manusa

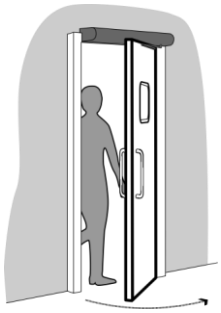
TRANSLATED DOCUMENT

Technical Data Sheet

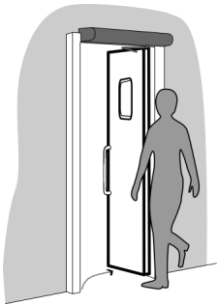
VECTOR OPERATOR



1 DESCRIPTION



Single + Pull arm



Single + Push arm



Bi-parting + Pull arm



Bi-parting + Push arm

i

VECTOR is an advanced **electromecanical operator** used for the automation of any type of new or existing swing door.

It is a **highly-efficient high-performance** operator, especially designed for intensive use, as it can automate both light and very heavy doors.

VECTOR is available with pull or push arms, and with single and bi-parting door versions.

Thanks to its specific operating modes, **VECTOR** is recommended for **hermetic doors for clean rooms**, and for environments with **strong winds**.

Other main features:

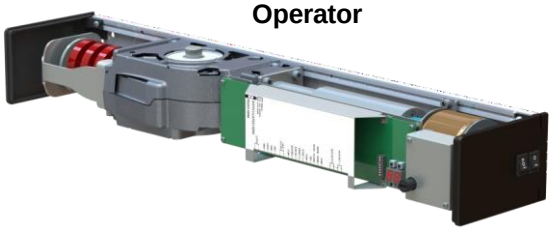
- **Compact** design, with minimum aesthetic impact.
- Formal and attractive design with pleasant lines.
- Available modes for **Low Energy** and **Push&Go** activation.
- **Easy installation** and monitoring thanks to its built-in double display.

There are two models of VECTOR swing operator according to their operation:

- Motor opening and spring closing (standard):
  - Door closing by means of a **motor-assisted spring** in normal operation.
  - Door closing by means of a **spring** in case of power supply failure.
- Spring opening and motor closing (reverse operation):
  - Door opening by **spring assisted by motor** in normal operation.
  - Door opening by **spring** in case of power failure.

2 SYSTEM COMPONENTS

Operator



+

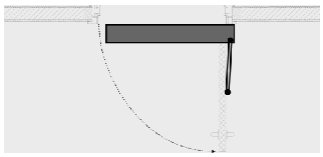
Arm

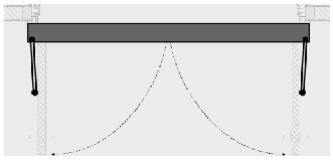


3 VERSIONS

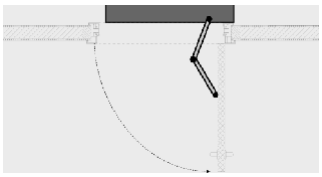
It is available in the following transmission arm configurations, in single and bi-parting door versions:

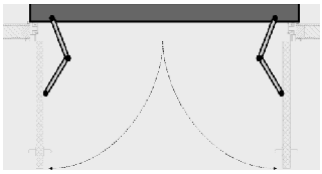
Pull arm: attached to the wall on the same side as the hinges (see picture).



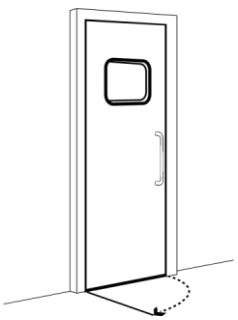


Push arm: attached to the wall on the opposite side to the hinges (see picture).





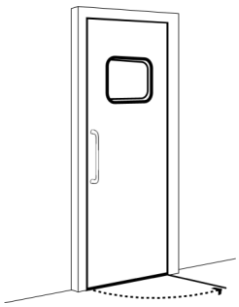
Both the **operator** and the **two arm versions** (pull and push) are **universal for any leaf typology: bi-parting, left and right opening.**



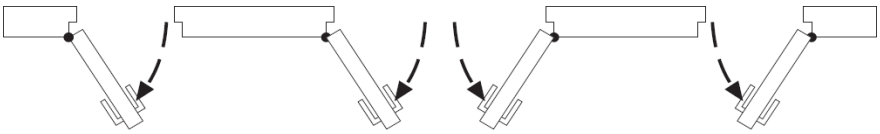
LEFT
Side Opening



BI-PARTING



RIGHT
Side Opening



4 FINISHES

The cover is manufactured in aluminium, allowing all of the finishes available for this material:

Anodised: protective surface layer generated from an electrolytic process. The minimum anodised thickness is 15 microns.

Lacquered: protective coating of oven-polymerised plastic paint. The minimum lacquer thickness is 60 microns. The entire RAL range is available.

5 TECHNICAL SPECIFICATIONS

MECHANICAL SPECIFICATIONS

Dimensions (Height x Width x Length)	**89x130x675mm** (1 leaf)
Maximum leaf weight	**250 kg** (see table 1)
Opening time	**3s (70°/s) ÷ 6s (20°/s)**
Closing time	**4s (40°/s) ÷ 15s (10°/s)**
Closing force (second in 1154)	**EN4 ÷ EN6** (See table 2)
Maximum opening angle	**110º**
Width of door leaf	**700 ÷ 1400mm**
Anti-crushing	**Automatically limits force when obstacles are detected**
Weight	**Approx. 11kg.**
Protection grade	**IP40**

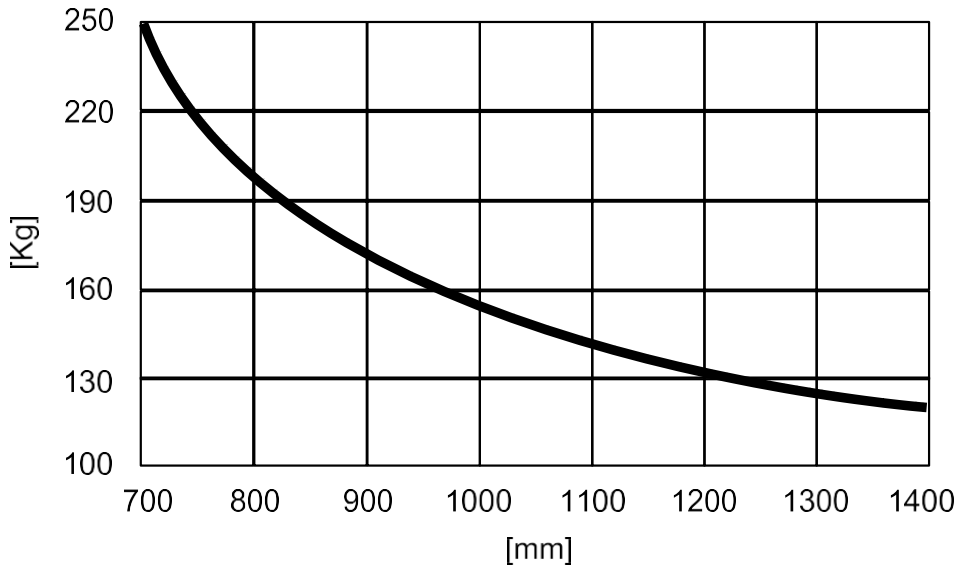
ELECTRICAL SPECIFICATIONS

Power supply	**230V** ±10% CA 50/60 Hz
Power supply on demand	**115V** ±10% CA 50/60 Hz
Nominal power	**85W**
Shaft output max. torque	**45Nm**
External devices power supply	**15 VDC - 12W Máx.**
Operating temperature	**De -10°C a 50°C**
Service	**Continual**

APPLIED STANDARDS

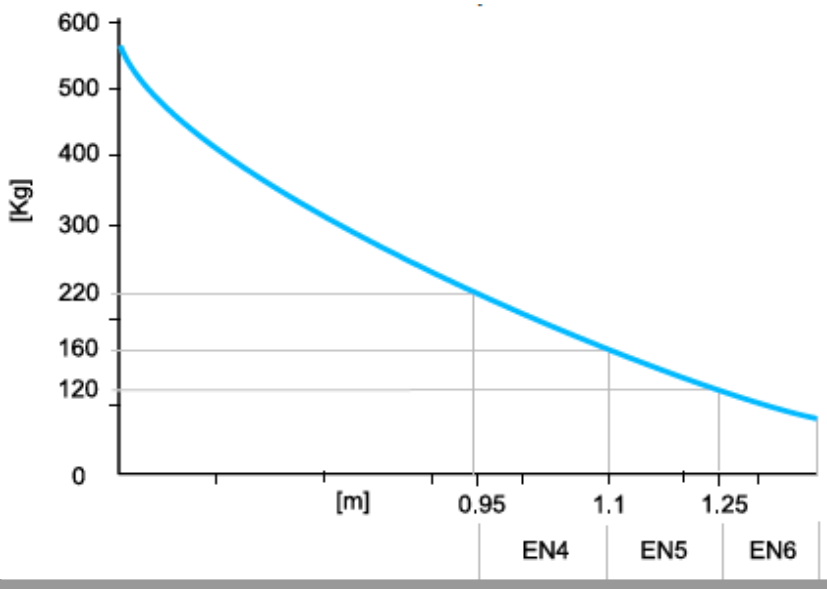
Low Voltage	**35/2014/CE**
Electromagnetic Compatibility	**30/2014/CE**
Construction Materials	**305/2011/CE**
Machine Safety	**42/2006/CE**
Automatic Door Use Safety	**EN 16005**

Table 1

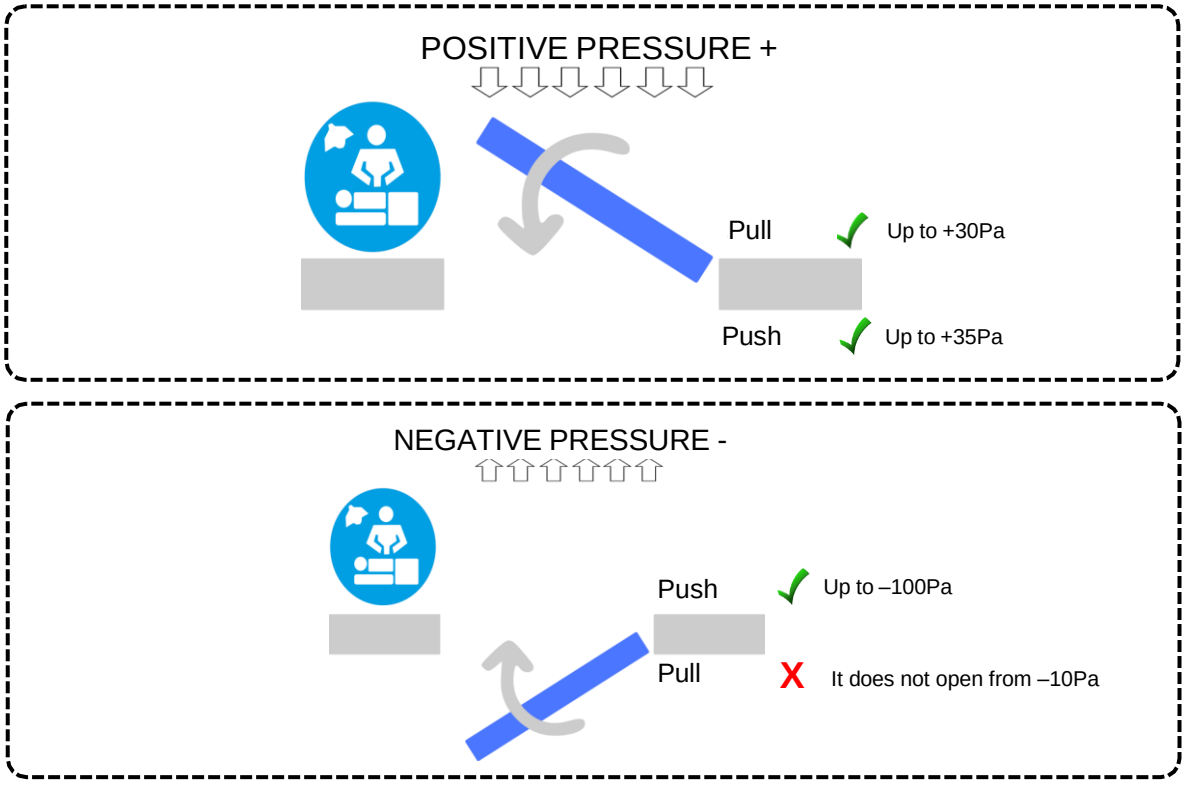


5 TECHNICAL SPECIFICATIONS

Table 2
Classification as per EN1154



WORKING PRESSURES



FIRE RESISTANCE TEST EN-1634-1

The use of Vector Operator is positively appraised for use on timber/mineral-based door assemblies. Of up to 120 minutes integrity and insulation with respect to **EN 1634-1**.

Should the recommendations given in this report be followed it can be concluded that single-acting timber/mineral-based door assemblies, wich have previously been successfully fire tested by UKAS accredited laboratory (or assessed by *Exova Warringtonfire* , *BM TRADA* or *Chiltern Internatioanl Fire*), to have achieved up to 120 minutes integrity and insulation performance in accordance with BS **EN 1634-1**, as discussed in this report, may be fitted with Vector Operator , without detracting from the overall achieved performance of the doorset.

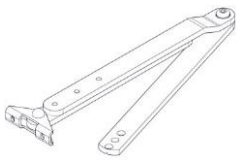
6 ACCESSORIES

Swing doors with VECTOR operators support a wide range of accessories:

DETECTION	WIRED RANGE	WIRELESS RANGE	CONTROL / OTHER
- Movement sensor - Reopening photocell - Standard presence sensor - Recessed presence sensor - Unsupervised movement and presence sensor - Supervised movement and presence sensor - Touchless switch - Security sensor L=350 - Security sensor L=700	- Push button - Elbow push button - Key switch - Proximity reader - Keypad - Autonomous print reader	- Push button - Elbow push button - Key switch - Keypad - Remote control - Hands-free access identifier	- Emergency stop - Buzzer and/or warning light - Vector mode selector. - Vector key mode selector.

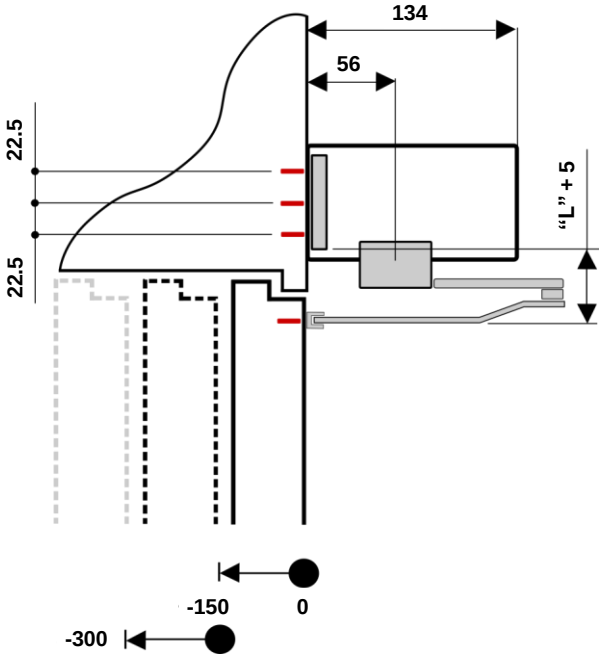
ARMS

-Short pushn arm. 0 ≤ X ≤ 150



- Long push arm. 150 ≤ X ≤ 300



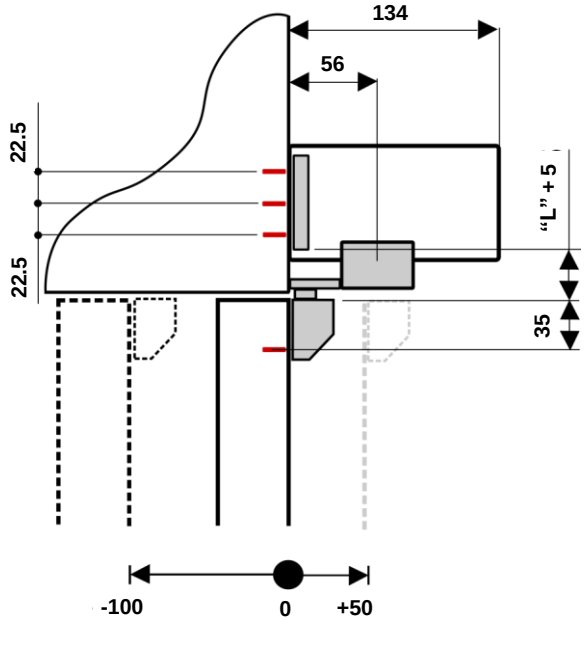


- Pull arm.



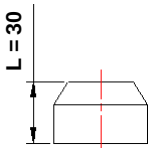
- SLIM pull arm.



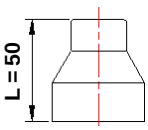


AXIS EXTENSIONS

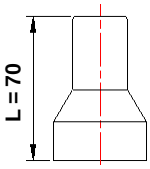
- 30mm axis extension.



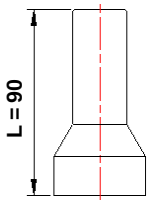
- 50mm axis extension.



- 70mm axis extension.

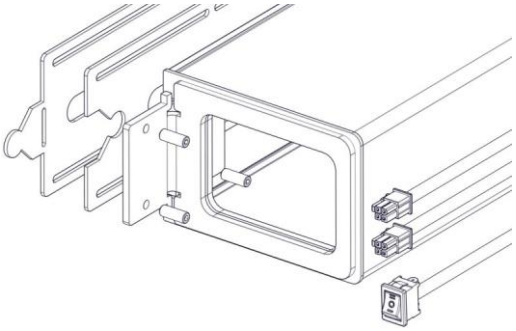


- 90mm axis extension.

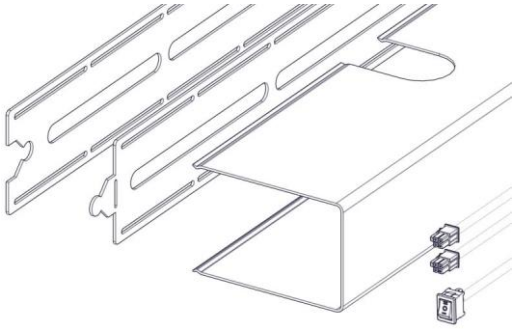


DOUBLE VECTOR

- Intermediate cover kit

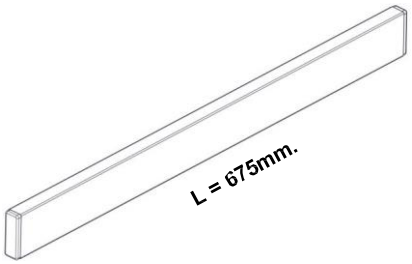


- Custom cover (on demand)

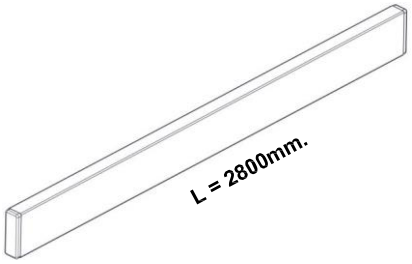


FRAME PACKS (for P50 swing door + pull Vector operator)

- Single leaf pack



- Double leaf pack



7 SAFETY FEATURES

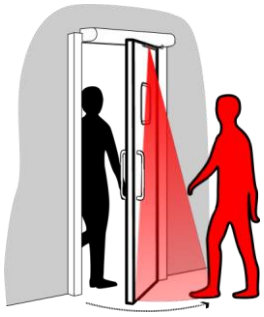
All **manusa** VECTOR operators include the following safety features as standard:

- Closing force limitation:
  - · The motor torque is monitored to ensure pedestrian safety.
- Detection of obstructions:
  - · When closing, the door reopens.
  - · When opening, the door stops.
- Manual opening:
  - · In the event of power failure, the door may be activated manually, like a manual swing door.
- Fire alarm connection:
  - · In the event of a fire and in order to allow evacuation, the door enters manual mode.

Optionally, the VECTOR operator may have protection sensors for the door's opening area. If the sensor detects the presence of a pedestrian in that area, the door will move safely.

Optionally, the VECTOR operator is for sale with a reverse mechanism, where the spring acts in favor of the door opening and not closing, especially designed for escape routes.





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