

MATE-XT4.0

Sensorized version with
IoT functionalities



MATE-XT EXOSKELETON

Take lightweight and highly breathable ergonomic support to the eXTreme.

The MATE exoskeleton suit has been designed to improve the quality of life at work by providing consistent, advanced shoulders and arms assistance.

It reduces muscle effort during strenuous indoor and outdoor repetitive operations and daily tasks.



WHAT IS MATE-XT?

MATE-XT is the **upper-limb** exoskeleton totally passive (w/o motors).
It is designed to assist the user during flex-extension movements of the shoulder.

MECHANICAL SHOULDER CHAIN

Structure that facilitates the free movement of the user, such as sliding and rotating joints

GARMENT INTERFACE

All parts in direct contact with the user's body.



TORQUE GENERATING BOX (TGB)

Core mechanism that stores and transforms energy in order to create an adjustable assistive torque

HOW DOES IT WORK?

MATE-Xt GIVES YOU THE EXACT LEVEL OF SUPPORT WHEN AND WHERE YOU NEED IT

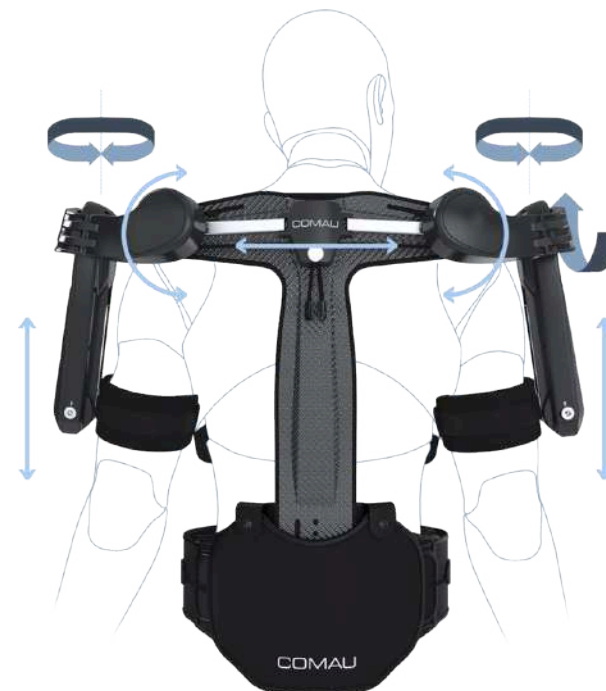
Zero torque at 0°
Max torque at 90°

109°
Flexo-extension angle



The assistance torque provided by the MATE-Xt exoskeleton suit follows your individual shoulder flexion/ extension angle

MATE-Xt MOVES IN HARMONY WITH YOUR SHOULDERS



Thanks to a chain of passive degrees of freedom, the flexion-extension rotation axis of the human shoulder is aligned with that of MATE-Xt

JUST THE WAY YOU DO

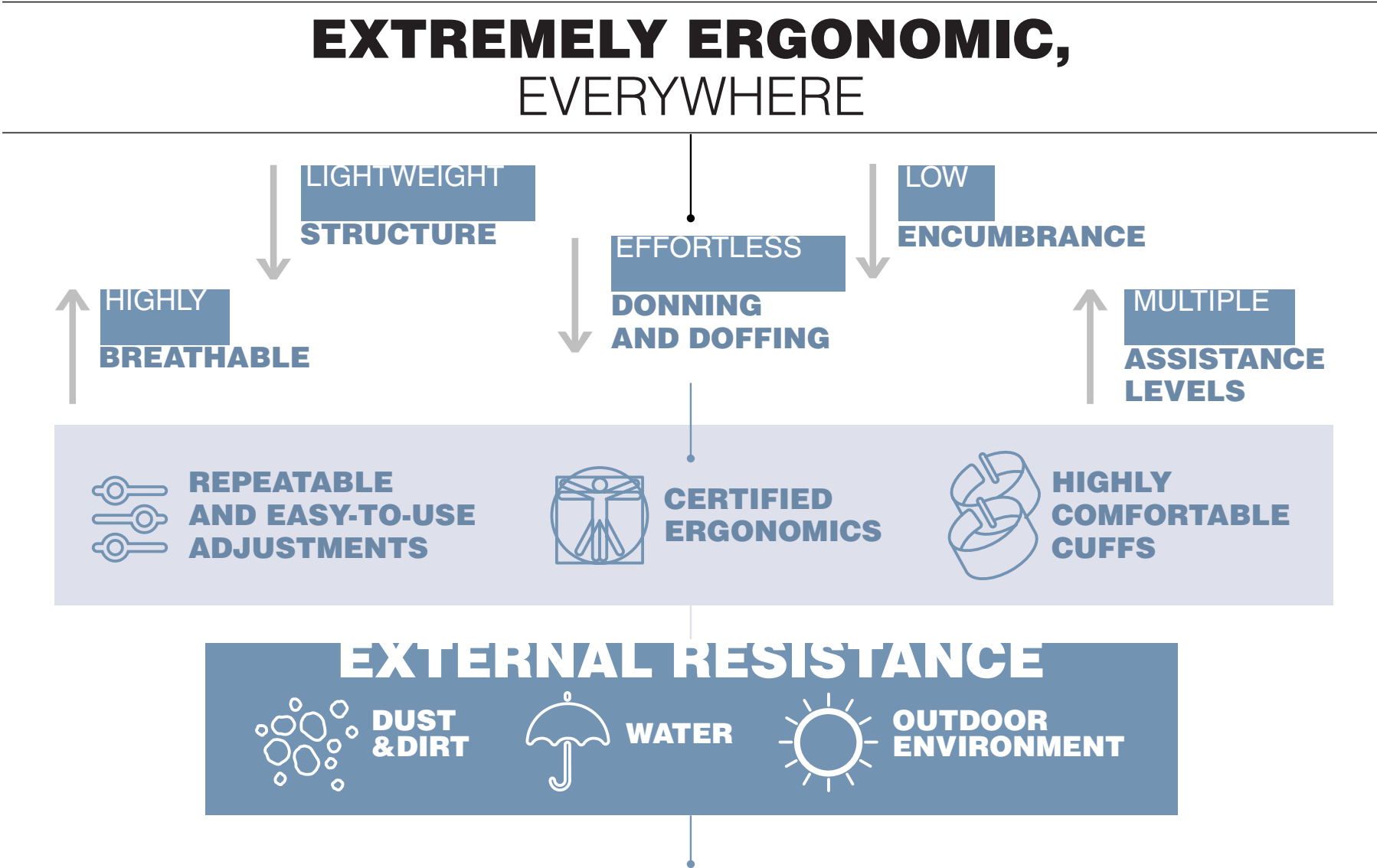
MATExt

MATE-Xt FITS YOUR BODY

GIVING YOU THE FREEDOM TO MOVE



MATE-Xt WORKS WHEN, WHERE AND HOW YOU DO.



WHY IS MATE-XT UNIQUE?

FOR WORKERS

**REDUCED
MUSCULAR
EFFORT**

30%

SCIENTIFIC STUDY

↓
AT
SHOULDER
LEVEL

**PERCEIVED
EFFORT
REDUCTION**

25%

PERFORMING ACTIVITIES

↓
LESS MUSCLE
STRAIN
PERCEIVED

**BACK
SUPPORT
RELIEF**

50%

PERFORMING ACTIVITIES

↑
OF WORKERS
IMPROVED
THEIR POSTURE

FOR COMPANIES

**POSITIVELY
IMPACT YOUR
ERGONOMICS**

**LESS
EXECUTION
TIME**

**HIGHER
PRECISION**

**ADDRESS WORK-
RELATED
MUSCULOSKELETAL
DISORDERS**



MORE **FLEXIBILITY**



MORE **COMFORT**



MORE **RESISTANCE**



MORE **SUPPORT**

MATE-Xt 4.0 VERSION

MATE-Xt 4.0 combines the MATE-Xt with **advanced sensors** to **enable IoT** application and extend the MATE “family”



Charging
port

ON/OFF
Switch

Available versions:
MATE-Xt 4.0 - Right hand side &
MATE-Xt 4.0 - Left hand side
Available sizes: Large & Small



Battery status LED

Information LED

WHAT ARE THE ADDITIONAL FUNCTIONALITIES OF MATE-XT 4.0



- **Wifi-connected sensors** to deliver near real-time data with an intuitive digital dashboard
- **IoT-ready device:** MATE-XT 4.0 Integration with Industry 4.0
- **Advantage of Tax credit rebate** according to local legislations for introduction of Industry 4.0 devices
- **Preventive Maintenance:** Fault prevention



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