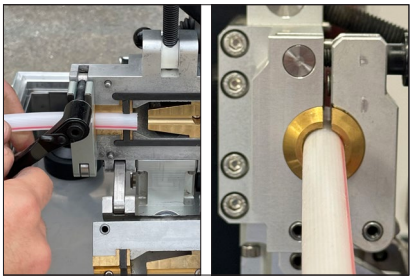


Fig. 3

INSERTING THE CABLE

- Insert the cable into the cable entry guide (Fig. 1).

- Place the cable into the cable gasket. Ensure that the “lip” of the gasket is facing towards the duct (Fig. 2). This orientation allows the air passing through the chamber to enter the gasket cavity, expanding the lip and providing a tighter gasket.

- Fit the gasket into the adapter and slide the cable a few centimeters into the tube, then close the adapter clamp by tightening it securely (Fig. 3).

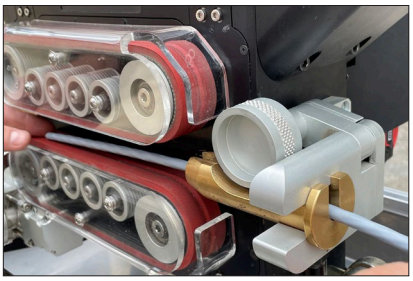


Fig. 1

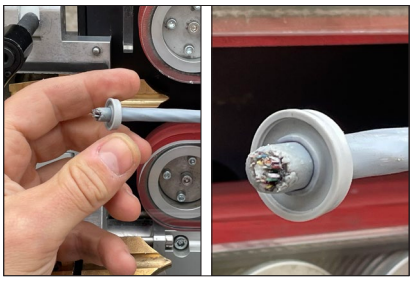


Fig. 2

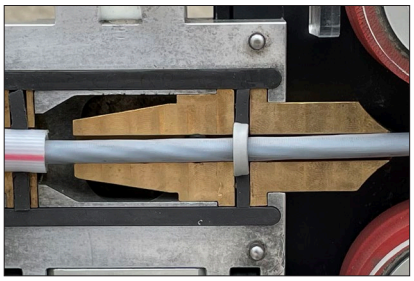


Fig. 3

CONNECTING THE COMPRESSOR

- Ensure that the compressed air lever on the machine is in the closed horizontal position.

- Attach the compressed air hose to the machine by inserting the hose fitting into the corresponding connection on Opera, rotating it, and securely tightening the locking collar. The use of the safety retention cable between the compressed air hose and the machine is **mandatory** (Fig. 1) (tool provided with Opera).

- Repeat the process with the compressor fitting (Fig. 2).

- Turn on the compressor and fully open the compressed air supply (Fig. 3).

Fig. 1

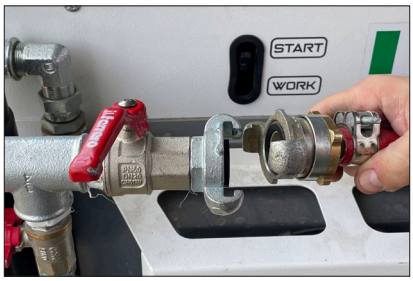


Fig. 2

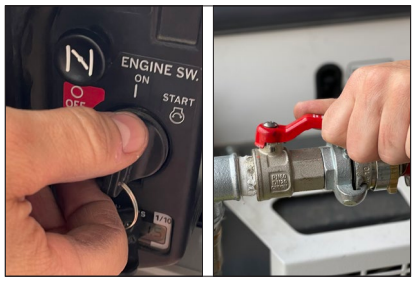


Fig. 3

CLOSING THE BELTS

- Turn on the display if it is not already on (Fig. 1).

- Ensure the central orange part of the emergency stop button is pressed inward (Fig. 2).

- Use the designated lever to lower the belts (Fig. 3).

- Pull the knob slightly towards you to unlock the pressure regulator (Fig. 4).

- Adjust the clamping force of the belts by rotating the pressure regulator (Fig. 4) and check the value displayed on the screen, expressed in Newtons (Fig. 5).

The force should be as low as possible while still preventing cable slippage. This value may vary based on factors such as the type of cable used, the wear level of the belts, whether the cable is wet or lubricated, etc.

- Push the knob inward to lock the pressure regulator in place.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

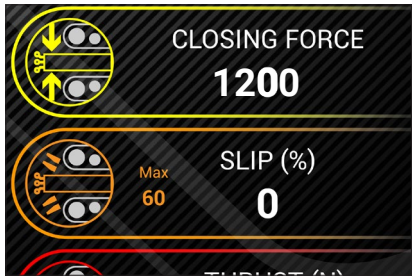


Fig. 5

SETTING THE MAXIMUM PUSHING FORCE

The maximum pushing force setting acts as a control for the force applied to the cable. It prevents the application of a force greater than what the cable can withstand without breaking and automatically stops the machine if this force is exceeded.

To determine the appropriate value, perform a CRASH TEST (see page 28).

- Set the Maximum Pushing Force: Access the settings on the display by clicking the corresponding icon (Fig. 1).

- Input the values obtained from the crash test (preferred) or from the manufacturer's cable datasheet to prevent cable breakage.

- Press the confirmation icon to save the value (Fig. 2). If you return to the main menu without confirming, the value will not be saved.

- The new maximum pushing force value will be displayed on the main screen of the display next to the relevant icon (Fig. 3).

By setting this value, the machine will automatically stop if the specified force is exceeded during operation, ensuring the safety and integrity of the cable.

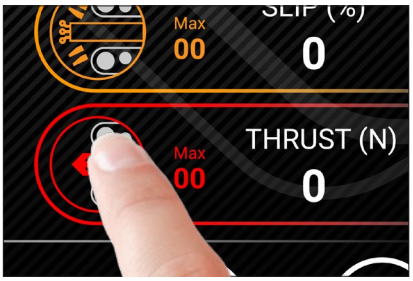


Fig. 1

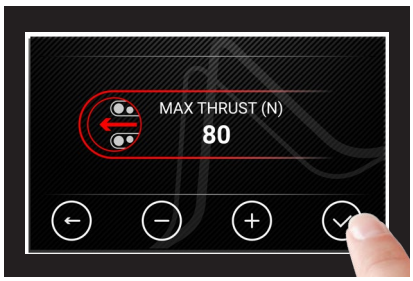


Fig. 2

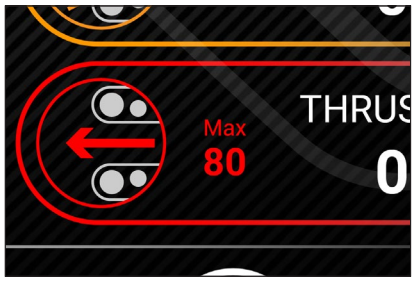


Fig. 3

NOTE: As an alternative to using the touch screen to set the maximum pushing force values, you can also use the control panel and view the data on the display.

SETTING THE MAXIMUM SLIPPAGE

Slippage refers to the percentage difference between the speed of the belts and the cable installation speed.

Setting the slippage control helps prevent cable damage if the cable gets stuck for any reason by stopping the machine.

0% Slippage: This means the slippage control is disabled. The machine will not stop even if the cable stops moving. The belts will continue to rotate on the cable, potentially causing damage.

100% Slippage: The machine will stop but only when the cable is completely stopped.

Set Maximum Slippage Parameters:

- Access the settings on the display by clicking the icon (Fig. 1).

- Adjust the maximum slippage based on the cable specifications and characteristics. This ensures that the machine will automatically stop if the set value is exceeded during installation, protecting the cable from being damaged. (see tips and tricks SLIPPAGE pag. 29)

- Press the confirmation icon to save the value (Fig. 2). If you return to the main menu without confirming, the value will not be saved.

- The new maximum slippage value will be displayed on the main screen of the display next to the relevant icon (Fig. 3).

We reccomend leaving the value at 100% for this parameter.

Fig. 1

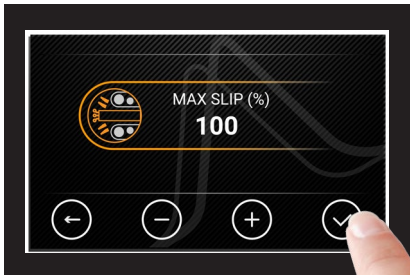


Fig. 2

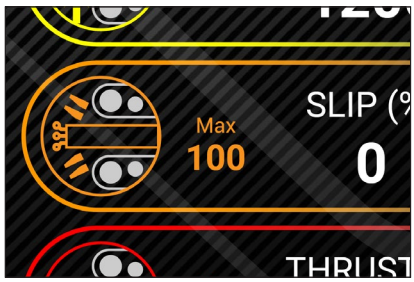


Fig. 3

NOTE: As an alternative to using the touch screen to set the maximum slippage, you can also use the control panel and view the data on the display.

STARTING THE INSTALLATION

- Choose the direction of operation using the appropriate lever located on the side of the machine (Fig. 1).

- Check that the machine is in the “Play” mode on the touch screen. If it is not, press the Play button to set the machine to this mode (Fig. 2).

- Make sure that the emergency stop button is deactivated (Fig. 3).

- Pull the speed regulator upwards to unlock it and gradually rotate it clockwise to start the installation (Fig. 4).

- Gradually open the air flow adjustment handle to help cable’s float, so that the cable continues to move through the tube (Fig. 5).

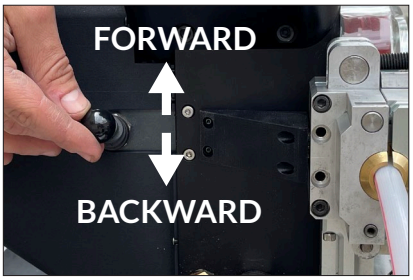


Fig. 1

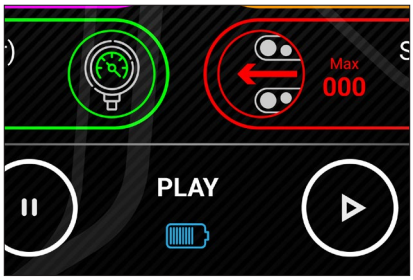


Fig. 2


Fig. 3

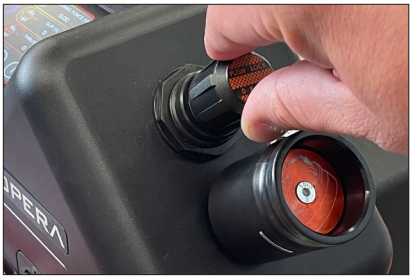


Fig. 4

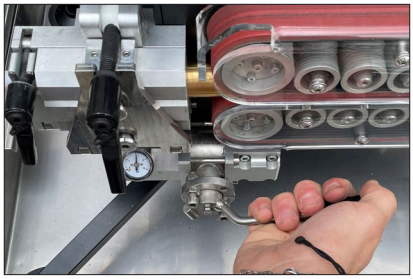


Fig. 5

IN CASE OF PROBLEMS, USE THE EMERGENCY STOP BUTTON.

ENDING THE INSTALLATION

- To end the installation, gradually reduce the speed using the motor speed regulator (Fig. 1) until it is fully turned off.

- To release the air from the tube without turning off the compressor, use the air release valve located behind the adapter block, or wait for the pressure to naturally discharge (Fig. 2).

- Remove the tube from the machine and withdraw the cable.

After completing all installation operations, turn off the compressor and release any residual air pressure in the machine using the designated lever (Fig. 3).

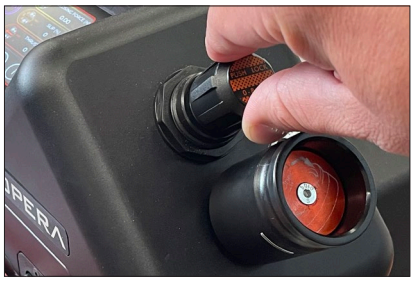


Fig. 1

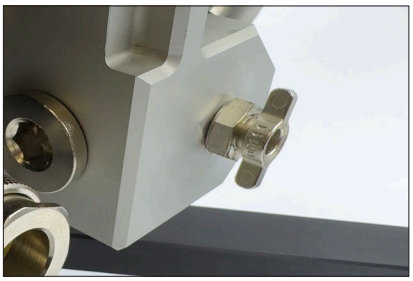


Fig. 2

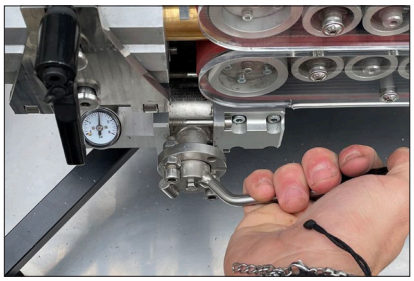


Fig. 3

Note: Opera is equipped with a condensation water removal valve located underneath the machine (Fig. 4). Compressed air generates moisture, which is captured by Opera. When compressed air stops flowing into the machine, the valve opens to release water. As a result, you may find some water under Opera at the end of the installation. The water may be mixed with lubricating oil and appear semi-oily. This is entirely normal and does not indicate a malfunction.

Note: Opera is equipped with oil drain ports (Fig. 5 - 6). The air motor of Opera features a turbine that is lubricated by oil mixed with air. As the oil mixed with air passes through the motor, it lubricates it and is then expelled. Consequently, you may find oil residues near the drain ports. This is entirely normal and does not indicate a malfunction of the machine.

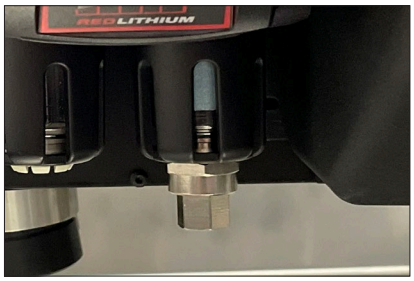


Fig. 4

Fig. 5

Fig. 6

USE OF OPERA IN MECHANICAL MODE ONLY

Opera can also be used in mechanical mode, without relying on the electronic components. If the display or electronics stop functioning, you can still continue with the cable laying operations.

The battery only powers the electronics and the display of the machine, which are not essential for its operation. Note: the button on the back of the machine turns on only the display and electronics, not the machine itself.

With the screen off, the machine is automatically set to “Play” mode and is therefore ready to operate.

All mechanical procedures for activating the machine’s operation remain valid.

- The emergency stop button must be deactivated (the orange center must be pressed inward).

- The motor speed adjustment knob must be unlocked (pulled upward).

- The display power button should be pressed down (screen turned off).

Without the display to adjust and view the various parameters, manual adjustment will be necessary.

- The pressure gauge reading (Fig. 1) corresponds to the pushing force applied to the cable. As a reference, use the motor speed adjustment knob to set this value according to the table below.

bar	Newton
6	900
3	450

- The belts closing force (Fig. 2), adjusted with the corresponding knob, uses the MPa (Mega Pascal) scale. For reference in adjusting this value, refer to the table below.

MPa	Newton
1	3200
0.5	1600

- The tube air pressure gauge (Fig. 3), controlled by the corresponding lever, indicates the pressure of the compressed air within the tube.

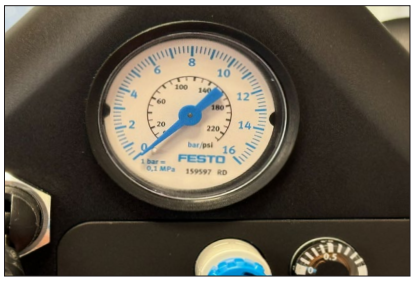


Fig. 1

Fig. 2

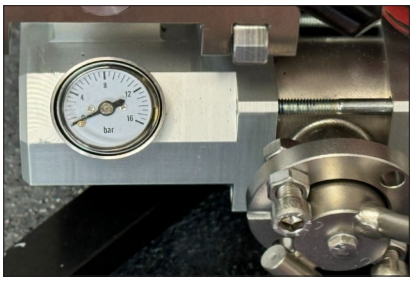


Fig. 3

REPLACEMENT OF DUCT AND CABLE ADAPTERS

- Unscrew the screws and remove the adapters to be replaced. (Fig. 1)

- Insert the adapters of the desired size and screw them back in place.

- Inspect the condition of the adapter seals and replace them if necessary. (Fig. 2)

- Ensure that the linear gaskets of the air chamber are correctly positioned in their housing. (Fig. 3)

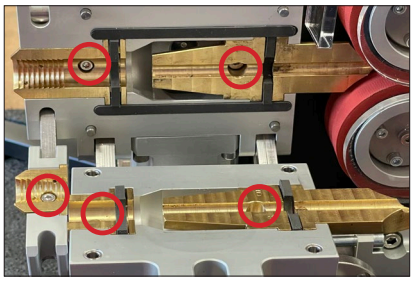


Fig. 1

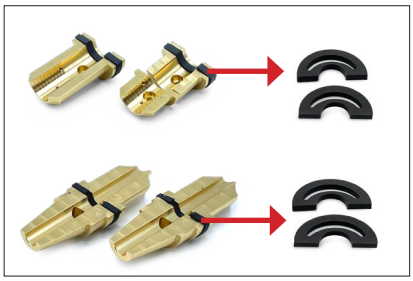


Fig. 2

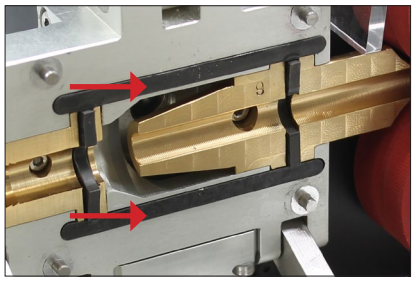


Fig. 3

REPLACING THE CABLE ENTRY GUIDE

- Pull down the knob to release the cable entry guide and remove it. (Fig. 1)

- Insert the desired size adapter (Fig. 2) into the machine while pulling down the knob to secure it.

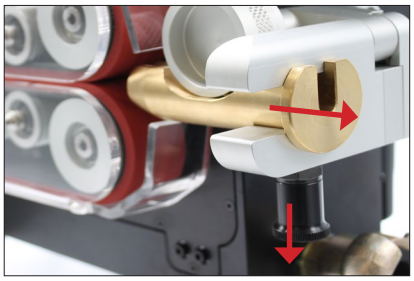


Fig. 1

Fig. 2

SAFETY PRECAUTIONS

PLEASE READ CAREFULLY FOR YOUR OWN SAFETY

1. **Prior to supplying compressed air**, the operator shall verify that all clamps securing the pressurized chamber and the duct are fully tightened and correctly positioned.

2. The air hose fitting shall be secured using the designated fastening system, ensuring that the safety screw is completely tightened. The use of the safety retention cable between the compressed air hose and the machine is **mandatory** (fig.1).

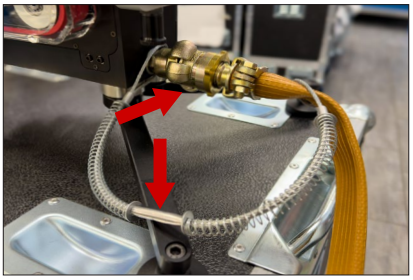


Fig. 1

3. **Before opening the adapter clamps or disconnecting the air hose**, the compressor must be switched off, the air supply and vent valves shall be completely opened, and the line pressure gauge shall indicate zero pressure.

4. During oil refilling procedures, all pneumatic pressure must be fully discharged, the air supply hose must be disconnected, and the machine shall be electrically isolated.

5. When replacing the drive belts, the operator shall first disconnect the air supply hose and ensure the complete depressurization of all internal pneumatic circuits.

6. **In the event of damage** to the plexiglass protective panels or the rear cover, all operations shall be stopped immediately. The machine shall be depressurized and electrically disconnected. Recommissioning is strictly forbidden until all damaged components have been replaced with original parts.

7. The machine shall not be operated without the plexiglass protective panels installed, as these devices are required to prevent hand injuries and to avoid entanglement of clothing, accessories, or foreign objects in the belt system.

8. If abnormal noise, vibration, or potential internal air leakage is detected, the operator shall immediately halt operation, depressurize the machine, disconnect the power supply, and contact authorized technical support.

9. **Only original Fibernet components and accessories** shall be used. All assembly and installation procedures must conform to the official instructions.

10. During operation, no personnel shall stand along the spool–machine–duct axis.

11. The operator shall remain positioned in front of the machine at a minimum distance of **30 cm**, and must not wear garments or accessories protruding more than **10 cm** from the body.

12. Loose items such as bracelets, necklaces, ID lanyards, or similar accessories shall be removed or secured prior to operation.

13. No additional operators or bystanders shall be permitted within the defined operating area while the machine is in use.

14. The duct shall be cut to a length that mitigates any potential impact hazard to the operator in case of accidental breakage or malfunction.

15. The operator shall wear certified protective workwear and safety footwear in accordance with applicable standards.
16. The steel tray shall not be removed from the case while the machine remains housed inside it. Handling of the tray shall only be performed using appropriate protective gloves.

17. Prior to operation, the machine shall be positioned on a stable surface or on its dedicated case, properly locked in place. The operator must verify correct coupling between the cable blower and the duct, and ensure that the cable is accurately aligned between the two drive belts.

18. The adapter clamps shall not be opened under normal operating conditions when the emergency stop system is disengaged

MAINTENANCE AND CLEANING

- Ensure that the machine is dried off after use by removing any water residues.

- Clean the machine with a damp cloth (not soaking wet) using water only. Do not use other chemicals.

- Avoid using alcohol to clean the plexiglass surfaces.

- Do not use water jets to clean Opera.

- Compressed air can be used to remove any dust.

REPLACING THE BELTS

Opera's belts are subject to wear and should be checked and replaced if they show signs of wear and have lost their grip on the cable. **We recommend replacing the machine belt every 100-200 km**, depending on the cable diameter used and the overall laying conditions.

To replace the belts, follow these steps:

1. Start with the top belt and remove the plexiglass cover by unscrewing the fastening screws. (Fig. 1 – 2)

2. Using an Allen key, adjust the first roller on the right by turning counterclockwise to loosen the tension on the belt. (Fig. 3)

3. Slide the belt out of its position. (Fig. 4 – 5)

4. Insert the new belt, ensuring that the grooves align perfectly with those of the rollers. (Fig. 6 – 7)

5. Adjust the belt tension by turning the first roller clockwise with an Allen key. (Fig. 8)

6. Reinstall the plexiglass cover. (Fig. 9)

7. Follow the same procedure for the lower belt.

Fig. 1

Fig. 2

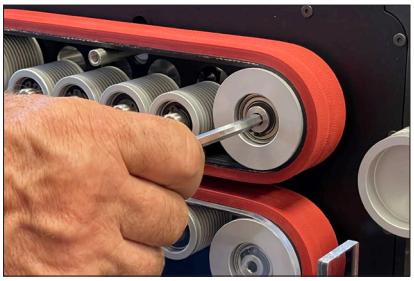


Fig. 3


Fig. 4


Fig. 5

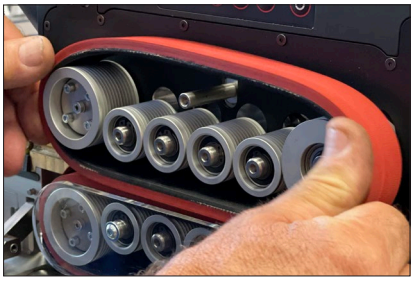


Fig. 6


Fig. 7

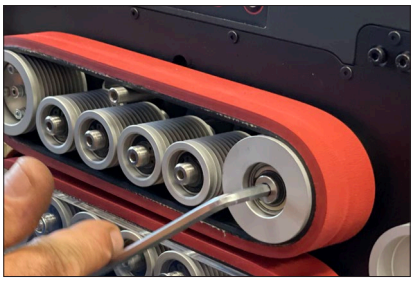


Fig. 8


Fig. 9

TROUBLESHOOTING

The machine can display two types of error messages: one for exceeding the maximum push force and one for exceeding the maximum slippage. In either case, the machine will stop. If this happens:

- Set the speed to zero using the speed regulator.

- Close the pop-up by pressing the “Close” button.

- Investigate the cause of the problem. Only restart the operation if the issue is solved.

- Once the issue is solved, return the machine to “Play” mode by pressing the corresponding button.

- Resume the operation.

For any other issue, please contact Fibernet Technical Support at:

Phone: +39 06 90.40.50.39 - Email: info@fibernet.it

FAQ - FREQUENTLY ASKED QUESTIONS

1. **What is the maximum distance Opera can reach?**
   The maximum distance Opera can achieve is not solely dependent on the machine but is greatly influenced by the tubing and the diameter of the cable being installed. The longest installation ever completed by Fibernet is 3000 meters. In principle, good quality tubing and cable make a significant difference.

2. **What are the supported diameters for cables and ducts with Opera?**
   Opera supports cables ranging from 4 mm to 16 mm in diameter. For ducts, it supports diameters from 7 mm to 20 mm with the built-in adapter, and from 22 mm to 63 mm with an external adapter. Best performances are, however, ensured for cable ranging between 4 and 12 mm.

3. **Can Opera be used to install ducts as well as cables?**
   Yes, Opera can install ducts up to 16 mm in outer diameter.

4. **What technical specifications should a compressor have to be used with Opera?**
   We recommend a minimum compressor specification of 1,000 liters and 16 bar. Generally, a compressor with 1,000 liters and 13 bar could still be acceptable.

5. **Is the APP used for other Fibernet cable blowing machines also compatible with Opera?**
   Yes, the application works either with Lady and Opera.

6. **Can multiple cables be blown simultaneously?**
   It is not possible to blow multiple cables simultaneously.

7. **What happens if the battery runs out or if the electronics fail?**
   Opera can still be used even if the electronics are not functioning. See the relevant section of this manual for details.

TIPS AND TRICKS

CRASH TEST

The Crash Test is performed on the fiber optic cable before starting the installation activity. Its purpose is to determine the maximum pushing force to set on Opera to prevent cable breakages.

The test consists of pushing the cable inside a sealed duct and by gradually increasing the pushing force until the cable breaks. By determining the force that broke the cable, you can set the parameter to a level slightly below, ensuring that installation proceeds without damaging the cable.

It is advisable to perform a crash test before every installation, as different types of cables and varying ambient temperatures can affect the maximum forces applicable to the cable.

Note: Cables with an outer diameter of 6 mm or greater may require breakage forces that Opera cannot provide.

PROCEDURE

1. Take a segment of tube approximately 3 meters long and seal one end with a plug.
2. Secure the tube to Opera as described on page 16.
3. Extend the tube as much as possible to avoid any obstacle that might hinder the cable's movement.
4. Insert the cable into Opera as per instructions on page 16.
5. Select the initial maximum push force you would like to use on the Opera display (see page 18) and start the cable installation in the tube at a determined speed.
6. Check if the cable breaks or gets damaged after hitting the plug at the end of the tube.
7. If the cable does not break or gets damaged, rewind the cable and repeat the test with a higher push force (e.g., if you started with a push force of 150 N, try increasing to 180 N).
8. Continue increasing the push force until the cable breaks or gets damaged.
9. Use a pushing force for installation that is lower than the force that caused the cable to break or get damaged.

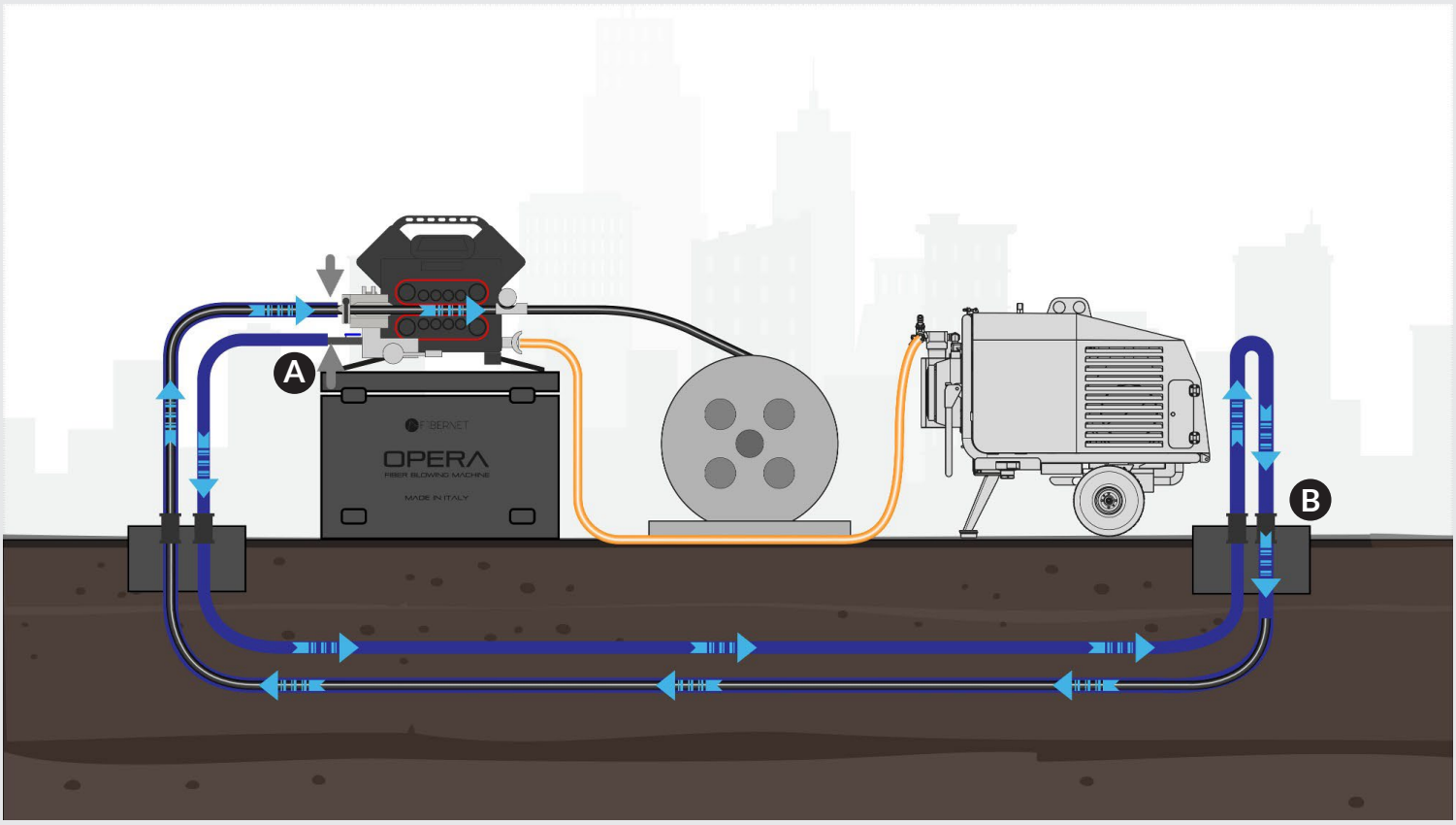
TIPS AND TRICKS

USING THE SECONDARY AIR OUTLET / REVERSE

The potential uses of this additional outlet (fig. 1) include:

1. **Cleaning the duct before** starting the installation. You can directly connect the tube to this outlet without having to clamp the tube in the tube adapter. This reduces setup time and makes it easier to insert cleaning sponges into the tube.

2. **Facilitating the "reverse" function.** The secondary air outlet allows the machine to pull back a cable that is stuck inside the duct by using the Opera's "reverse" function together with the compressor air. This procedure is only possible if there is an available duct that can be connected to the one where the cable is blocked, creating a loop. By connecting this second duct to the machine's secondary air outlet, the compressor air will be directed in the opposite direction, helping the cable retract and free itself.



To use this outlet, insert the appropriate adapter (Fig. 2).

To facilitate reverse operations of Opera and expulsion of a potentially blocked cable, follow these steps:

- Using a duct different from the one being operated on (but belonging to the same underground duct group), connect one end to the secondary air outlet adapter (step A).

- Connect the other end of this duct to the duct containing the blocked cable. This will allow the compressed air to assist the reverse blowing operation (step B).

- Keep the adapter clamp closed and ensure that the air chamber is open to allow the air to escape (Fig. 3).

- Start the reverse movement of the belts by adjusting the air flow with the designated lever.

Fig. 1

Fig. 2

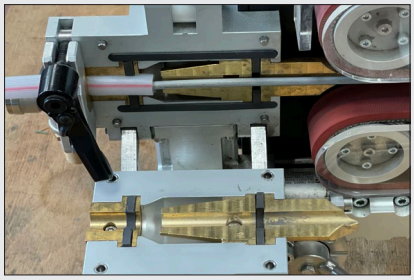


Fig. 3

SLIPPAGE

It is not recommended to set the slippage control below 50% unless you have very precise knowledge of the machine's parameters. Setting slippage control below 50% might cause the machine to stop undesirably.

As a general guideline for all types of installation, it is recommended to start with a 100% value.

USING OPERA WITH THE FIBERNET APP

Opera is equipped with a Wi-Fi connection that allows communication with the Fibernet APP installed on the dedicated tablet (sold separately).

The Fibernet APP allows the user to **record all cable-blowing operations performed with Opera**. The same tablet can also be connected to other Fibernet machines equipped with Wi-Fi, making the management and recording of multiple installations easier and more efficient.

The APP is pre-installed on the Fibernet tablet and cannot be installed on any other device, as its interface and layout have been specifically designed for the technical specifications of the supplied tablet.

The Fibernet APP and the generated reports.

RECORDING OF THE INSTALLATION AND CRASH TEST

The APP enables real-time recording of the blowing operation and can also capture data related to the preliminary crash test.

The crash test helps determine with greater accuracy:

- the maximum pushing force,
- the appropriate blowing speed,
- the clamping force of the belts,

so as to prevent damage to the cable during installation.

The recorded data therefore provide clear and objective reference values for setting the correct operational parameters.

STARTING A NEW RECORDING AND REPORTS

Before starting the installation, the machine must be connected to the APP via Wi-Fi.
After selecting "*New Installation*", the user can:

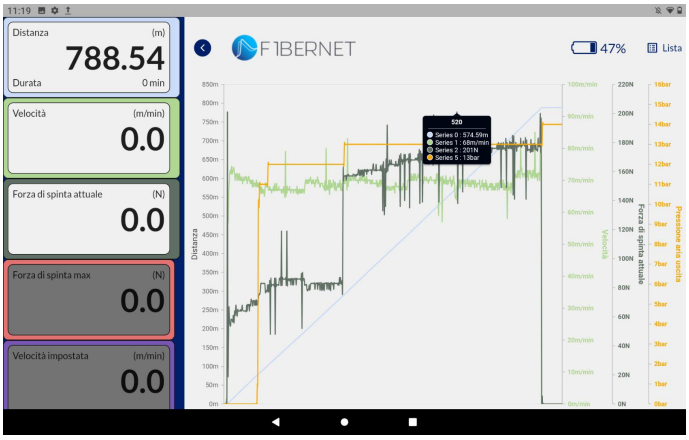
- manually enter all the data related to the upcoming installation, or
- load a previously saved installation and adjust selected parameters.

The fields to be filled in may include, for example:

- Project name
- Operator
- Installation address
- GPS position (acquired automatically)
- Type of compressor used
- Type of cable (diameter, manufacturer, colour, etc.)
- Type of duct (diameter, manufacturer, colour, etc.)
- Additional technical information

Once all the required information has been entered, the recording of the installation can begin.

The APP displays, in real time, all parameters transmitted by the machine and stores them meter by meter, presenting them in a summary table within the final report.



A particularly useful section of the report is the customisable graph, where the operator can select which parameters to highlight for detailed analysis.
At the end of the installation, comments regarding operating conditions or any difficulties encountered can be added.

The generated report can then be sent by e-mail using the tablet's Wi-Fi connection or exported via the USB port.

ADVANTAGES OF THE FIBERNET APP

Fibernet strongly recommends using the APP because it records each installation in detail, providing the installer with objective data to demonstrate the successful outcome of the operation or any issues encountered during the process. **The resulting report can be shared immediately** with the customer or with the internal technical team responsible for the installation.

Analysing the report is highly recommended, as the graph clearly shows how the installation is influenced by many operational variables and how each of them can affect the final result.
For example, the amount of air injected into the duct and the moment it is introduced are crucial factors; studying the report enables the operator to refine and continuously improve their working technique and allows the installer to demonstrate to the customer the quality of the installation performed.