

Bravo®

Technologically advanced,
reliable and user friendly



manusa 
Automatic doors

AUTOMATIC DOOR OPERATOR

Bravo®

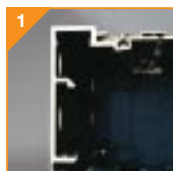
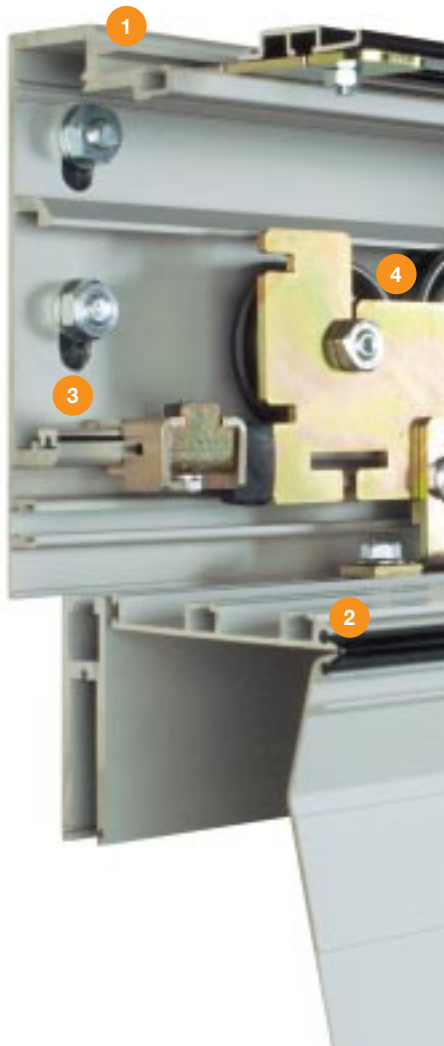


MANUSA TECHNOLOGY

- ✓ 2 m/s: the **FASTEST** opening speed in the market
- ✓ Universal motor group: one drive unit for all types of doors
- ✓ Crossed dragging arms for quick installation
- ✓ Robust three phase AC motors without reduction gear for improved performance and silent operation
- ✓ A unique inverter technology exclusive of Manusa provides independent adjustment of speed and force (V.V.V.F.)
- ✓ Magnetic encoder to determine the position, direction and speed of the door leaves.
- ✓ Electronic control panel with 16-bit microprocessor
- ✓ ManuLink: centralisation and management of up to 256 Manusa doors from a remote PC
- ✓ ManuTel: maintenance from a remote PC via landline or GSM modem.

MAXIMUM SAFETY

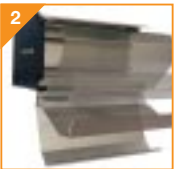
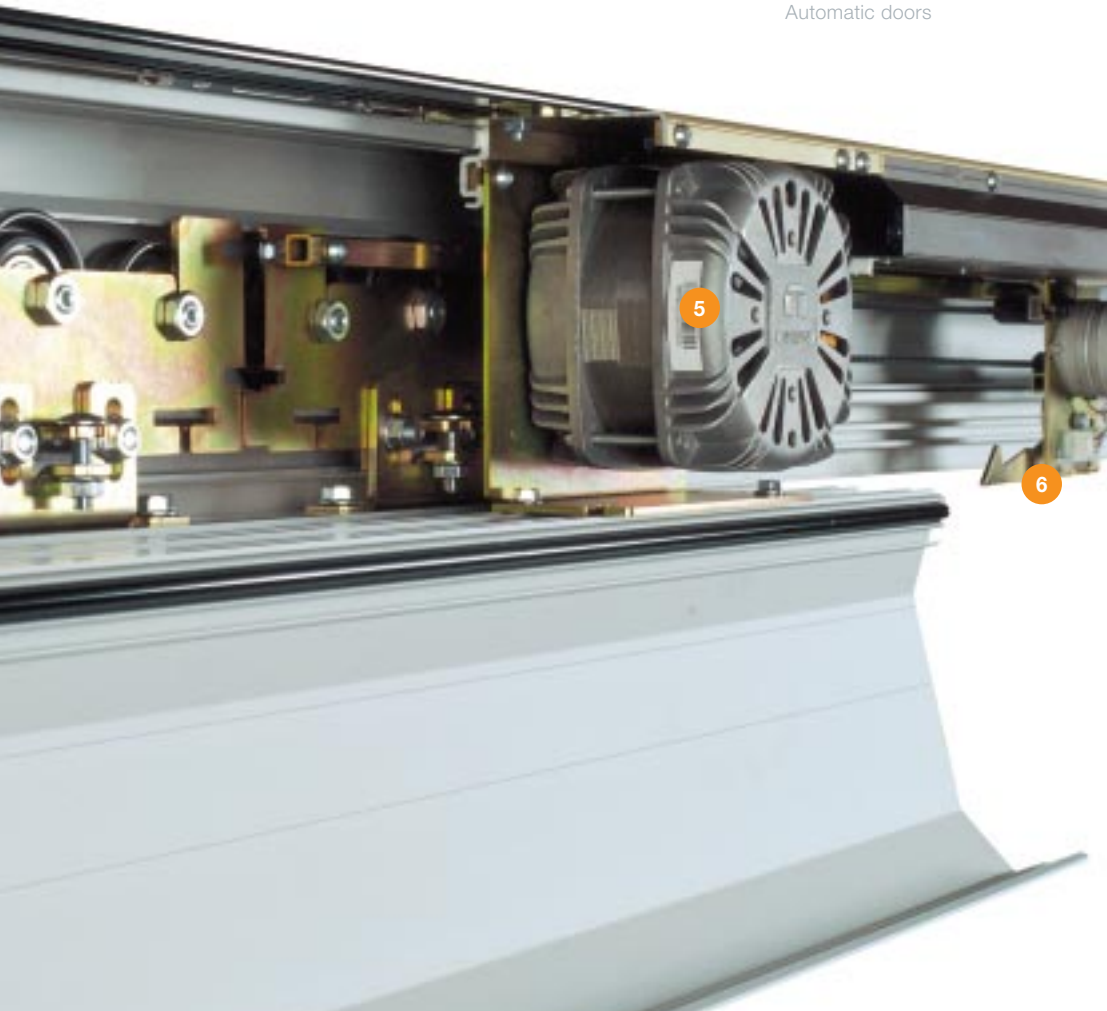
- ✓ Connection for 2 photocell barriers
- ✓ Emergency fail-safe batteries to open or close the door in the event of power failure. Parameters resume when power is restored
- ✓ Safety stop/reverse
- ✓ Continuous self-monitoring with immediate alert of malfunctions via digital display
- ✓ Automatic compensation of friction
- ✓ Independent adjustment of parameters: opening speed, closing speed, closing force, hold-open time, closing delay time, reduced opening and radar sensitivity.
- ✓ Emergency push button (optional)
- ✓ Bi-stable automatic lock (optional)



Robust profiles

Up to 5 mm thick. Optional aluminium beam for bigger doors with side suspension.





2 Easy access
Front cover with rubber hinge, to make maintenance easier



3 Track rail
Insulated and easy to replace, provides smooth and quiet operation



4 Two trolleys per door leaf
Each of them with 3 large diameter wheels, for improved safety



5 Robust three phase AC motors, without reduction gear
With 5 year guarantee



6 Bi-stable automatic lock
Blocks the door leaves also during power failure

Bravo automatic door operator

TYPES OF LEAVES

	Bi-part	4-leaf Telescopic	Single slide	2-leaf Telescopic	Curved and semicircular
All glass (T20)	<input type="checkbox"/>		<input type="checkbox"/>		
All glass with top and bottom rails (D20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20 mm framed (E20)	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
30 mm interlocking (I30)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44 mm framed (C44)	<input type="checkbox"/>		<input type="checkbox"/>		
Panic break-out (S44)	<input type="checkbox"/>		<input type="checkbox"/>		
Hermetically sealed	<input type="checkbox"/>		<input type="checkbox"/>		
Fire rated (RF)	<input type="checkbox"/>		<input type="checkbox"/>		

TECHNICAL FEATURES (*)

	Bi-part	4-leaf Telescopic	Single slide	2-leaf Telescopic	Curved and semicircular
Operator height	180 mm	190 mm	180 mm	190 mm	160 mm
Maximum clear opening	2950 mm	3950 mm	2000 mm	2000 mm	2200 mm
Maximum weight per leaf	2x120 Kg	4x90 Kg	1x160 Kg	2x75 Kg	2x90 Kg
Maximum diameter	-	-	-	-	3000 mm
Relative opening speed (bi-part), adjustable	100 - 200 cm/s	100 - 200 cm/s	-	-	80 - 160 cm/s
Opening speed per leaf, adjustable	50 - 100 cm/s	50 - 100 cm/s	50 - 100 cm/s	50 - 100 cm/s	40 - 80 cm/s
Closing speed per leaf, adjustable	15 - 40 cm/s	15 - 40 cm/s	15 - 40 cm/s	15 - 40 cm/s	15 - 40 cm/s
Closing force, adjustable	40 - 150 N	40 - 150 N	40 - 150 N	40 - 150 N	40 - 150 N
Acceleration	2.0 m/s ²	2.0 m/s ²	2.0 m/s ²	2.0 m/s ²	2.0 m/s ²
Independent adjustment of speed and force	YES	YES	YES	YES	YES

COMMON FEATURES

Power supply	230 V - 50/60 Hz (115 V - 50/60 Hz under request)
Type of motors	Brushless three phase AC motors, without reduction gear
Inverter technology	Independent adjustment of force and speed (VVVF)
Environment temperature during operation	-20° - 65°C
Rechargeable fail-safe batteries	1 x 24 DC 700 mA
Safety stop/reverse	YES
Infrared barriers	1 or 2

APPLICABLE EUROPEAN STANDARD PREN 12650

Low voltage	73/23/CEE
Electromagnetic compatibility	89/336/CEE (AS 4251.1)
Construction products	89/106/CEE
Safety of machinery	89/392/CEE 91/368/CEE 93/44/CEE

Accessories

(*) See technical features in the individual brochures of each product



Optima selector



Remote control



Automatic lock



Microwave radar



Touch-less IR switch



Outside Key switch



IR photocell beams



Interface
(input/output module)



ManuLink Software

Other accessories available:

- Rotative selector
- Airlock interface
- Mechanical fail-safe
- Manual floor lock
- Emergency push button
- IR sensor
- Numeric key-pad
- Buzzer
- Pharmacy opening
- Opening push button
- Manual: remote maintenance via modem