

# Besam Curved Sliding Door System CMD

## **User Manual**



#### **CONTENTS**

Electronic equipment reception interference	. 3
Environmental requirements	. 4
Product liability	. 4
Warranty	. 4
Service	. 5
Purpose of use	. 5
How the CMD works	. 5
Programme Selectors	. 6
Technical specification	. 7
Standard safety	. 7
Optional safety	. 8
Emergency escape	. 8
Regular safety checks	. 9
Safety accessories	12
General accessories	12
Troubleshooting	13
Maintenance plan	14
Other products from Besam	14

© All rights in and to this material are the sole property of ASSA ABLOY Entrance Systems AB. Copying, scanning, alterations or modifications are expressly forbidden without the prior written consent of the applicable company within ASSA ABLOY Entrance Systems AB. Rights reserved for changes without prior notice.

## Congratulations on your new automatic door!

Besam has developed automatic doors for more than 40 years. State-of-the-art technology and carefully tested materials and components provide you with a superior product.

As with all other technical products, your automatic door requires periodic maintenance and service. This manual will assist you with this. It is essential that you know your automatic door (system) and that you recognize the importance of maintaining it in compliance with applicable standards for safety.

Your local Besam-authorized representative is familiar with these standards, as well as all applicable local codes and Besam recommendations for power-operated pedestrian doors. Service and adjustments performed by your Besam-authorized representative will ensure safe and proper operation of your automatic door unit.

## HAZARD WARNING



Failure to observe the information in this manual may result in minor personal injury or damage to equipment.

Save these instructions for future reference.

## Electronic equipment reception interference

This equipment may generate and use radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, it may cause interference to radio, television reception or other radio frequency type systems. It has been designed to comply with the emission limits in accordance with EN 61000-6-3 (US market FCC Part 15), which are designed to provide reasonable protection against such interference in a residential installation.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.
- Relocate the receiver with respect to the equipment.
- Move the receiver away from the equipment.
- Plug the receiver into a different outlet so that equipment and receiver are on different branch circuits.
- Check that protective earth (PE) is connected.

If necessary, the user should consult the dealer or an experienced electronic technician for additional suggestions.

## Environmental requirements

Please act according to your local regulations and dispose of your old product(s) and packaging properly. The correct disposal will help prevent potential negative consequences for the environment and human health.

Besam products are equipped with electronics and may also be equipped with batteries containing materials which are hazardous to the environment. Remove this material from the operator before it is scrapped and make sure that it is disposed of safely as was done with the packaging.

## Product liability

According to European directives and equivalent national legislation outside the European Union, the following are the responsibility of the owner or caretaker of the equipment.

- that the equipment operates correctly, so that it gives sufficient protection in regard to safety and health
- that the equipment is operated and regularly maintained, inspected and serviced by someone with documented competence in the equipment and in applicable regulations
- that a journal is kept of inspection, maintenance and service records including the provider
- that inspection covers the emergency opening function (when applicable)
- that the closing force is appropriate for the door size on fire-approved door systems (when applicable)

## Warranty

Besam warrants its products to be free from defects in material and workmanship under intended use and service for a warranty time of 12 months, beginning at time of delivery. This warranty extends only to the original buyer of the equipment. Besam warrants that the software will operate substantially in accordance with its functional descriptions and that it has been recorded on non-defective media.

The Besam warranty does not apply to

- That the software will be error-free or operate without interruption.
- · General wear and tear on the system
- Fuse, disposable batteries and glass damage
- System deviations caused by installer other than Besam
- System that has been altered or damaged by vandalism or misuse
- System that has been additionally equipped with non-Besam original branded parts and/ or spare parts
- Unrequired visits due to poor client communication (door working when our technician arrives, reset, power discontinuation)
- Adjustments (closing and opening speed and also detection field radars) due to customer requests
- Water damage
- Adverse weather conditions
- Any damage caused, directly or indirectly, by a circumstance beyond the control of the
  applicable company within ASSA ABLOY Entrance Systems AB, such as industrial dispute, fire, natural disaster, war, extensive military mobilization, insurrection, requisition,
  seizure, embargo, restrictions in the use of power and defects or delays in deliveries by
  sub-contractors caused by any such circumstances.

#### Please note:

- Non-compliance with manufacturers care and maintenance recommendations may void the warranty.
- Besam-authorized resellers shall extend this warranty to end-users only, but have no authority to extend a greater or different warranty on behalf of Besam.
- A service agreement with Besam will secure the availability of a fully operational system
  and will give priority at call-out, thus minimizing the time that the system is unfit for use.

### Service

Regular inspections by a trained and qualified person, and the frequency of service occasions, shall be made at minimum according to national regulations. This is especially important when the installation concerns a fire-approved door or a door with an emergency-opening function. To extend the life of your investment and ensure safe and reliable operation of the door, talk to your Besam representative. For contact information, see last page of this manual.

## Purpose of use

The CMD is an automatic sliding door operator developed to make life easier for everyone who can benefit from automatic doors. The CMD is designed to offer continuous use, a high degree of safety and maximum lifetime.

Besam CDM sliding door makes it possible to design the entrance in three dimensions, with depth in addition to the normal width and height. This gives the entrance an elegant and decorative appearance whilst it remains extremely functional. A curved sliding door gives a wider opening than a flat sliding door.

The system is self-adjusting to the effects caused by normal variations in the weather conditions and to minor friction changes caused by e.g. dirt.

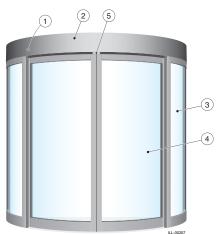
Each installation is, however, unique and must therefore be equipped and adjusted for the application-relevant safety requirements, just like maintenance must be performed as specified for the selected product in a given environment.

## How the CMD works

The Besam CMD sliding door system works electromechanically. The drive unit, control unit, transmission, optional emergency unit and electromechanical locking device are all assembled in a support beam with an integrated cover. The motor and gear box transmit movement to the door leaves by means of a tooth belt. The door leaf is fitted to a door adapter/carriage and hangs on a sliding track. The active leaf travel is directed by a floor guide.

When an opening impulse (e.g. from a motion sensor) is received by the control unit, the drive unit starts and transmits movement to the door leaves to open.

The closing starts when no "opening impulse" is received, the "hold open time" has ended and no "presence impulse" is activated.



- 1. Operator cover
- Operator support beam (incl. sliding track
- 3. Screens left and right
- 4. Doors left and right (incl. floor guide)
- 5. Presence sensor

## Locking

Doors used for emergency escape in buildings such as hospitals and homes for elderly people may not be locked or put in programme selection OFF. In other buildings emergency escape doors may be locked or put in programme selection OFF after it is secured that all people has left the building.

## Unlocking

Unlock all the mechanical locks before switching on the operator. Note that more than one lock may be fitted.



## **Programme Selectors**

The CMD user can select different modes of operation if a programme selector is installed. See the table below.

- PSMB-5, for control of one operator only.
- PS-5M, for central control of an optional number of operators. In setting "Auto" every connected operator are individually controlled by its own programme selector. Reset is not available on PS-5M.
- PSK-6U, surface mounted on the side screen or on the wall close to the door.

## Programme selector functions

	"Off"	This function is only used on emergency escape doors after it is certain that all people have left the building. The door cannot be opened with inner and outer activation units. The door is locked if an electromechanical locking device has been fitted. The door can be opened with a key switch/emergency push-button (if fitted).
-t-	"Exit"	Passage from inside only. The door is normally locked if an electro-mechanical locking device has been fitted. The door can only be opened with the inner activation unit or with a key switch/emergency push-button (if fitted).
- ţ†-	"Auto"	Two-way traffic, normal operation of the door. The door can be opened with the inner and outer activation units and with a key switch/emergency push-button (if fitted).
-4t-	"Auto partial"	In this setting, two-way traffic "Auto partial" is obtained. The door can be opened partially with the inner and outer activation units and with a key switch (if fitted). With an emergency push-button the door opens fully.
	"Open"	The door is permanently open. The door can be moved by hand e.g. for window cleaning. All activation units except for the emergency push button (if fitted) are disconnected.
PSO-5R PSO-5T PSMB-5	"Reset"	Set the programme selector to "Auto". Insert a narrow object in the small hole on the programme selector and push. The operator makes a system test of the battery (if selected), electro-mechanical lock, watch dog relay and closed position. The operator is now reset and ready for normal operation.  The "Reset" is not available on programme selector PS-5M.
PSK-6U	"Reset"	Turn the key clockwise to the position "R" (six o'clock) and back to the requested setting. The operator makes a system test of the battery (if selected), electro-mechanical lock, watch dog relay and closed position. The operator is after closing reset and ready for normal operation. <b>Note!</b> The key cannot be removed in this position.

## Technical specification

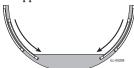
Mains power supply: 120 V AC -10% to 240 V AC +10%, 50/60 Hz, fuse 10 AT

Power consumption: Max. 250 W

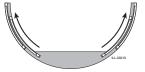
Approvals: Third party approvals from established certification organizations valid for safety in use and escape route safety. See also "Declaration of conformity UniSlide" on page 15.

## Standard safety

To permit a safe passage between closing doors, the doors reverse immediately if an obstruction is met. They then resume their interrupted movement at low speed to check whether the obstruction has disappeared or not.



If an obstruction is met between opening doors and surrounding walls or interior fittings, the doors stop immediately, and then close after a time delay.



### Microprocessor for precise control

The microprocessor has a routine for self-monitoring, which detects any interference or faulty signals in door operation. If an input signal does not correspond to the preprogramming, the microprocessor automatically takes necessary actions to ensure a safe operation.

## Safety system with presence sensor PDR

The safety system incorporates a presence sensor installed above the door opening. If the presence sensor detects an object in the doorway, while the doors are closing, the doors reverse immediately. They then resume their interrupted movement as soon as the object is removed.



## Optional safety

Two or four **extra** safety presence sensors can be included. The number of extra sensors are depending on the opening width. The distance between the photocells is 400 mm.





## Emergency escape

The CMD can be combined with an emergency unit that automatically opens or closes¹ the doors in the event of a power failure and can also be interfaced with the fire alarm or smoke detector. For further information, see "General accessories" on page 12.

Doors used for emergency escape in buildings such as hospitals and homes for elderly people may not be locked or put in programme selection OFF.

<sup>1</sup> Electrical emergency unit only

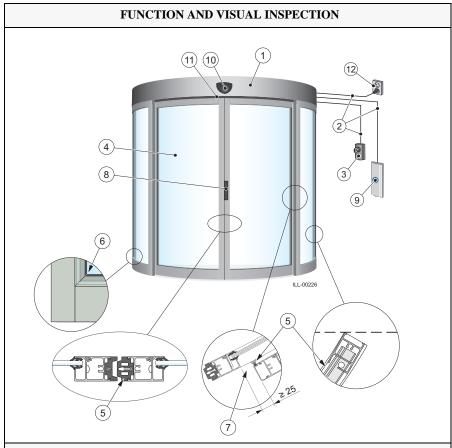
## Regular safety checks

To help you fulfil the national/international requirements and to avoid malfunction and risk for injuries, we have provided the following checklist.



Do not use if repair or adjustment is necessary.

Disconnect supply (2) when cleaning or other maintenance is to be carried out.

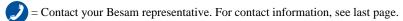


### **CLEANING**

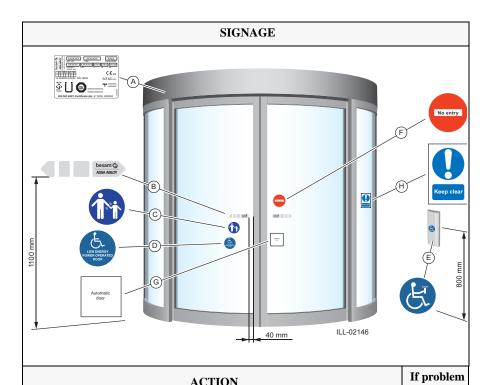
The best way to remove dust and dirt from the CMD is to use water and a soft cloth or a sponge. A gentle detergent may be used. To maintain the quality of the enamel layer, the surfaces should be cleaned once/four months period. The cleaning should be documented. To avoid damages to the profiles the brushes/weather stripping must be vacuum-cleaned weekly. **Note!** 

- Do not expose windows, doors or profiles to alkalis. Both aluminium and glass are sensitive to alkalis.
- Do not clean with high pressure water. Operator, programme selector and sensor may be damaged and water may enter into the profiles.
- Do not use polishing detergent.
- Do not scrub with materials like Scotch-brite, as this will cause mechanical damage.

ACTION						
Activate your operator and check visually, fastening of						
• operato	• operator and cover (1)					
-	cables (2)					
• program	• programme selector(s) (3)					
• door an	nd glass (stabi	lity) (4)				
Also in	spect your do	or and check visually for				
• conditi	on of door sea	ls and weather stripping ⑤				
• conditi	on of glazing	rubbers 6				
<ul> <li>finger p</li> </ul>	protection 7					
	•	ses slowly and smoothly				
any ver	ntilation being	obstructed				
Set the programme selector to OFF and check that the operator and electrome-chanical lock (if fitted) work together. Also check that the lock really secures the door (8).						
Check that	the door has o	vation units ③ if any, and walk towards the door.  opened sufficiently while you pass the entrance/exit.  tomatic activation units ⑪ in the same way.	2			
Check the safety sensors ① if any. If you are unsure of which type of sensor you have, please contact your Besam representative.						
Escape doors	By law, these tests must be performed regularly by trained personnel.	If the operator is equipped with automatic opening system, shut off the power and the door should open and remain open. Restore power and the door should close.				



Take appropriate measures.



## Check that all required signage is applied and intact. Mandatory indicates that the signage is required by European directives and equivalent national legisla-

occurs

tion outside the European Union.

(A) Product label: Mandatory

- B Besam Door sticker: Mandatory, if applicable to highlight the presence of the glass (applied to both sides of the door).
- © Supervision of child: Mandatory, if applicable (applied to both sides of the door). To be placed on entrances where the risk analysis shows use by children, elderly and disabled.
- Operator designed for disabled people:
   Recommended, if applicable (applied to both sides of the door)
- (E) Activation by disabled people: Recommended, if applicable
- (F) No entry, identifying one-way traffic: Mandatory in GB and US, if applicable
- Automatic door: Only mandatory in GB
- (H) Keep clear: Only mandatory in GB
- = Contact your Besam service representative. For contact information, see last page.

## Safety accessories

Even though the CMD is installed to comply with all applicable safety regulations, it is possible to enhance safety/comfort with the following add-ons (please contact your local Besam company for detailed description).

- Combined motion and presence sensors
- Separate presence sensors

## General accessories

Your CMD can be further improved with the following add-ons (please contact your local Besam company for detailed description).

- Cover
  - Made in clear anodized aluminium as standard. Paint finished in RAL colours or anodizing optional.
- Motion and presence sensors, see separate manuals or installation drawings.
- Programme selectors (see page 6)
- Programme selector PS-2
- Electrical locks
  - Locked with power, locked without power or bistable lock.
- Micro switch kit
  - For indication of door and lock position.
- Electrical emergency unit

Used if a door is required to be closed or opened by means of a rechargeable battery unit and remain in this position in the event of power failure (see page 8). Every 3.5 hours the following opening impulse generates an emergency opening test if monitoring of the emergency unit is selected. If there is no opening impulse within an additional time, specified by the authorities, the operator control unit generates the opening impulse itself. If the battery opens the door within the limited time the test is successful and the door resumes the function set by the programme selector.

**Note!** The test is never performed in programme selector setting "Open". In setting "Off" it can be selected. The test is always performed after a Reset and after changing program selection, from a position where a test is not done to a position where the test is a demand.

- Emergency closing with repeated closing
   If the door is opened by hand after an electrical emergency closing, it will close again.
- Mechanical emergency unit

Used if a door is required to be opened and remain opened by means of an elastic cord in the event of power failure. Every 3.5 hours the following opening impulse generates an emergency opening test if monitoring of the emergency unit is selected. If there is no opening impulse within an additional time, specified by the authorities, the operator control unit generates the opening impulse itself. If the elastic cord opens the door within the limited time the test is successful and the door resumes the function set by the programme selector.

**Note!** The test is never performed in programme selector setting "Open". In setting "Off" it can be selected. The test is always performed after a Reset and after changing program selection, from a position where a test is not done to a position where the test is a demand.

- Interlocking
  - Used between two operators when the first operator must close before the other one can open (typical to reduce energy losses and not for security reasons)
- Convenience battery UPS
   Stand-by supply which gives continued operation during short power failure.
- Emergency opening
   Opens the door in any programme selector setting (fireman's opening).
- External error indication
   Obtained if a lamp or a buzzer is connected.
- Key switches (flush and/or surface mounted)
   Used to give opening impulse to the door in any programme selector setting. With electrical emergency unit also during power failure.
- Push button
   Used to give opening impulse to the door.

## Troubleshooting

What's wrong	Remedies					
The door does not open						
- The motor does not start	Change the setting of the programme selector.					
	Check the mains switch.					
- The motor starts but stops	Unlock the mechanical locks.					
during opening	Clean the floor guide.					
	Check for objects jammed under the door.					
The door does not close	•					
- The motor does not start	Change the setting of the programme selector.					
	If a presence sensor is installed, check for and remove objects placed in the presence zone.					
- The motor starts but stops	Clean the floor guide.					
during closing	Check for objects jammed under the door.					
The door moves slowly	•					
	Prevent traffic using the door and allow it to do a complete opening and closing cycle with low speed.					
	Reset the operator by setting the programme selector to "Auto" and pushing a narrow object in the small hole on the programme selector.					
	Allow the operator to control the closed position without interruption.					
If the problem continues, pl	ease contact your Besam representative.					

## Maintenance plan

As mentioned earlier in this manual, service and adjustments performed by your Besamauthorized representative will ensure safe and proper operation of your automatic door unit. The table below shows the recommended interval in cycles, when to check or replace parts during preventive maintenance.

		Cycle				
Part	Part Number	<10	<100	>100	Abusive Environ-	
		Low Traffic	Medium Traffic	High Traffic	ment	
Electrical emergency unit battery	33550475	24	24	24	24	
Mechanical emergency unit elastic cord	331700121	12	12	12	12	
Floor guide shoe Felt padded	33831622	24	12	6	6	
Carriage wheel Single Anti-derailing	830060 246313	36	24	12	12	
Tooth belt	33735251	60	48	36	24	

Check that all required signage, see page 11, is applied and intact. Also check other consumable parts, such as brushes, door stops and glazing rubbers.

## Other products from Besam

- Door systems
- Balanced doors
- Air curtains
- Rollershutters
- Revolving doors
- Swing doors
- Automatic and manual activation units
- Service such as preventive maintenance and upgrade programs, emergency repairs, service advice and door management

## ASSA ABLOY Entrance Systems AB

## **Declaration of conformity UniSlide**

- Low Volt	age Directiv	ve (LVD) 2006/95	5/EC				
- Electrom	agnetic Con	npatibility Direc	ctive (EMCD) 2004	/108/EC			
- Construc	tion Produc	ct Directive (CPI	D) 89/106/EEC as a	mended	by 93/68/EE	C	
- Machine	ry Directive	(MD) 98/37/EE	C				
We ASSA ABLOY ENTRANCE SYSTEMS AB Telephone +46 418 511 00 Box 131 Telefax +46 418 511 32 S-261 22 Landskrona, Sweden E-mail general@assaabloyes.com					oyes.com		
declare under our sole responsibility that the type of equipment: UniSlide, UniSlide T, UniSlide C, UniSlide E, UniSlide-Twin, SL100P, SUK, EEU, MEU, ADS, sliding door family of products							
-		ng statements.					
EC directive	applied to th	e product:					
<b>A</b> x	LVD	2006/95/	EC				
B x	EMCD	2004/108/	EC				
С 🗌	CPD	89/106/	EEC + 93/68	EEC			
<b>D</b> x	MD	98/37/	EEC			2 A	
Harmonized EN 61003-6-		andards which ha	ave been applied:				
EN 60335-1 EN ISO 1412		N 60204 N 12100-1/-2	EN 60950 EN 954-1				
				omuliod.			
FCC 47 CFR	Part 15 B	-	s, which have been	appned:			
DIN 18650-1	/-2 B	3GR 232	prEN 12650-1/-2	UL 32	5 BVI	BBR	
	rance System 2 B S 2 A S -1 S 0 6576 S 3 A S	ertificate issued b ISAB) concernin P 005875 P P 101414 P F 100650 ITAC 0002/01 ITAC 0138/01 ITAC 2204/81	oy a notified or comg g the equipment: UL File 47833 Vo UL File 47833 Vo TÜV CB Certifica TÜV B 0606 580	ol 1 C Sec ol 1 C Sec ate DE 3-1	10 CC	dress, please contac DBR Metalplast AT DST R SE ME 01.B	060560/2002
A B D The equipment conforms completely to applicable parts of stated harmonized standards or							
The equipment conforms partially with other standards or technical specifications and to state of the art and technology.							
A B D The manufacturing process ensures the compliance of the equipment with the technical file.							
The last two digits of the year in which the CE marking was affixed:							
A 06	В	06	XX	D	06		
26 Fahren	2007	Olle	Olen-	Derr	ough Mone :	_	
26 Februar Date	y 2007	Signature		Positi	arch Manager	<u> </u>	
Date		Olle Olss	on	r osiu	OII		

#### Australia:

Besam Australia Pty Ltd., 235 Huntingdale Road, Oakleigh Victoria, Australia 3166 Tel: +61 1300 13 13 10 Fax: +61 3 8574 3865 admin@besamaustralia.com

#### Austria:

Besam Austria GmbH, Hütteldorferstraße 216c, 1140 Wien Tel: +43 1 914 55 37 0 Fax: +43 1 914 92 98 vertrieb@besam at

#### Belaium:

Besam Belgium NV, Centrum-Zuid 3042, 3530 Houthalen Tel: +32 11 609 500 Fax: +32 11 604 680 info@besam.be

#### Canada:

Besam Canada, Inc., 4090 Ridgeway Dr. Unit #16, Mississauga, Ontario L5L 5X5 Canada Tel: 905 608 9242 Fax: 905 608 1151 general@besam.ca

#### China:

Besam Automatic Door Systems Trading (Shanghai) Co. Ltd., Suite 1903. Suite 1903. Modern Communication Commercial Tower 218, Hengfeng Road, Shanghai, PRC 200070 Tel: +86 21 5128 8909 Fax: +86 21 5128 8919 info@besam.com.cn

#### **Czech Republic:**

Besam spol. s r.o., Košarova 23, 197 00 Praha - Kbely Tel: +420 2 8600 1560 Fax: +420 286 001 570 besam@besam.cz

#### Denmark:

Besam A/S, Marielundvej 20, 2730 Herlev Tel: 44 53 70 80 Fax: 44 53 20 22 besam@besam.dk

#### Finland:

Besam OY, Agronominraitti 2, 00790 Helsinki Tel: +358 9 7288 5400 Fax: +358 9 799 292 besam@besam.fi

#### France: Besam S.A.S.

10 Rond Point du Général de Gaulle, 94864 Bonneuil s/Marne Cedex Tel: +33 1 43 77 55 66 Fax: +33 1 43 39 56 00 besam@hesam fr

#### Germany:

Besam GmbH, Lagerstraße 45, 64807 Dieburg Tel: +49 6071 2080 Fax: +49 6071 208 111 info@besam.de

#### Hungary:

Besam Kft., Nagytétényi út 112, 1222 Budapest Tel: +36 1 424 7274 Fax: +36 1 226 1949 besam@besam.hu

#### Italy:

Besam S.p.A., Via Monzoro 142, 20010 S Pietro all'Olmo (MI) Tel: +39 02 936 11 311 Fax: +39 02 936 21 16 besamsales@besam it

#### Netherlands:

Besam Nederland BV, Postbus 8155 6710 AD Ede Tel: +31 318 69 89 69 Fax: +31 318 63 83 46 info@besam.nl

#### New Zealand:

Doorman Besam Ltd., 10 Haultain St., PD Box 15 784 New Lynn, Auchland 1232 Tel: +64 (0)9 815 8392 Fax: +64 (0)9 815 8391 admin@doormanbesam.co.nz

#### Northern Ireland:

Tel: +44 (0) 28 71 26 80 11 Fax: +44 (0) 28 71 27 11 15 info@besam .co.uk

#### Norway

Besam Norge AS, Brobekkveien 80 Postboks 25 Tveita, 0617 Oslo, Norway Tel.: +47 69 24 53 00 Fax: +47 69 24 53 50 info@besam.no

#### Poland:

Besam Polska Sp. z.o.o., ul. J. Olbrachta 94 PL-01-102 Warszawa Tel: +48 22 331 86 80 Fax: +48 22 331 86 81 biuro@besam.com.pl

## Portugal:

Besam Portugal, Rua Duarte Leite, 41 2820-220 Charneca da Caparica Tel: +351 212 969 290 Fax: +351 212 974 132 apoiocliente@besam.com

#### Republic of Ireland:

Besam Ltd, unit 39, Navan Enterprise Centre, Trim Road Navan, Co. Meath Tel: +353 46 76747 Fax: +353 46 76745 info@besam co.uk

#### Russia:

Besam Export AB (Russian office)
Box 120, Ovchinnikovskaya nab. 22/24, building 1
Moscow 115035 Russia
Tel: +7 495 542 97 25
Fax: +7 495 542 97 25
info@hesam u

#### Singapore:

Besam (Mig) Pte Ltd., 152 Ubi Ave. 4 #02-02, Armorcoat Tech Bldg Singapore 408826 Tel: +65 6745 6228 Fax: +65 6745 7322 info@besam.com sq

#### Slovak Republic:

Besam, spol. s.r.o., Kapitulská 15, 811 01 Bratislava Tel: +421 254 431 045 Fax: +421 254 431 247 besam@besam.sk

#### Spain:

Besam Ibérica S.A., Sepülveda, 7A 28108 Alcobendas (Madrid) Tel: +34 91 657 48 60 Fax: +34 91 661 43 80 informacion@besam.es

#### Sweden:

Besam Sverige AB, Box 353 261 23 Landskrona, Sweden Tel: +46 418 510 00 Fax: +46 418 140 60 swsales@besam.se

Besam Export AB Box 669, 261 25 Landskrona Tel: +46 418 514 00 Fax: +46 418 513 55 export@besam se

#### United Kingdom:

Besam Ltd., Washington House, Brooklands Close, Sunbury on Thames, Middlesex TW16 7EO Tel: +44 1932 765 888 Fax: +44 1932 765 864 info@besam.co.uk

#### US:

Besam US Inc., 1900 Airport Road, Monroe, NC 28110 Tel: +1 704 290 5520 Fax: +1 704 290 5555 marketing@besam-usa.com

#### Parent company:

ASSA ABLOY Entrance Systems AB, Box 131 261 22 Landskrona, Sweden Tel: +46 418 511 00 Fax: +46 418 738 00

ASSA ABLOY ES Production AB, Box 668, SE-261 25 Landskrona, Sweden. Tel: +46 418 512 00 • Fax: +46 418 512 68 • www.besam.com