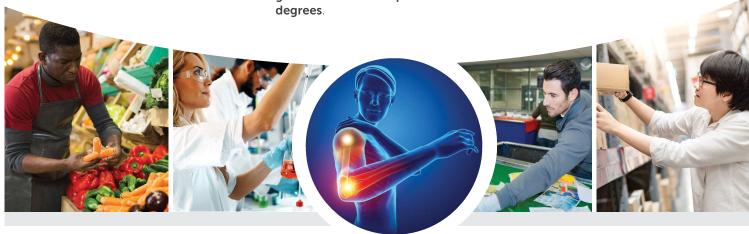


What is the HAPO-MS exoskeleton?

Hapo MS is a very **light and easy-to-use exoskeleton**, specifically designed to prevent and **reduce pain in the shoulders and elbows**.

This is the right exoskeleton to improve the conditions for all works requiring arm assistance with angles from 0° to 135° and a great horizontal amplitude of 180 degrees.

The user keeps a great freedom of movement and agility.



For whom?

All workstations require repetitive manipulation of objects of any weight, or necessitating **prolonged arms-in-front postures**, impacting the shoulders and elbows.

These high-risk postures lead to joint damages to the elbows and shoulders in several fields and jobs.

(Non exhaustive list):

Manufacturing / Distribution and retail/ Health/Agro food/Dispatching/Picking

Cabling specialists, Electricians, Sorting operator, laboratory workers, dressmakers, welders, health care professions, milking...

How?

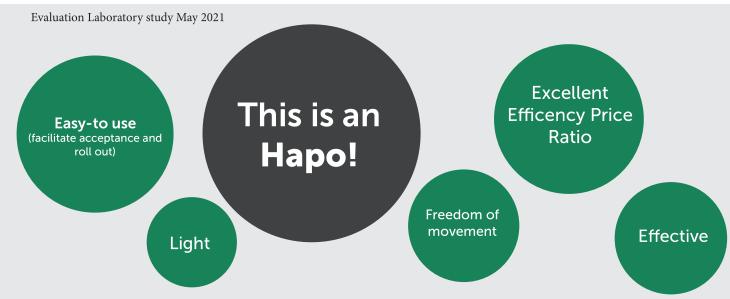
HAPO-MS is a **reasoned solution** combining maintained efficiency and freedom of movement. The balance of these two features allows the user to perform better, while reducing pain and efforts in his demanding tasks.

Laboratory study

- Reduced muscle activity in the biceps and deltoids respectively of 33% and 16% on a dynamic spot, arm at mid-height.
- The testers found the HAPO-MS comfortable. ((Difference of only 12% with the exoskeleton compared to without)).
- Doesn't disturb the user's balance.
- No negative effect on the main postural muscles (upper body)

These results are promising for a positive user acceptance rate.





TECHNICAL SPECIFICATIONS

Assistance of the upper limbs	Relieving of shoulders and elbows with the dual interface
Range of movement with assistance	Up to 135° in height Up to 180 ° Horizontally
Assistance	Up to 6 Kg
Size	One size fits all
Weight	1.3 Kg
Donning in	50 seconds
Doffing in	20 seconds



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