Rivière des Français
French River

Supply and Installation of an Automatic Entrance Gate, Noëlville Landfill
#2019 – 16
Tender Addendum No. 001
Date: Friday June 21st, 2019

IMPORTANT :   Tenderers are required to acknowledge this tender addendum prior to the Tender Closing Date - failure to acknowledge may constitute grounds for rejection of Tender.

Acknowledgment may be made if your Tender has been submitted prior to receipt of this addendum. The acknowledgment must state whether the price contained in your sealed Tender is to remain unchanged or by how much it is to be increased or decreased in value.

Acknowledgements must be sent by facsimile to 705-898-2181 or email
to webmaster@frenchriver.ca prior to the Tender Closing Date

Further to Request to Tender Number (**2019 – 16**), Tenderers are advised of the following change(s) or clarification(s) to the Tender Documents.

Amendments:

1.   Addition of Drawings and Attachment

Drawings C-01 and C-02

Attachment of FAAC Installation Manual

All other terms and conditions remain unchanged.

[end of Tender Addendum]

We hereby acknowledge receipt of the above referenced Addendum to the Request to Tender and the Tender Addendum shall be incorporated into our Tender submission.

Name of Contractor Company: _____

Signature of Authorised Representative: _____

Name/Title [print]: _____

Request for Tender

For: Supply and Installation of an Automatic Entrance Gate, Noëlville Landfill

Request #2019-16

Friday May 31, 2019

Municipality of French River

44 St. Christophe Street

P.O. Box 156

Noëlville, ON   P0M 2N0

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Confidentiality Statement

This document, and any attachments there to, regardless of form or medium, is intended only for use by the addressee(s) and may contain legally privileged and/or confidential, copyrighted, trademarked, patented or otherwise restricted information viewable by the intended recipient only. If you are not the intended recipient of this document, please respond to the originator of this message and permanently dispose any copies and any attachments. Thank you for your consideration, Municipality of French River.

Submission Details

Submission Deadlines and Methods

All submissions for responding to this request must be submitted to our office, as stated below, no later than:

Wednesday, June 26, 2019 - No later than 2:00pm Local Time

The use of mail for delivery of a tender will be at the risk of the respondent. Submissions sent in electronic format will **not** be accepted.

Tenders must be submitted in a sealed envelope and shall be clearly marked with the following:
- ☐ Name and address of the Respondent
- ☐ Request Number: 2019-16
- ☐ Project Title: Supply and Installation of an Automatic Entrance Gate, Noëlville Landfill

Tender submissions shall include the following:
- ☐ Signed Declaration (Page #8)
- ☐ Schedule "A" – Price, Timeline, and Deliverables (Page #10)

Administration staff will affix on the sealed envelope:
- ☐ Date and time of receipt

Pre-Bid Meeting

A pre-bid meeting will be held at the Noëlville Landfill Site, located at 330 Houle Road, Noëlville, Ontario on **Wednesday, June 12, 2019 at 10:00am**. This meeting is not mandatory. However, the Municipality may not provide another opportunity to inspect the site. Please notify the Municipality if you are coming to the pre-bid meeting.

Submission Delivery Address, Submission Questions and Clarifications

You may contact the following Lead Person if you have any questions or require clarification on any topics covered in this Request for Tender. Questions shall be received prior to **Friday June 21, 2019.** The delivery address to be used for all submissions is:

> Robert Martin
> Acting Director of Operations
> Municipality of French River
> 44 St. Christophe Street
> P.O. Box 156
> Noëlville, ON, P0M 2N0
> Tel: 705-898-2900
> Fax: 705-898-1020
> Email: pwdirector@frenchriver.ca

Submission Opening

Tenders will be publicly opened, and recorded on the date and time stated above at the Municipal office. Staff will review the tender and the successful candidate will be advised.

Amendment and Withdrawal of Submission

Requests for withdrawal of a submission shall be allowed if the request is made before the closing time for the contract to which it applies. Requests shall be directed to the Lead Person by letter or in person, by a Senior Official of the company, with a signed withdrawal confirming the details. Telephone requests shall not be considered. The withdrawal of a submission does not disqualify a bidder from submitting another tender on the same contract.

Introduction and Executive Summary

The Municipality of French River (herein after referred to as the Municipality) is requesting tenders for the Supply and Installation of an Automatic Entrance Gate at the Noëlville Landfill. The Supply and Installation of an Automatic Entrance Gate project includes the following work items:

- Item 1: Supply and installation of the new automatic barrier system
- Item 2: Concrete foundation and access road paving for new automatic barrier system
- Item 3: Electrical connections and configuration of entrance gate controls

Details regarding the Items are provided in:
a. Schedule B – Scope of Work
b. Drawing C-01 – Existing Conditions / Site Plan
c. Drawing C-02 – Entrance Gate Layout
d. Attachment 1 – FAAC Installation Manual for 620, 640, and 642 Barrier Systems
e. Attachment 2 – Installation Manual for 624 BLD Controller

Business Overview & Background

The Municipality of French River is a vibrant, welcoming and family-based community that is committed to positive, sustainable growth. A scenic environment, friendliness of neighbors, diversity of cultures and small town feel make French River the community of choice to live, work, visit and vacation.

Assumptions & Constraints

The Municipality will not be held liable for any errors or omissions in any part of this request. The information contained herein is supplied solely as a guideline for responding vendors. The information is not guaranteed or warranted to be accurate by the Municipality, nor is it necessarily comprehensive or exhaustive. Nothing in this request is intended to relieve vendors from forming their own opinions and conclusions with respect to the matters addressed in this request. Should the Municipality be contacted, no oral explanation or interpretation will modify any of the requirements or provisions of the proposal documents. No addenda to this request will be issued. Should changes be required, this request would be voided and re-released under a new request number.

The successful vendor will provide continuous and adequate protection of all work from damage and will protect the Municipality's property from injury or damage arising from or in connection with this work. The successful vendor will have made good any such damage or injury.

The successful vendor will employ only orderly, competent and skillful employees to ensure that the services are carried out in a confidential and respectable manner.

The successful vendor will ensure all services and products provided in respect to this proposal are in accordance with, and under authorization of all applicable authorities, municipal, provincial and/or federal legislation.

The successful vendor and its employees may have access to information confidential to the Municipality. This information may include, but is not limited to, terms of this agreement, business methods and systems, contractual terms, pricing, personal information, etc. subject to disclosure by force of law. The successful vendor agrees that it and its employees who have access to this information will not, either during the term of the agreement or at any time thereafter, reveal to any third party any of this confidential information or use in any way, whether on the successful vendor's behalf or on behalf of any third party.

The information, reports, documentation, plans, etc. that are a product of this award by the successful vendor, will become the exclusive property of the Municipality of French River.

Terms and Conditions

Relating to the submission document:
- ☐ **Costs, Deliverables & Timelines** – as set out in Schedule "A"
- ☐ **Provincial and Federal Taxes (H.S.T.)** - Tenders shall include applicable H.S.T. taxes. This tax shall be shown separate from the unit price. The respondent shall include with the executed documents, at the time of submission, on company letterhead, notification to the Municipality of their H.S.T. Registration Number (if any).
- ☐ **Declaration** - Signed declaration must be submitted (Page #8)
- ☐ **Specification** – As set out in Schedule "B", Drawings C-01, C-02, and Attachments 1 and 2
- ☐ **Insurance** – Vendor shall provide a summary of their company's insurance coverage.
- ☐ **Other** – Vendors are to include an overview of their firm and references for 3 similar projects.

Relating to the Successful respondent:

- **Contract** - The successful respondent may, within ten (10) days after being advised that they are the successful respondent, execute a contract in duplicate to the Municipality.
- **Notice of Acceptance** - Notice of acceptance may be made by fax or telephone, with written confirmation of same to follow, to the successful respondent at the number given by the respondent.
- **Price** - The vendor shall abide by the total price stated in the submission document. No further payment beyond the contract amount will be made for any additional services required to provide a satisfactory deliverable. If additional requirements are requested by the Municipality beyond the original scope of work described in this request, the cost of these services would be negotiated between the Municipality and the company that has been selected to perform the work. Any additional work will only be undertaken based on a request in writing from the Municipality of French River.
- **Payment** - shall be made upon receipt of invoice following the receipt of the product (net 30 days) with completion of the work to the satisfaction of the Municipality.
- **Termination** - The Municipality reserves the right to immediately terminate the contract for sufficient cause, including but not limited to such items as non-performance, late deliveries, inferior quality, pricing problems, etc.
- **Public Record** - Any personal information required on the proposal form is received under the authority of the Municipality of French River. This information will be an integral component of the quote submission. All written proposals received by the Municipality become a public record; once a proposal is accepted by the Municipality, and a contract is signed, all information contained in it is available to the public including personal information.

Health and Safety

General: Contractor must comply with the Occupational Health and Safety Act (OHSA), the Regulations for Construction Projects, the Municipality of French River safety policy and as well as complying with the prescribed requirements legislated in the Regulations for Industrial Establishments.

Competent person: Contractor is responsible using their training, knowledge and experience to protect the health and safety of their workers and others, reporting to their supervisor the absence of, or defect in any protective equipment or device, and reporting to their supervisor, any circumstances or conditions that may limit their ability to comply with the requirements of the OHSA and the Municipality of French River Safety policy.

Equipment & tools: All equipment and tools used by the contractor shall conform to Canadian Standards Association (CSA) or manufacture specifications. The Municipality of French River reserves the right to prohibit the use of any equipment and methods or practices that do not conform to acceptable standards. Defective equipment and tools shall be removed from the work site premises immediately.

Request for Tender #2019-16   P a g e | **7**
For the Supply and Installation of an Automatic Entrance Gate,
Noëlville Landfill

PPE: All workers must wear appropriate CSA approved eye protection, hearing protection, CSA approved hard hats, CSA approved foot protection and CSA approved gloves at all time while working on the job site.

Fall protection: Safety harness and lanyard are required by anyone working more than 3 metres above a surface. The safety harness must be secured to a fixed support so that a worker cannot fall more than five feet. Proof of certification shall be submitted before starting any work at height.

WHMIS: No hazardous material is to be stored or used on work site by the contractor unless the prescribed requirements concerning labelling material safety data sheets (MSDSs) and worker instruction and training are met.

MSDS: Material safety data sheets for all hazardous products shall be kept on site.

Weekly safety meetings: Contractor shall conduct weekly safety meetings with their workers and identify concerns or potential hazards on the job site. Weekly safety meeting shall be signed by all workers and a copy of the safety meeting shall be submitted to the contract administrator weekly.

Proof of training: The contractor shall submit within five (5) calendar days after the contract award, copies of WHMIS, copies of health and safety awareness, first aid certificate and certificates pertaining to the work being done for all workers working on the job site.

Reporting: Contractor must report immediately to the contract administrator all workplace incidents, near misses, injuries and illnesses and environmental damages. Contractor shall also report accidents/incidents to the ministry of labour or any other appropriate authority required by legislation.

Supervision: Contractor shall comply with OHSA regulations.

Health & Safety Station: Contractor shall provide at all time a dedicated station for workers to have access to the contractors H&S manual, the emergency response plan, the OH&S Pocket book, MSDS sheets, WSIB information, Eye wash stations and emergency aid kit.

WSIB: Contractor shall provide the Municipality with a current WSIB Clearance Certificate within five (5) days of contract award.

Selection Criteria

The Municipality of French River is not obligated to award the contract to the lowest or any firm. The Municipality reserves the right to reject any or all proposals and to waive formalities as the interests of the Municipality may require without stating reasons. The Municipality will not be responsible for any liabilities, costs, expenses, loss or damage incurred, sustained or suffered by any vendor by reason of the acceptance or the non-acceptance by the Municipality of any proposal, or by reason of any delay in the acceptance of a proposal. Any expenses incurred by the vendor in the preparation of the proposal submission are entirely the responsibility of the vendor and will not be charged to the Municipality.

Declaration

To: The Municipality of French River

Sirs: I/We the undersigned acknowledge receipt of and having carefully examined the Request for Tender, and "Scope of Work" set forth in Schedule "B" and hereby offer to submit this tender for the supply of in accordance with, and as required by the said documents at the price set forth in Schedule "A" hereto.

I/We understand and accept that the prices set forth in this Tender Form include full compensation to furnish all labour, equipment, materials and supplies and transportation necessary or incidental to completing the work in strict accordance with said documents.

I/We understand that this Agreement terminates in the event that I fail to perform the work to the satisfaction of the Municipality.

I/We understand that the lowest or any tender will not necessarily be accepted and that TO BE CONSIDERED, Tender Forms must be in by the closing date stated herein.

GENERAL CONDITIONS
1. The respondent shall discharge all liabilities incurred by him for labour, materials and services used or reasonably required for use in the performance of this Agreement on the date upon which each becomes due and all liabilities incidental thereto.
2. The respondent understands and agrees that he is not, nor is anyone hired by him, covered by the Municipality under The Workers' Compensation Act, and he shall be responsible for, and shall pay all dues and assessments payable under The Workers' Compensation Act, The Unemployment Insurance Act or any other Act, whether Provincial or Federal, in respect of himself, his employees and operations, and shall, upon request, furnish the Municipality with satisfactory evidence that he has complied with the provisions of any such Act. If he fails to do so, the Municipality shall have the right to withhold payment of such sum or sums of money due to him/her that would be sufficient to cover his/her default and the Municipality shall have the right to same.
3. The respondent covenants and agrees with the Municipality to indemnify it and save it harmless from all claims by third parties arising out of the performance of this Agreement.
4. The price, as proposed by the respondent, includes all limits of the work project.
5. The respondent declares that he has or will pay forthwith all Provincial and Federal Taxes that apply to the said equipment.
6. Notice of acceptance may be made by fax or telephone, with written confirmation of same to follow, to the respondent at the numbers given by the respondent.
7. No facsimile of proposals are acceptable.
8. Any cost incurred due to charges being laid under the Health and Safety Act, Highway Traffic Act or the Ministry of Environment Rules and Regulations shall be the responsibility of the contractor.

Name and Address of the Respondent

_____

_____

_____

Phone: **Fax:**   **Email:**

_____

The Respondent declares:

- No person, firm or Municipality other than the Respondent, has any interest in this proposal or in the proposed services for this proposal;
- This proposal is made without any connection, comparison of drawings or arrangements with or knowledge of any other Municipality, firm or person making a proposal for the same service and is in all respect fair and without collusion or fraud;
- No member of the staff of the Municipality of French River is, or will become interested directly or indirectly; as a contracting party, partner shareholder, surety or otherwise; or in the performance of the service; or in the supplies, service or business to which it relates; or in any portion of the profits thereof; or in any of the monies to be derived there from;
- The content and requirements of this proposal document have been read and understood.
- All prices are quoted in Canadian funds.

All or any proposals not necessarily accepted.

Signed at_____ this____ day of _____2019.

_____   _____

Print Name – Witness   Print – Respondent,

                                                 _____

                                                 Title – Respondent

_____   _____

Signature – Witness   Signature – Respondent

Schedule "A" – Price, Timetable and Deliverables

The undersigned submits this bid in accordance with the Request for Tender dated Friday, May 31, 2019. Bids close on **Wednesday, June 26, 2019 at 2:00 PM EST**

ITEM	Unit	Estimated Quantity	Unit Price	Total
Item 1: Supply and Installation of New Automatic Barrier System				
A. Supply of automatic barrier gate system including beam, hardware, and controls	LS	1		
B. Installation of automatic barrier gate system	LS	1		
C. Supply and installation of jersey barriers	each	9		
Item 2: Concrete Foundation and Access Road Paving for New Automatic Barrier System				
A. Concrete foundation for barrier controls and conduit	LS	1		
B. Supply and installation of Granular B material for access road	Tonne	400		
C. Supply and installation of Granular A material for access road	m³	160		
D. Access road paving	m²	515		
Item 3: Electrical Connections and Configuration of Automatic Barrier Controls				
A. Electrical connection for automatic barrier gate system	LS	1		
B. Configure controls for automatic barrier gate system	LS	1		
Other (Please list)				
A. Mobilization/Demobilization	LS	1		
B. Health and Safety Plan	LS	1		
			Subtotal	
			HST	
			Total	

Timetable and Deliverables –

- Specify earliest available on-Site start date from written acceptance of bid price or Purchase Order:

  _____

- Completion shall be eight (8) weeks from the time of notice to proceed.

Schedule "B" – Scope of Work

B.1 GENERAL NOTES

1. All work shall be completed in accordance with the permit conditions and laws in Province of Ontario.

2. The CONTRACTOR shall verify all conditions and measurements at the Site and report to the OWNER any discrepancies or unsatisfactory conditions which may adversely affect the proper completion of the project before proceeding with the work.

3. Utility locates are the responsibility of the CONTRACTOR and shall be carried out prior to execution of any excavation work.

4. Reference elevations shown correspond to action geodetic elevation in metres.

5. Approved shall mean approved in writing by the OWNER or ENGINEER.

6. Existing features such as monitoring wells and perimeter fences shall be protected by the CONTRACTOR.

7. Following Contract execution, a pre-construction meeting will be scheduled with the successful bidder. The successful bidder will be required to submit a construction progress schedule to the OWNER along with any documentation that may be required by the Health and Safety Act.

B.2 SCOPE OF WORK

The Works to be performed by CONTRACTOR under the Contract shall be as follows:

1) As depicted on the following drawings:
   C-01   MAY 2019   EXISTING CONDITIONS / SITE PLAN
   C-02   MAY 2019   ENTRANCE GATE LAYOUT

2) A summary of the construction works to be completed by the CONTRACTOR under the Contract shall be as follows: shall be as follows:

   - **Item 1: Supply and Installation of the New Automatic Barrier System**
     ITEM 1 INCLUDES:
     A. Supply of Automatic Barrier Gate System including Beam, Hardware, and Controls
        - As shown on Drawings C-01 and C-02.
        - Supply and installation of FAAC Model 640 standard rectangular barrier, Kit 6M with Model 624 BLD Controller, or approved equivalent.
        - Options to include: anti-vandal valve, automatic emergency release, and fork support.
        - Shop Drawings: Indicate plan layout, elevation views, spacing of components, concrete foundation dimensions, hardware anchorage, and schedule of components.
        - Manufacturer's Instructions: Indicate installation requirements.

- Refer to Attachment 1 – FAAC Installation Manual for 620, 640, and 642 Barrier Systems and Attachment 2 – Installation Manual for 624 BLD Controller.

B. Installation of Automatic Barrier Gate System

- Install barrier as shown on the Drawings C-01 and C-02 in accordance with manufacturer's instructions, level, plumb, and secure. Attach hardware using tamper resistant or concealed means. Install ground set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.
- Install barrier operator according to manufacturer's written instructions, aligned and true to fence line and grade.
- Adjust barriers to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.
- Engage a factory authorized service representative to train OWNER's personnel to adjust, operate, and maintain gates.

C. Supply and Installation of Jersey Barriers

- Provide and place alongside vehicle lanes to prevent egress around the barrier as shown in the drawings.

- **Item 2: Concrete Foundation and Access Road Paving for New Automatic Barrier System**
  ITEM 2 INCLUDES:

  A. Concrete Foundation for Barrier Controls and Conduit

  - Installation of all concrete foundation and related works as per Drawings C-01 and C-02.
  - Compressive strength minimum 32 MPa at 28 days. Exposure class C-2.

  B. Excavation of Pad/Roadway, Supply and Installation of Granular B for Pad/ Roadway

  - Excavation of unsuitable soils from pad/roadway area to grades suitable for installation of granular base
  - Supply and installation of granular subbase course for pad/roadway as per Drawings C-01 and C-02.
  - Granular Subbase Course: 200 mm Granular B, Type II.
  - Payment based on weight of material supplied for general grading purposes.

  C. Supply and Installation of Granular A for Access Road Paving

  - Supply and installation of granular A for pad/roadway as per Drawings C-01 and C-02.
  - Base Course: Minimum 150 mm, Granular A.
  - No payment made for oversupply of material.

  D. Access Road Paving

  - Installation of asphalt pad as per Drawings C-01 and C-02.
  - Asphalt Cement: Performance graded PG58 40 complying with OPSS 1101.
  - Aggregates: In accordance with OPSS 1003.
  - Mineral Filler: In accordance with OPSS 1003.

- Asphalt paving mix for the wearing course: Minimum 40 mm layer of HL3 conforming to OPSS 310, OPSS 1150, and OPSS 1151.
- Take samples and perform tests in accordance with OPSS 310 and OPSS 1151.
- Shop Drawings: Submit proposed mix design.

- **Item 3: Electrical Connections and Configuration of Automatic Barrier Controls**
  ITEM 3 INCLUDES:
  A. Electrical Connections for Automatic Barrier Gate system
     - Provide and install Safety and Close Loops, Arming Loop, and Exit loop, as per manufacturer's recommendations.
     - Provide and install automatic operating system control system designed for barrier size, type, weight, and operation frequency. Operating control system characteristics to be suitable for Site conditions. Operating system for gate to include open, close, stop through the control stations; overload trip with automatic reset; adjustable travel time; soft stop; lock to prevent unauthorized operation.
     - Provide self-regulating heater, thermostatically controlled to maintain the unit temperature above 15 degrees C, or as per manufacturer's recommendation.
     - Power and control wiring must be run in separate conduits to the barrier operator box.
     - Install warning signs on both sides of the barrier to protect against any entrapment or safety conditions encountered at the barrier application.
  B. Configure Controls for Automatic Barrier Gate System
     - Configure the control system in accordance with owner requirements, control buttons and systems installed, and manufacturer requirements.
     - Control Narrative:
        1. Program the barrier system to operate according to the following two conditions:
           a. Regular Daytime Operations – Open entrance barrier upon buzz-in by OWNER staff, automatic exit barrier open upon exit.
           b. Night Time Operations – Automatic barrier open upon entrance and exit.

B.3 CONSTRUCTION SEQUENCE

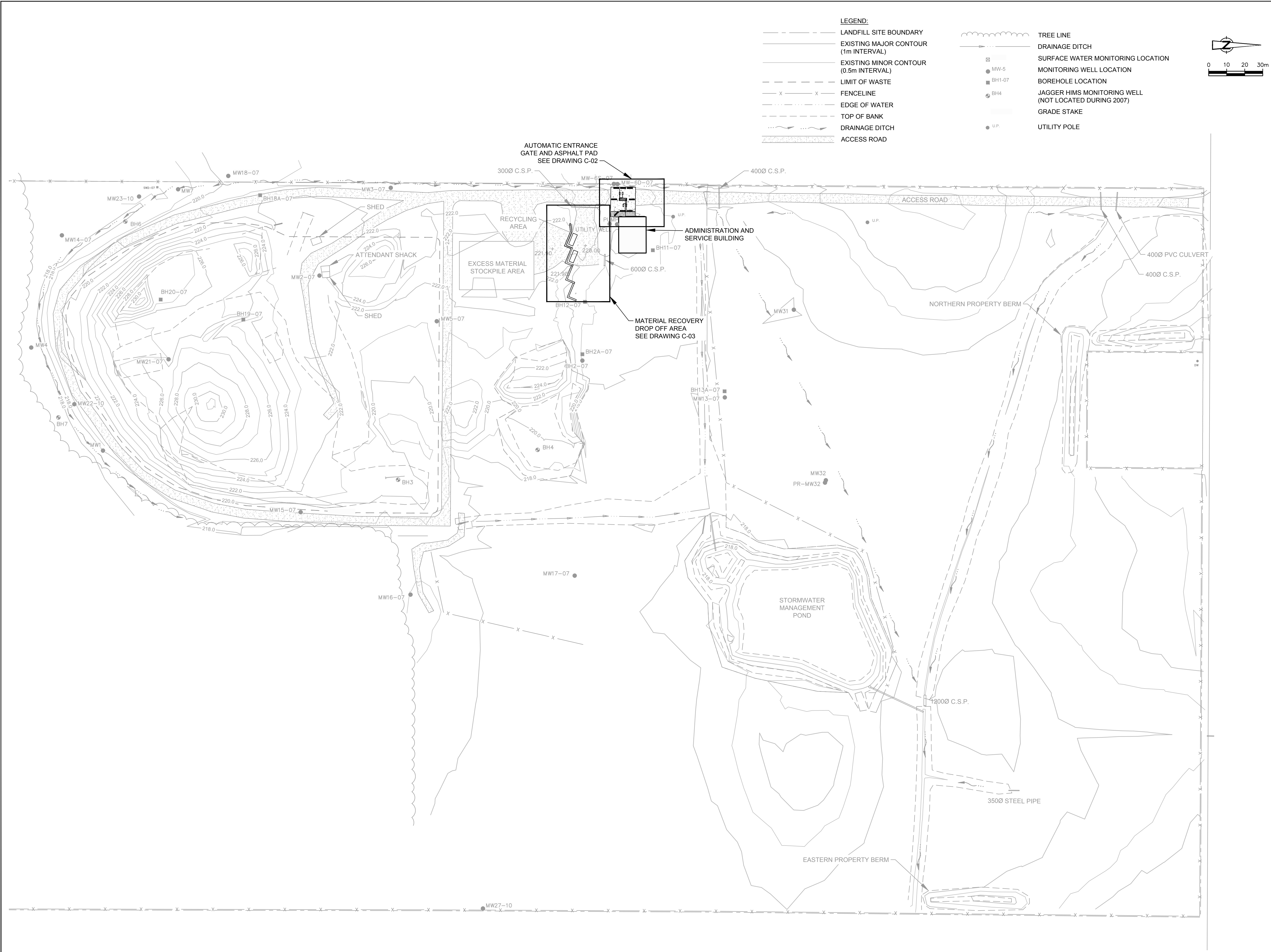1. Obtain necessary permits and approvals.
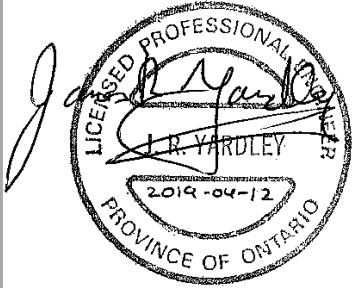
2. Complete works as per the plans.

B.4 CIVIL WORKS

1. Materials shall be in accordance with OPSS and where discrepancies exist be confirmed by the ENGINEER prior to arriving on-Site. Substitutions from specified products and materials in a manner so as to avoid any damage.

2. Deliver, handle, and store all materials in a manner so as to avoid any damage.

3. All evacuation and subsequent work shall be undertaken in dry conditions and in accordance with OPSS 206.

4. Asphalt paving shall be conducted in accordance with the following OPSS standards:

   - 310 – Construction Specification for Hot Mix Asphalt.
   - 313 – Construction Specification for Hot Mix Asphalt – End Result.
   - 501 – Construction Specification for Compacting.
   - 1001 – Material Specification for Aggregates – General.
   - 1003 – Material Specification for Aggregates – Hot Mix Asphalt.
   - 1010 – Material Specification for Aggregates – Base, Subbase, Select Subgrade, and Backfill Material.
   - 1101 – Material Specification for Performance Graded Asphalt Cement.
   - 1150 – Material Specification for Hot Mix Asphalt.

5. Provide for smooth transition from the existing Site access roads to the asphalt pad.

6. Immediately after placement, protect pavement from mechanical injury until surface temperature is less than 60 degrees Celsius.

LEGEND:

LANDFILL SITE BOUNDARY	
EXISTING MAJOR CONTOUR (1m INTERVAL)	
EXISTING MINOR CONTOUR (0.5m INTERVAL)	
LIMIT OF WASTE	
FENCELINE	
EDGE OF WATER	
TOP OF BANK	
DRAINAGE DITCH	
ACCESS ROAD	

TREE LINE	
DRAINAGE DITCH	
SURFACE WATER MONITORING LOCATION	
MW-5	MONITORING WELL LOCATION
BH1-07	BOREHOLE LOCATION
BH4	JAGGER HIMS MONITORING WELL (NOT LOCATED DURING 2007)
	GRADE STAKE
U.P.	UTILITY POLE

0 10 20 30m

GHD
455 Philip Street
Waterloo Ontario N2L 3X2 Canada
T 519 884 0510 F 519 884 0525 W www.ghd.com

SOURCE:

(A) EXISTING CONTOURS: SURVEYED BY CRA LIMITED SURVEY TEAM, OCTOBER 12 2007
(B) EXISTING LIMIT OF WASTE AND ASSOCIATED CONTOURS SURVEYED BY CRA LIMITED SURVEY TEAM, SEPTEMBER 17, 2010
(C) EXISTING CONTOURS: SURVEYED BY CRA LIMITED SURVEY TEAM, MAY 5, 2013
(D) EXISTING CONTOURS: SURVEYED BY CRA LIMITED SURVEY TEAM, DECEMBER 7, 2015.
(E) EXISTING CONTOURS: SURVEYED BY GHD SURVEY TEAM, DECEMBER 5, 2016.
(F) EXISTING CONTOURS: SURVEYED BY GHD LIMITED SURVEY TEAM, DECEMBER 5, 2018

Client

MUNICIPALITY OF FRENCH RIVER

NOËLVILLE LANDFILL, NOËLVILLE, ONTARIO

Project

REQUEST FOR TENDER
AUTOMATIC ENTRANCE GATE
AND MATERIAL RECOVERY AREA

No.	Issue	Drawn	Approved	Date
1	ISSUED FOR TENDER	T.W.	D.B.	2019-02-14

Drawn	T. WAGSTAFF	Designer	D. BALL
Drafting Check	-	Design Check	J. YARDLEY
Project Manager	J. YARDLEY	Date	Feb 14, 2019

This document shall not be used for construction unless signed and sealed for construction.
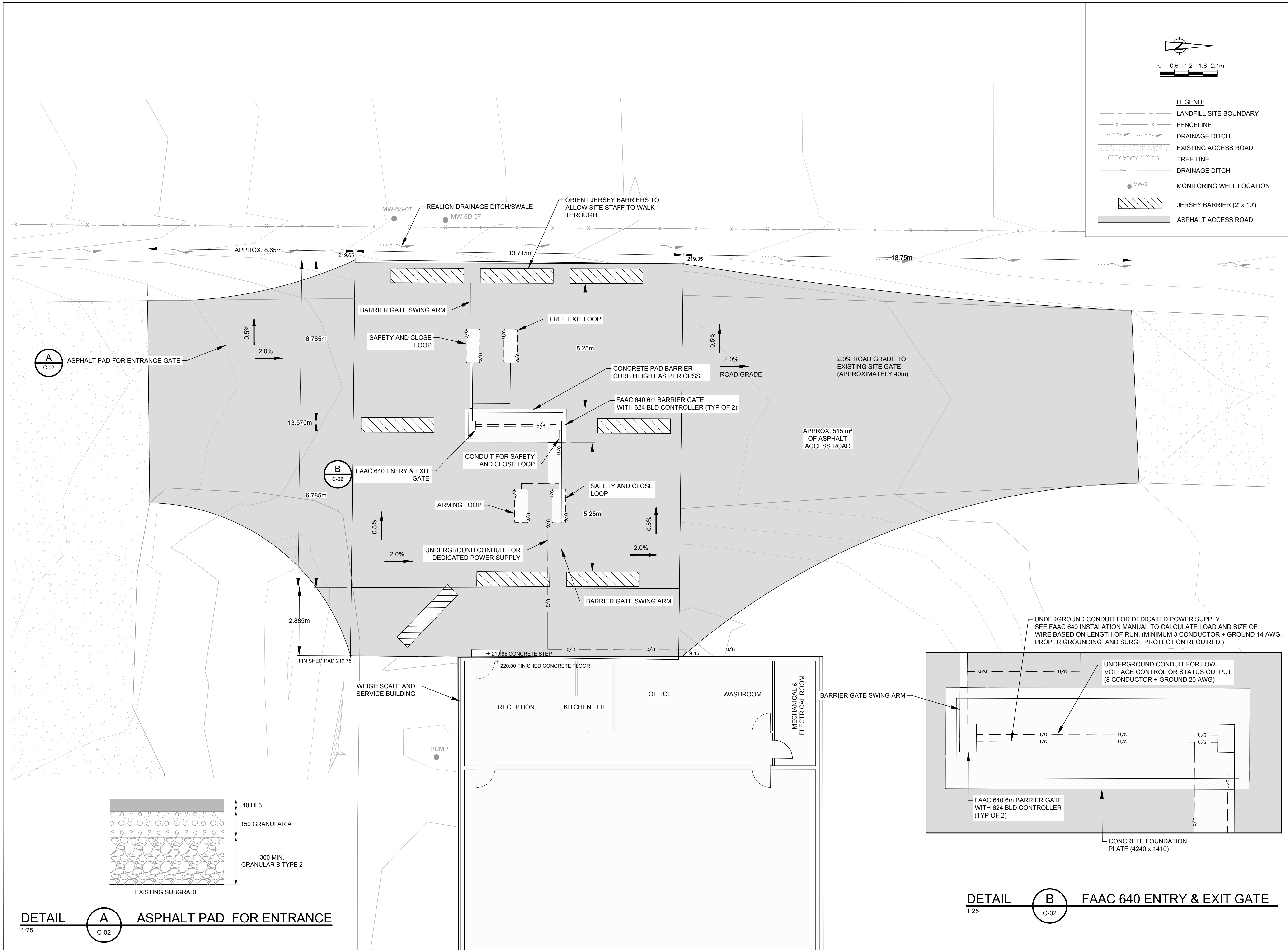
Scale 1:1000

Original Size

ANSI D

Bar is 20mm on original size drawing
0 ▭ 20mm

Project No. **44477-60**
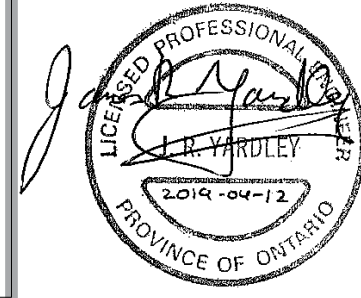
Title

EXISTING CONDITIONS
SITE PLAN

Sheet No.

C-01

Sheet **1** of **5**

LEGEND:

- LANDFILL SITE BOUNDARY
- X — X FENCELINE
- DRAINAGE DITCH
- EXISTING ACCESS ROAD
- TREE LINE
- DRAINAGE DITCH
- MW-5 ● MONITORING WELL LOCATION
- JERSEY BARRIER (2' x 10')
- ASPHALT ACCESS ROAD

0 0.6 1.2 1.8 2.4m

SOURCE:

(A) EXISTING CONTOURS: SURVEYED BY CRA LIMITED SURVEY TEAM, OCTOBER 12 2007
(B) EXISTING LIMIT OF WASTE AND ASSOCIATED CONTOURS SURVEYED BY CRA LIMITED SURVEY TEAM, SEPTEMBER 17, 2010
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Client

MUNICIPALITY OF FRENCH RIVER

NOËLVILLE LANDFILL, NOËLVILLE, ONTARIO

Project

REQUEST FOR TENDER
AUTOMATIC ENTRANCE GATE
AND MATERIAL RECOVERY AREA

No.	Issue	Drawn	Approved	Date
1	ISSUED FOR TENDER	T.W.	D.B.	2019-02-14

Drawn	T. WAGSTAFF	Designer	D. BALL	
Drafting Check	-	Design Check	J. YARDLEY	
Project Manager	J. YARDLEY	Date	Feb 14, 2019	

This document shall not be used for construction unless signed and sealed for construction.

Scale 1:75

Original Size
ANSI D

Bar is 20mm on original size drawing
0 ▬▬▬ 20mm

Project No.

Title

ENTRANCE GATE LAYOUT

Sheet No.

C-02

Sheet **2** of **5**

Main drawing annotations

- MW-6S-07
- MW-6D-07
- REALIGN DRAINAGE DITCH/SWALE
- ORIENT JERSEY BARRIERS TO ALLOW SITE STAFF TO WALK THROUGH
- APPROX. 8.65m
- 219.65
- 13.715m
- 219.35
- 18.75m
- 0.5%
- 2.0%
- 6.785m
- BARRIER GATE SWING ARM
- FREE EXIT LOOP
- SAFETY AND CLOSE LOOP
- (A) C-02 ASPHALT PAD FOR ENTRANCE GATE
- 2.0%
- 0.5%
- 2.0% ROAD GRADE
- 5.25m
- 2.0% ROAD GRADE TO EXISTING SITE GATE (APPROXIMATELY 40m)
- CONCRETE PAD BARRIER CURB HEIGHT AS PER OPSS
- FAAC 640 6m BARRIER GATE WITH 624 BLD CONTROLLER (TYP OF 2)
- 13.570m
- APPROX. 515 m² OF ASPHALT ACCESS ROAD
- CONDUIT FOR SAFETY AND CLOSE LOOP
- (B) C-02 FAAC 640 ENTRY & EXIT GATE
- 6.785m
- ARMING LOOP
- SAFETY AND CLOSE LOOP
- 5.25m
- 0.5%
- 0.5%
- 2.0%
- 2.0%
- UNDERGROUND CONDUIT FOR DEDICATED POWER SUPPLY
- BARRIER GATE SWING ARM
- 2.885m
- FINISHED PAD 219.75
- + 219.85 CONCRETE STEP
- 220.00 FINISHED CONCRETE FLOOR
- 219.45
- WEIGH SCALE AND SERVICE BUILDING
- RECEPTION
- KITCHENETTE
- OFFICE
- WASHROOM
- MECHANICAL & ELECTRICAL ROOM
- PUMP

Detail A
- 40 HL3
- 150 GRANULAR A
- 300 MIN. GRANULAR B TYPE 2
- EXISTING SUBGRADE

DETAIL (A) C-02 ASPHALT PAD FOR ENTRANCE
1:75

Detail B
- UNDERGROUND CONDUIT FOR DEDICATED POWER SUPPLY. SEE FAAC 640 INSTALATION MANUAL TO CALCULATE LOAD AND SIZE OF WIRE BASED ON LENGTH OF RUN. (MINIMUM 3 CONDUCTOR + GROUND 14 AWG. PROPER GROUNDING AND SURGE PROTECTION REQUIRED.)
- UNDERGROUND CONDUIT FOR LOW VOLTAGE CONTROL OR STATUS OUTPUT (8 CONDUCTOR + GROUND 20 AWG)
- BARRIER GATE SWING ARM
- FAAC 640 6m BARRIER GATE WITH 624 BLD CONTROLLER (TYP OF 2)
- CONCRETE FOUNDATION PLATE (4240 x 1410)

DETAIL (B) C-02 FAAC 640 ENTRY & EXIT GATE
1:25

Attachments

Attachment 1
FAAC Installation Manual for 620, 640, and 642 Barrier Systems

ENGLISH

INDEX

CE DECLARATION OF CONFORMITY FOR MACHINES

(DIRECTIVE 98/37/EC)

Manufacturer: FAAC S.p.A.

Address: Via Benini, 1 - 40069 Zola Predosa BOLOGNA - ITALY

Declares that: Barrier mod. 620, mod. 640, mod. 642,

- is built to be integrated into a machine or to be assembled with other machinery to create a machine under the provisions of Directive 98/37/EEC and subsequent amendments 91/368 EEC, 93/44 EEC and 93/68 EEC;

- conforms to the essential safety requirements of the other following EEC directives:

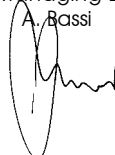 73/23/EEC and subsequent amendment 93/68/EEC.
  89/336/EEC and subsequent amendment 92/31/EEC and 93/68/EEC

  Furthermore, the manufacturer declares that <u>the machinery must not be put into service</u> until the machine into which it will be integrated or of which it will become a component has been identified and its conformity to the conditions of Directive 89/392/EEC and subsequent modifications assimilated in Italian National legislation under Presidential Decree No. 459 of 24 July 1996 has been declared.

  Bologna, 01 June 2007

  The Managing Director
  A. Bassi

WARNINGS FOR THE INSTALLER

GENERAL SAFETY OBLIGATIONS

1) **ATTENTION! To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.**

2) <u>Carefully read the instructions</u> before beginning to install the product.

3) Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger.

4) Store these instructions for future reference.

5) This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.

6) FAAC declines all liability caused by improper use or use other than that for which the automated system was intended.

7) Do not install the equipment in an explosive atmosphere: the presence of inflammable gas or fumes is a serious danger to safety.

8) The mechanical parts must conform to the provisions of Standards EN 12604 and EN 12605.

   For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.

9) FAAC is not responsible for failure to observe Good Technique in the construction of the closing elements to be motorised, or for any deformation that may occur during use.

10) The installation must conform to Standards EN 12453 and EN 12445.

    For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.

11) Before attempting any job on the system, cut out electrical power.

12) The mains power supply of the automated system must be fitted with an all-pole switch with contact opening distance of 3mm or greater. Use of a 6A thermal breaker with all-pole circuit break is recommended.

13) Make sure that a differential switch with threshold of 0.03 A is fitted upstream of the system.

14) Make sure that the earthing system is perfectly constructed, and connect metal parts of the means of the closure to it.

15) The automated system is supplied with an intrinsic anti-crushing safety device consisting of a torque control. Nevertheless, its tripping threshold must be checked as specified in the Standards indicated at point 10.

16) The safety devices (EN 12978 standard) protect any danger areas against **mechanical movement Risks**, such as crushing, dragging, and shearing.

17) Use of at least one indicator-light (e.g. FAACLIGHT) is recommended for every system, as well as a warning sign adequately secured to the frame structure, in addition to the devices mentioned at point "16".

18) FAAC declines all liability as concerns safety and efficient operation of the automated system, if system components not produced by FAAC are used.

19) For maintenance, strictly use original parts by FAAC.

20) Do not in any way modify the components of the automated system.

21) The installer shall supply all information concerning manual operation of the system in case of an emergency, and shall hand over to the user the warnings handbook supplied with the product.

22) Do not allow children or adults to stay near the product while it is operating.

23) Keep radiocontrols or other pulse generators away from children, to prevent the automated system from being activated involuntarily.

24) Transit is permitted only when the automated system is idle.

25) The user must not attempt any kind of repair or direct action whatever and contact qualified personnel only.

26) Maintenance: check at least every 6 months the efficiency of the system, particularly the efficiency of the safety devices (including, where foreseen, the operator thrust force) and of the release devices.

27) **Anything not expressly specified in these instructions is not permitted.**

AUTOMATED SYSTEM 620 - 640 - 642

The automated system consists of a white beam in aluminium, with reflex reflectors and a steel upright. The operator is located inside the upright, and consists of a hydraulic control unit and two plunging pistons which, by means of a rocker, rotate the beam. The beam stays balanced thanks to a balancing spring assembled on one of the plunging pistons. The electronic control unit is also housed in the upright, inside a waterproof compartment.
The system is supplied with an adjustable anti-crushing safety device. It also includes a device stopping and locking the beam in any position, and a handy manual release for use in case of power cuts or faults.

The 620 - 640 - 642 automated systems were designed and built to control vehicle access. Do not use for any other purpose.
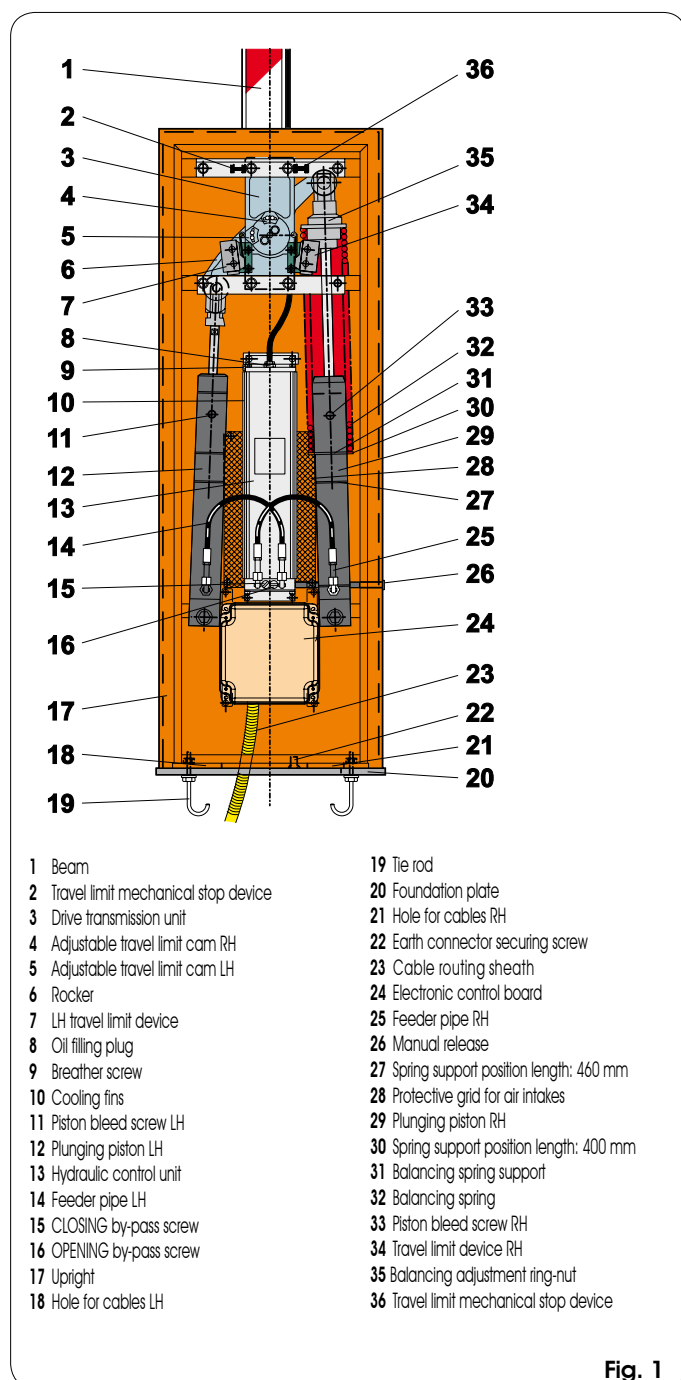
37 Lock
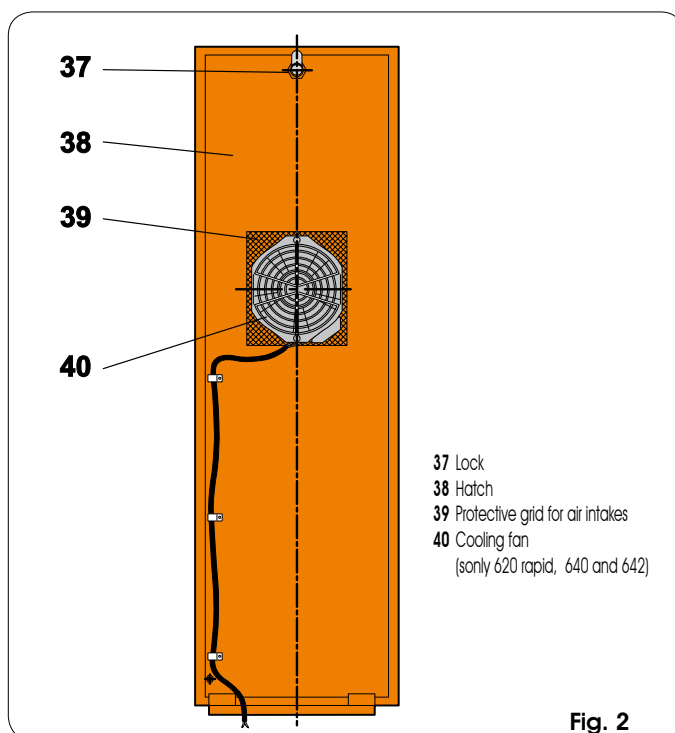38 Hatch
39 Protective grid for air intakes
40 Cooling fan
   (sonly 620 rapid, 640 and 642)

Fig. 2

1. DESCRIPTION AND TECHNICAL SPECIFICATIONS

TAB. 1 Technical specifications (*)

BARRIER MODEL	620	640	642
Power supply (Vac / Hz)	230 {+6%/ -10%} / 50		
Absorbed power (W)	220		
Absorbed current (A)	1		
Type of oil	FAAC HP OIL		
Oil quantity (Lt)	~ 1.8		
Winding heat protection (°C)	120		
Anti-crushing system	standard by-pass valves		
Type of slow-down	Electronic		
Operating ambient temperature (°C)	-20 / +55		
Hood protective treatment	Cataphoresis		AISI 316 L stainless steel
Hood painting	Polyester RAL 2004		
Protection class	IP44		
Upright dimensions LxHxP (mm)	see Fig. 4 and 5		

☞ **(*) For more details about the selected barrier model, refer to chapter 12**

| TECHNICAL DETAILS OF 1400 rpm ELECTRIC MOTOR	
Power supply (Vac{+6%/ -10%}/Hz)	230 / 50
Absorbed power (W)	200
Absorbed current (A)	1

TECHNICAL DETAILS OF 2800 rpm ELECTRIC MOTOR	
Power supply (Vac{+6%/ -10%}/Hz)	230 / 50
Absorbed power (W)	200
Absorbed current (A)	1

1 Beam
2 Travel limit mechanical stop device
3 Drive transmission unit
4 Adjustable travel limit cam RH
5 Adjustable travel limit cam LH
6 Rocker
7 LH travel limit device
8 Oil filling plug
9 Breather screw
10 Cooling fins
11 Piston bleed screw LH
12 Plunging piston LH
13 Hydraulic control unit
14 Feeder pipe LH
15 CLOSING by-pass screw
16 OPENING by-pass screw
17 Upright
18 Hole for cables LH

19 Tie rod
20 Foundation plate
21 Hole for cables RH
22 Earth connector securing screw
23 Cable routing sheath
24 Electronic control board
25 Feeder pipe RH
26 Manual release
27 Spring support position length: 460 mm
28 Protective grid for air intakes
29 Plunging piston RH
30 Spring support position length: 400 mm
31 Balancing spring support
32 Balancing spring
33 Piston bleed screw RH
34 Travel limit device RH
35 Balancing adjustment ring-nut
36 Travel limit mechanical stop device

Fig. 1

1.1 MAXIMUM USE CURVE

The curve makes it possible to establish maximum work time (T) according to use frequency (F).

E.g.: Operators 620 rapid, 640, 642 R/40 and 642/70 can operate non-stop at 100% use frequency as they are provided with a cooling fan. Models 620 standard and 642 std/40 can operate non-stop at 70% use frequency.

To ensure efficient operation, operate in the work range under the curve.

Use frequency graph
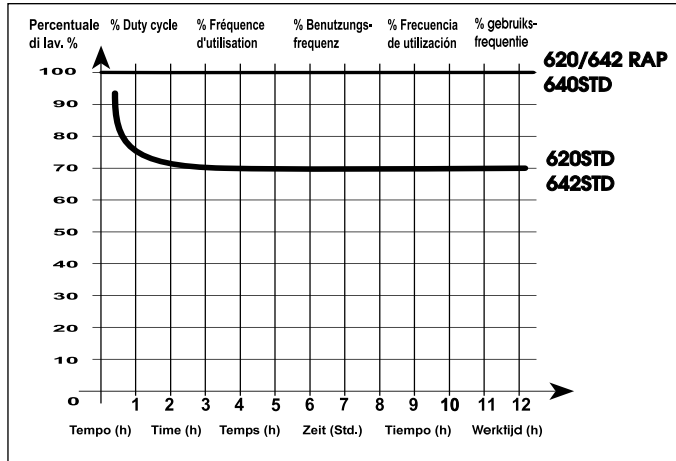
Important: The curve is obtained at a temperature of 24 °C. Exposure to the direct sun rays can reduce use frequency down to 20%

Calculation of use frequency

The percentage of effective work time (opening + closing) compared to total time of cycle (opening + closing + pause times).

Calculation formula:

$$\%F = \frac{Ta + Tc}{Ta + Tc + Tp + Ti} \times 100$$

where:

Ta = opening time

Tc = closing time

Tp = pause time

Ti = interval time between one complete cycle and another
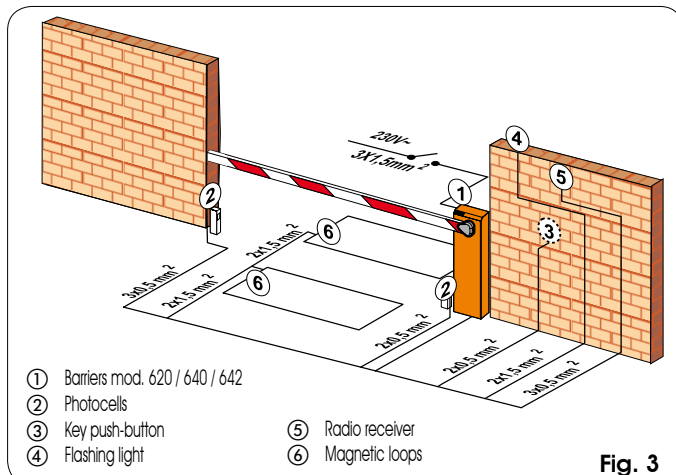
2 ELECTRIC PREPARATIONS (standard system)

① Barriers mod. 620 / 640 / 642
② Photocells
③ Key push-button
④ Flashing light
⑤ Radio receiver
⑥ Magnetic loops

Fig. 3

Notes:

1) To lay cables, use adequate rigid and/or flexible tubes.
2) Always separate connection cables of low voltage accessories from those operating at 230v~. To prevent any interference whatever, use separate sheaths.

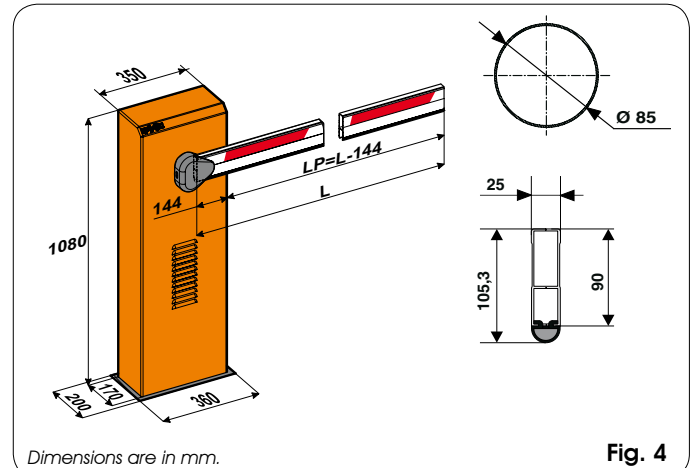### 3 BARRIER DIMENSIONS

3.1 BARRIER 620

Dimensions are in mm.

Fig. 4

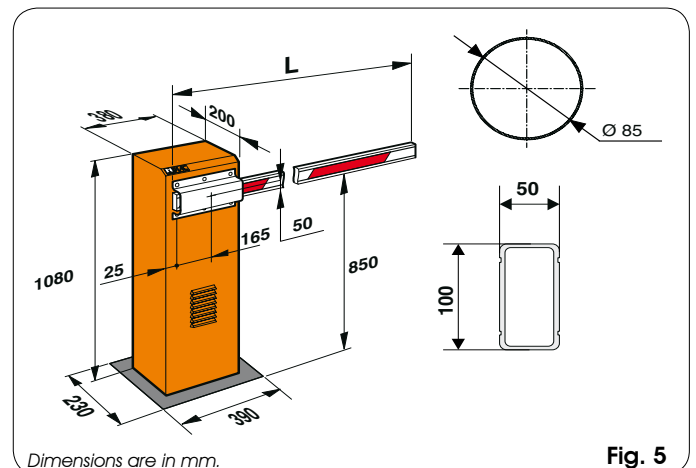#### 3.2 BARRIERS 640 - 642

Dimensions are in mm.

Fig. 5

4 INSTALLING THE AUTOMATED SYSTEM

4.1 PRELIMINARY CHECKS

To ensure safety and an efficiently operating automated system, make sure the following conditions are observed:

- When moving, the beam must not, on any account, meet any obstacles or overhead power cables.
- The soil must permit sufficient stability for the foundation plinth.
- There must be no pipes or electrical cables in the plinth excavation area.
- if the barrier body is exposed to passing vehicles, install, if possible, adequate means of protection against accidental impact.
- Check if an efficient earth socket is available for connecting the upright.

4.2 MASONRY FOR FOUNDATION PLINTH

☞ **WALL THE FOUNDATION PLATE TO ALLOW EASY ACCESS TO THE BARRIER HATCH.**

ENGLISH

1) Assemble the foundation plate as in fig.6. ref. ①
2) Make a foundation plinth as shown in fig.4 ref.② (referred to clayey soil)
3) Wall the foundation plinth as shown in fig.6, ref.②, supplying one or more sheaths for routing electrical cables. Using a spirit level, check if the plate is perfectly level. Wait for the cement to set.
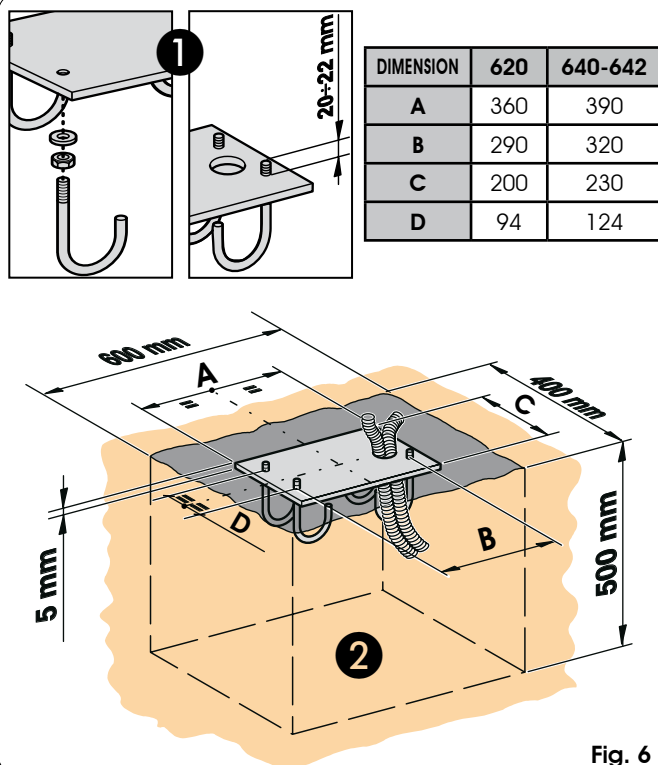

DIMENSION	620	640-642
A	360	390
B	290	320
C	200	230
D	94	124

Fig. 6

4.3 MECHANICAL INSTALLATION

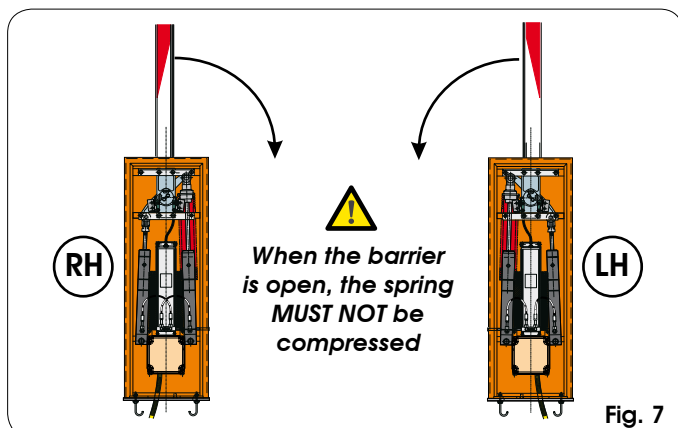**When the barrier is open, the spring MUST NOT be compressed**

RH   LH

Fig. 7

1) Fasten the upright on the foundation plate using the four supplied nuts (fig.8) and checking the configuration of the barrier as in figure 7.
   Remember that the hatch of the upright should normally face the building.
2) Set the operator for manual operation as described in chapter 6.
3) Remove and store the breather screws as shown in Fig.9.
4) Assemble the beam, using the supplied screws, as shown in figures 10 or 11 (The rubber profile of the beam must face in closing direction).
5) Adjust the opening and closing travel limit mechanical stops as per fig.12 ①. and verify beam balancing following the instructions in paragraph 4.4.
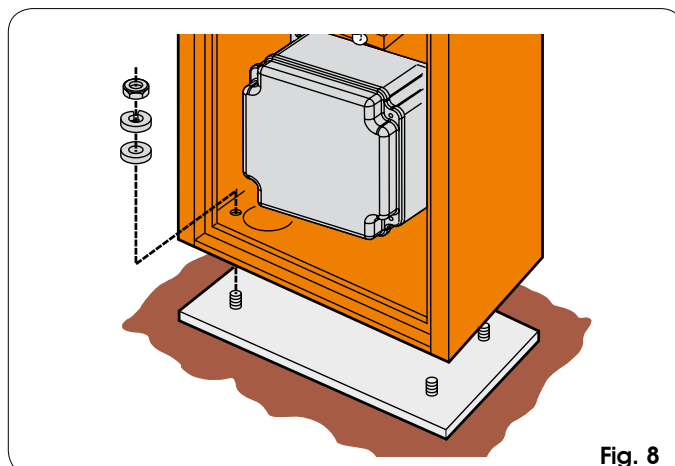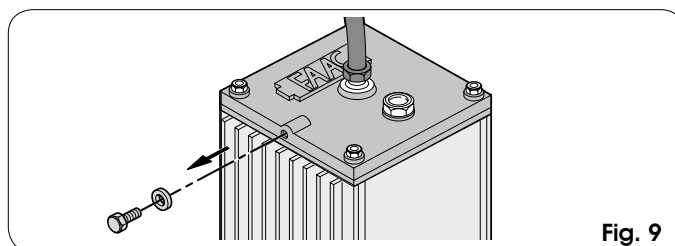

Fig. 8

Fig. 9

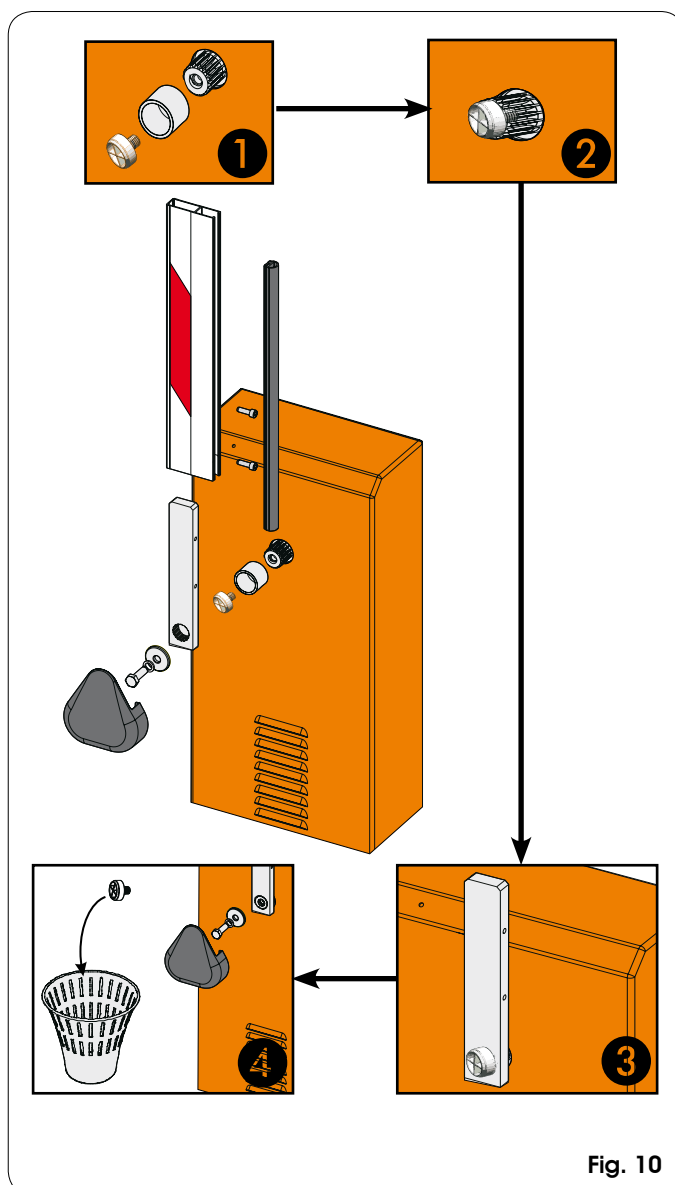**4.3.1   BARRIER 620**

Fig. 10

4.3.1   BARRIER 640 - 642

Fig. 11

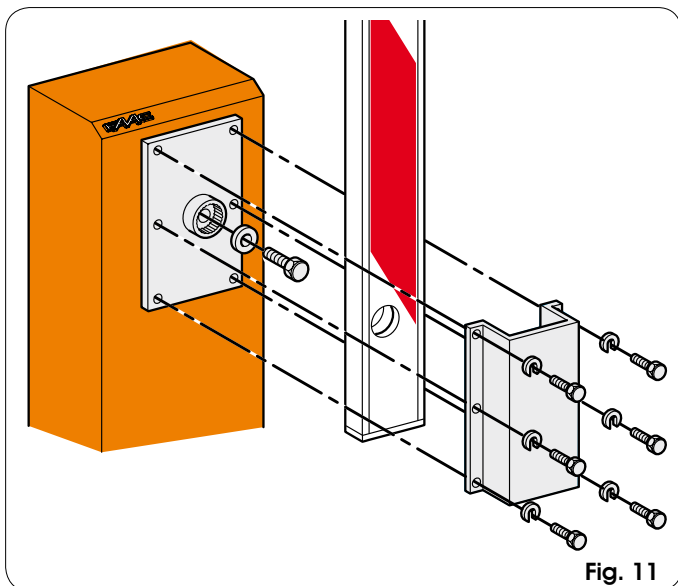### 4.4 ADJUSTING THE BALANCING SPRING.

IMPORTANT: The barrier is supplied already balanced for the exact length of the beam indicated in the order.
(The barrier is balanced when the beam stays idle in the 45° position)
For any fine tuning of barrier balancing, proceed as follows:

1) Make sure that the operator is released: see chapter 6.
2) If the barrier tends to close, turn the spring pre-loading ring-nut (Fig.12 ref.②) clockwise, if it tends to open, turn it anti-clockwise.
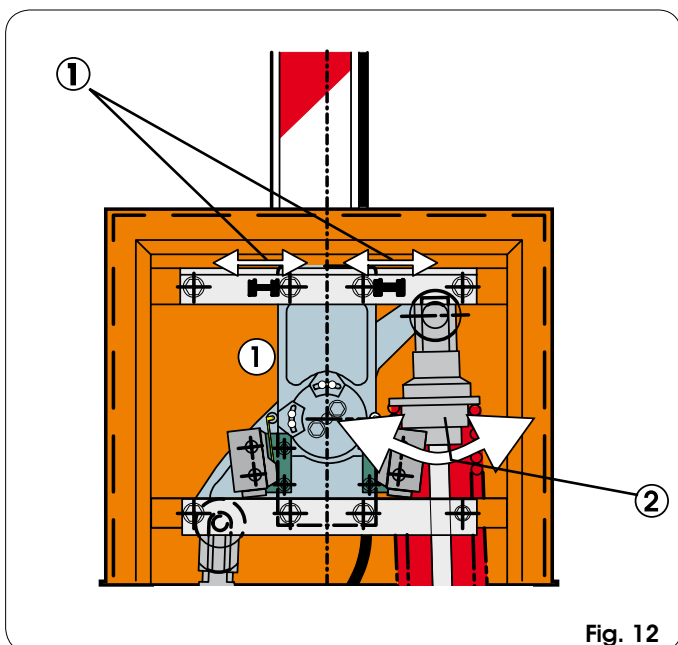

Fig. 12

5 START-UP

5.1 CONNECTION TO CONTROL BOARD

IMPORTANT: Before attempting any work on the control board (connections, maintenance, etc), always turn off power.

☞ **For the electrical connections, refer to the dedicated instructions of the control board.**

Observing the indications in fig.3, install the raceways and make the electrical connections from the electronic appliance to the selected accessories.
Always separate power cables from control and safety cables (push-button receiver, photocells, etc.).

5.2 ADJUSTING THE TRANSMITTED TORQUE

To set the hydraulic system for controlling transmitted torque, turn the two by-pass screws (Fig. 13).
The red screw controls closing movement torque.
The green screw controls opening movement torque.
To increase torque, turn the screws clockwise.
To reduce torque, turn the screws anti-clockwise.

BY-PASS
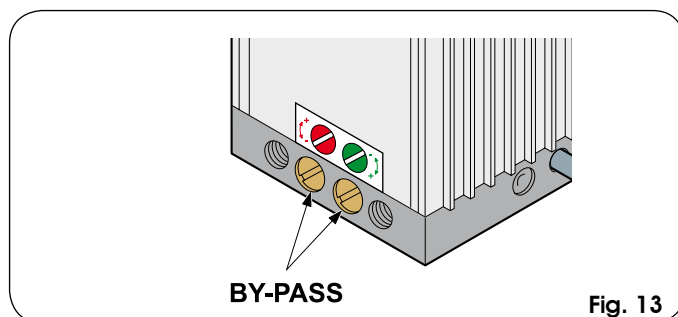
Fig. 13

5.3 ADJUSTING THE TRAVEL LIMIT SLOW DOWN

☞ **For beams with a length of over 4 m, we advise you not to set too brief a slow down.**

1) Adjust the cams of the travel limit device as shown in Fig.14 ref. ① by loosing the two Allen screws. To increase the slow down angle, take the cam close to the relevant travel limit device. To reduce the slow down angle, take the cam away from the relevant travel limit device.
2) Set the slow down time of the control unit by adjusting the dedicated parameters.
3) Relock the system (see chap.6) and run a few operational tests to verify correct registration of the travel limit devices, of spring balancing, and of the adjustment of transmitted force.

Fig. 14

RIGHT BARRIER

OPENING
TRAVEL-LIMIT
DEVICE

CLOSING
TRAVEL-LIMIT
DEVICE

LEFT BARRIER

OPENING
TRAVEL-LIMIT
DEVICE

CLOSING
TRAVEL-LIMIT
DEVICE
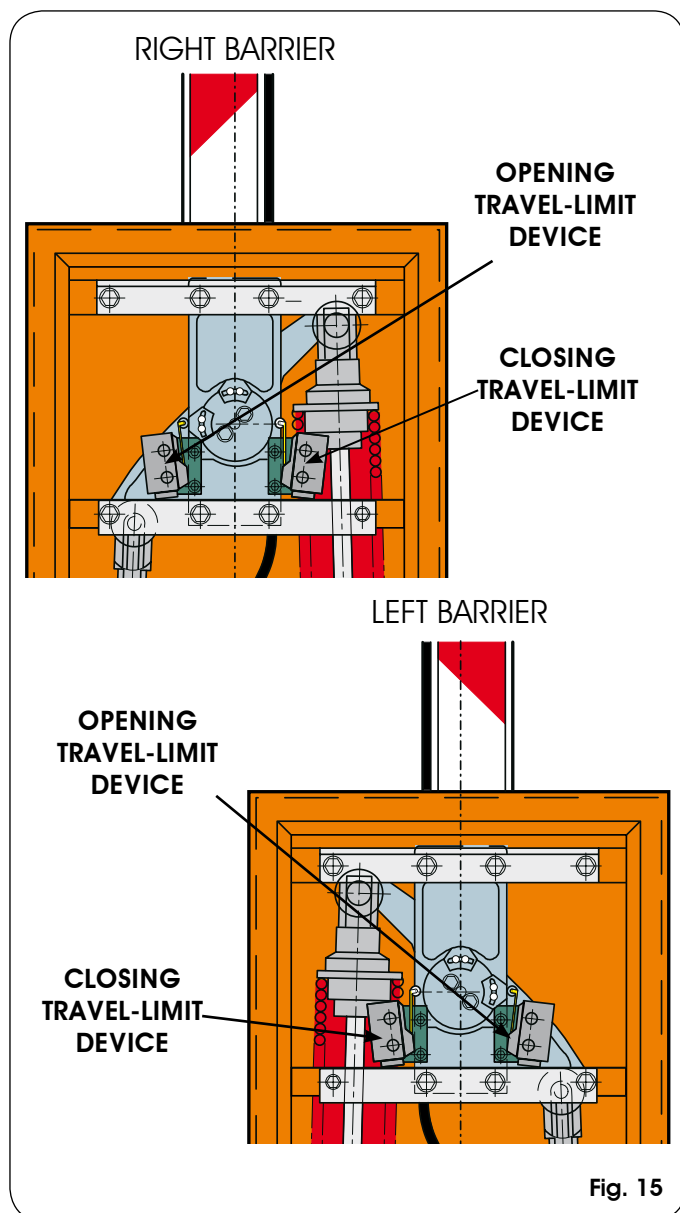
Fig. 15

5.4 AUTOMATED SYSTEM TEST

After installation, apply the danger sticker on the top of the upright. Check operating efficiency of the automated system and all accessories connected to it.
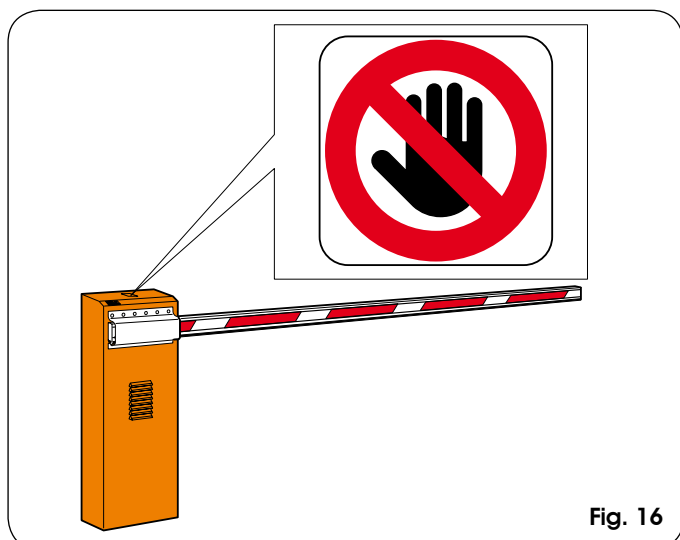
Fig. 16

Hand over the "User manual" to the customer, as well as the documentation required by current laws, and illustrate the correct operation of the barrier, pointing out the potential danger zones.

6 MANUAL MODE OPERATION

If the barrier has to be moved manually due to a power cut or fault of the automated system, operate the release device with the supplied key.

The supplied release key can be triangular (Fig. 17 ref.①) or customised (Fig. 17 ref.② optional).
- Insert the release key in the lock and turn it **anti-clockwise** through one complete rev. as shown in Fig. 17.
- Open or close the barrier manually.

7 RESTORING NORMAL OPERATION MODE

To prevent an involuntary pulse from activating the gate during the manoeuvre, cut power to the system before activating the locking system.

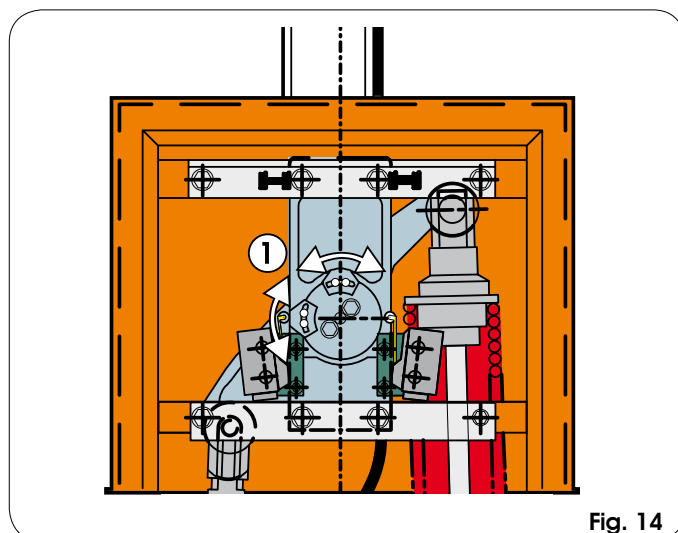<u>triangular release key (standard):</u>
- turn the key **clockwise** until it stops and remove it (Fig. 17 ref. ①)

<u>customised release key (optional):</u>
- turn the key **clockwise** until the point where it can be removed. (fig. 17 ref. ②).

BLOCCA / LOCK
BLOQUE / VERRIEGELT
BLOQUEAR / VERGRENDEL

SBLOCCA / UNLOCK
DEBLOQUE / ENTRIEGELT
DESBLOQUEAR / ONTGRENDEL
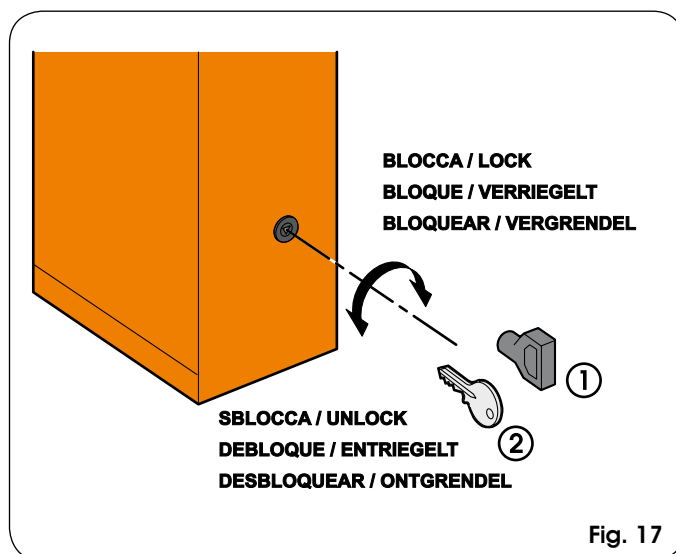
Fig. 17

8 MAINTENANCE

Whenever doing 6-monthly maintenance, always check correct settings of the by-pass screws, system balancing, and efficiency of safety devices.

8.1 TOPPING UP OIL

Periodically check the quantity of oil inside the tank.
An annual check is sufficient for low to medium use frequency; for heavier duty, check every 6 months.
The level must not drop below the notch of the control stick (Fig.18 ref. ①) .
To top-up, unscrew the filling plug (fig.18) and pour in oil up to correct level.
Use FAAC HP OIL and no other.
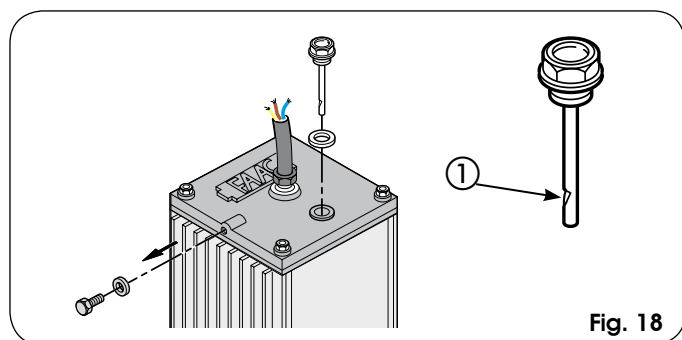
Fig. 18

8.2 BLEEDING OPERATION

If beam movement is incorrect, air must be bled from the hydraulic system.
Procedure:
1) Make sure that the bleed screw was eliminated (Fig.9)
2) Activate the beam electrically:
   - during opening, slightly loosen and re-screw the bleed screw of the piston with the balancing spring (Fig.1 ref. 33)
   - during closure, slightly loosen and re-screw the bleed screw of the piston without the balancing spring (Fig.1 ref.11).
3) If necessary, repeat the operation several times, until you obtain correct beam movement.

9 REPAIRS

For any repairs, contact FAAC's authorised Repair Centres.

10 CHANGING THE RH (LH) VERSION OF THE BARRIER INTO THE LH (RH) VERSION

Procedure for converting an RH (LH) version barrier into an LH (RH) version:
1. Release the barrier as shown in Chap.6.
2. Position the beam in opening position and remove it from the pocket as shown in Fig. 10 or Flg.11.
3. Re-lock the barrier as shown in Chap.7.
4. Screw the bleed screw on the control unit (Flg.9).
5. Fully loosen the spring adjustment ring-nut (Fig.19 ref.④).
6. Detach the feed pipes (Fig.19 ref.③ and ⑥) from the two pistons and plug the unions.
7. Remove the two pistons (Fig. 19 ref. ② and ⑤) from the upper and lower fittings and reverse their position, taking the rocker (Fig.18 ref. ①). against the opening travel limit mechanical stop.
8. Remove the pinion pocket and re-install it to set the barrier at opening as in figure 19.
9. Fit the feed pipes as shown in Fig. 19, according to the configuration of the barrier (RH or LH).
10. Reverse the travel limit connectors on the control unit.
11. Remove the bleed screw (Fig.9) and carry out the air bleed operations as indicated in paragraph 8.2.
12. Check the balance of the spring as indicated in paragraph 4.4.

ENGLISH

⚠️
WHEN THE BARRIER IS OPEN, THE SPRING MUST NOT BE COMPRESSED
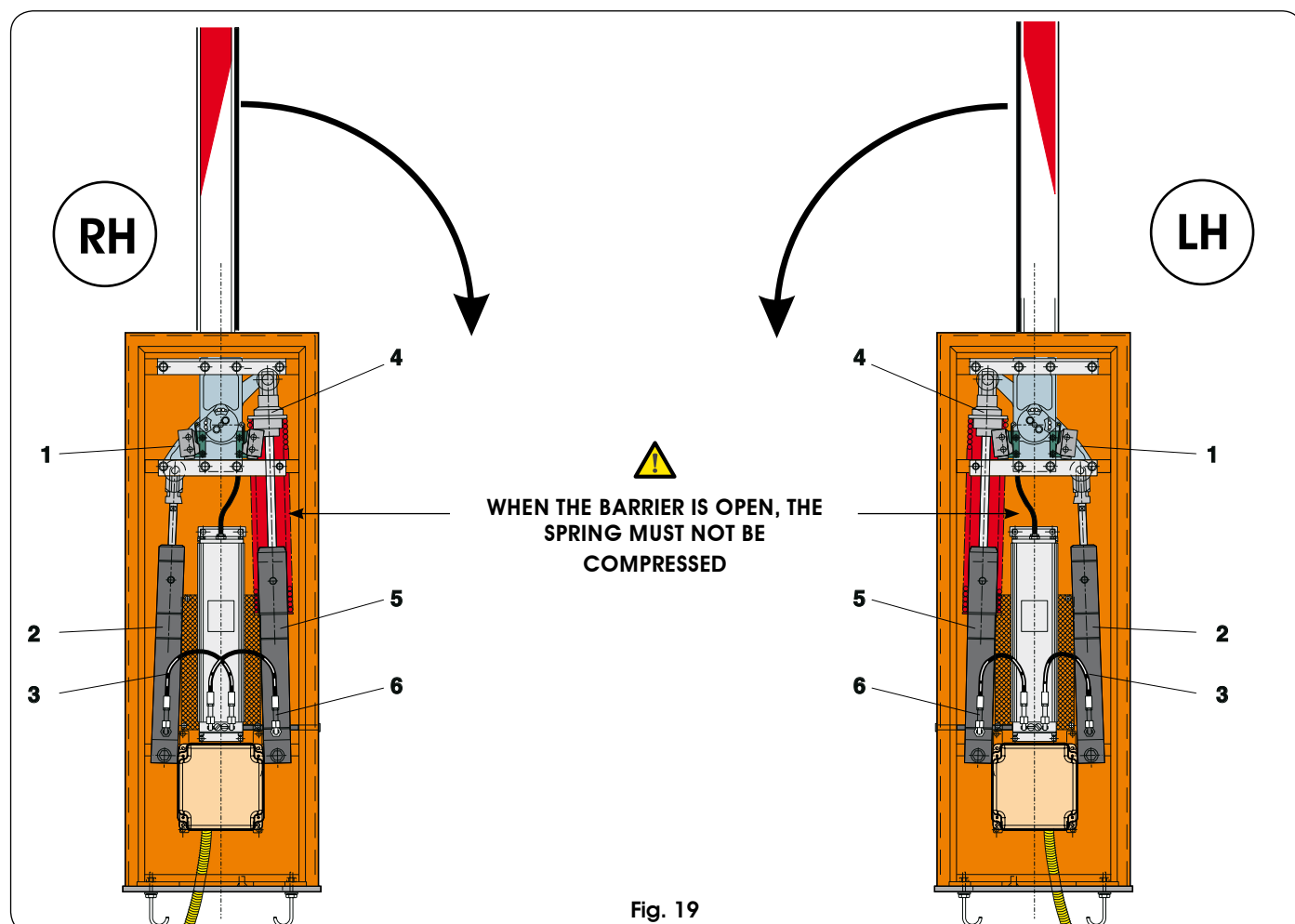
Fig. 19

11 AVAILABLE ACCESSORIES

ANTI-VANDAL VALVE (Fig. 20a)

It protects the hydraulic system if the beam is forced.

AUTOMATIC EMERGENCY RELEASE (Fig. 20b)

During a power cut, the automatic emergency release allows you to manually lift the beam without accessing the release lever of the hydraulic control unit. A hydraulic system guarantees that the beam is stopped in opening position.

Fig. 20a   **Fig. 20b**
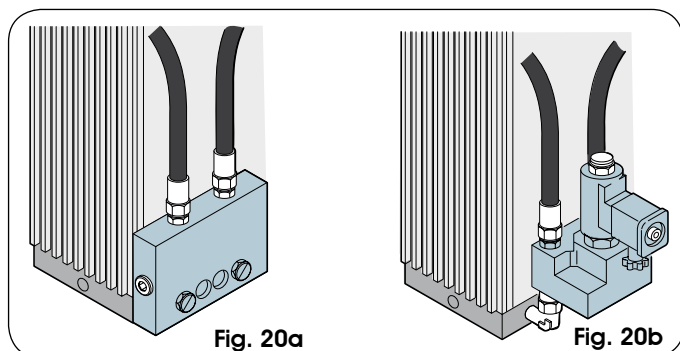
SKIRT KIT

The skirt kit increases visibility of the beam.
It is available in lengths 2m and 3m.
IMPORTANT: If a skirt kit is installed, the balancing spring must be adapted if possible.

Fig. 21
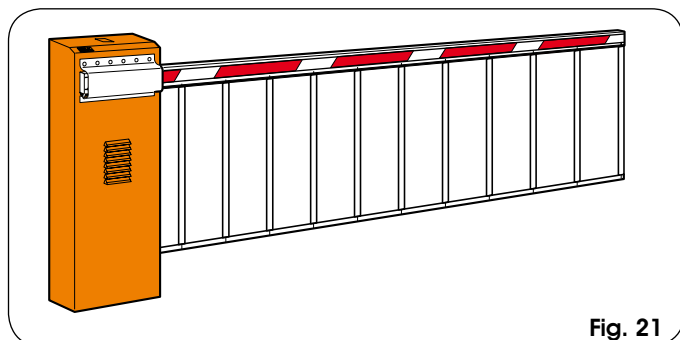
ARTICULATION KIT (mod. 620 only)

The articulation kit makes it possible to articulate the rigid beam to a maximum ceiling height of 3.2 m.
IMPORTANT: If the articulated kit is installed, the balancing spring must be adapted if possible.

Fig. 22
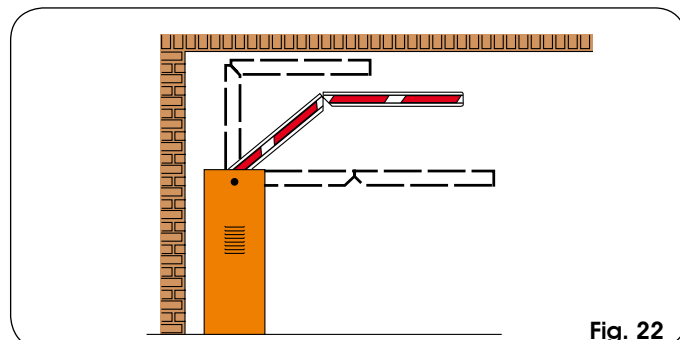
END FOOT

The end foot allows the beam to rest when closed and thus prevents the profile bending downward.
IMPORTANT: If a foot is installed, the balancing spring must be adapted if possible.
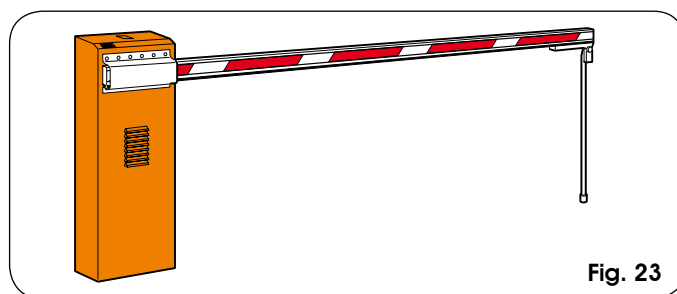
Fig. 23

FORK SUPPORT

The fork has two functions:
-    it prevents the beam, when closed, from bending and splitting if its end is stressed by extraneous forces.
-    it allows the beam to rest when closed and thus prevents the profile bending downward
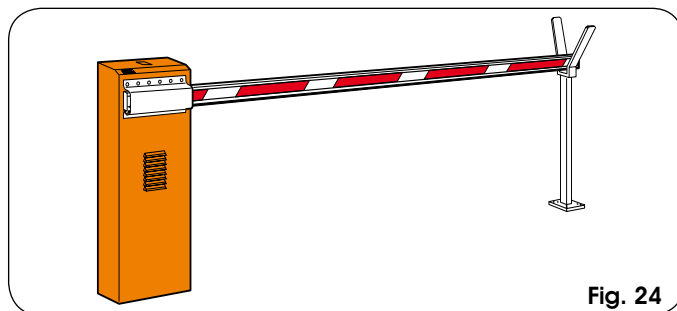
Fig. 24

To position the fork support foundation plate, refer to fig.23 where:
P1 = barrier foundation plate
P2 = fork support foundation plate
L = beam length (in mm)
A = Distance between foundation plates

NB.: Dimensions are in mm.

620   360 $A = L-240$ 90   71.5   **L**

640 - 642 $A = L-450$ 90   84   390   **L**
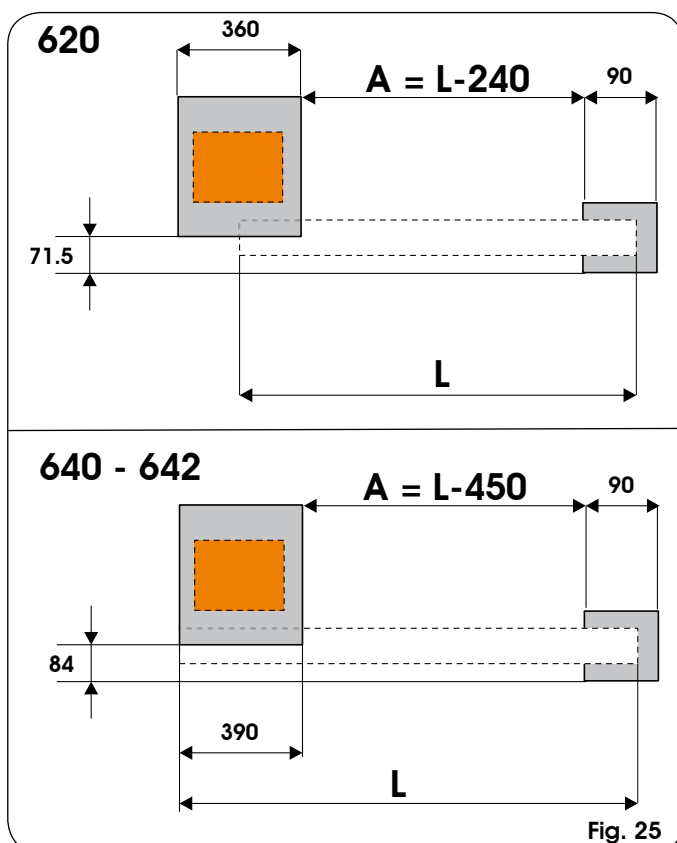
Fig. 25

12 TECHNICAL SPECIFICATIONS

Barrier model	Beam profile	Beam length (mm)	Pump flow-rate (l/min)	R.P.M.	Use frequency (%)	Indicative time of opening (sec)	Max. torque (Nm)
620 STD	620 RECTANGULAR STANDARD	1315 / 2555	1	1400	70	3,5	150
		2565 / 4815	0,75	1400	70	4,5	200
	620 RECT. + SKIRT	1815 / 2805	1	1400	70	3,5	150
		2815 / 4815	0,75	1400	70	4,5	200
	620 ROUND	1500 / 3240	1	1400	70	3,5	150
		3250 / 5000	0,75	1400	70	4,5	200
	620 ROUND PIVOTING.	1500 / 2740	1	1400	70	3,5	150
		2750 / 3000	0,75	1400	70	4,5	200
620 STD ARTICULATED	620 RECT. ARTICULATED A(*)=815/1314 mm.	1315 / 1815	1	1400	70	3,5	150
		1825 / 3815	0,75	1400	70	4,5	200
	620 RECT. ARTICULATED A(*)=1315/1814 mm.	1825 / 3815	0,75	1400	70	4,5	200
	620 RECT. ARTICULATED A(*)=1815/2075 mm.	1825 / 2815	0,75	1400	70	4,5	200
620 R	620 RECTANGULAR STANDARD	1315 / 2555	2	2800	100	2	80
		2565 / 3815	1,5	1400	100	3	100
	620 ROUND	1500 / 3240	2	2800	100	2	80
		3250 / 4000	1,5	1400	100	3	100
	620 ROUND PIVOTING.	1500 / 2740	2	2800	100	2	80
		2750 / 3000	1,5	1400	100	3	100
620 R ARTICULATED	620 RECT. ARTICULATED A(*)=815/1314 mm.	1315 / 2815	2	2800	100	2	80
	620 RECT. ARTICULATED A(*)=1315/1814 mm.	1825 / 2815	2	2800	100	2	80
	620 RECT. ARTICULATED A(*)=1815/2075 mm.	1825 / 2815	2	2800	100	2	80

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Barrier model	Beam profile	Beam length (mm)	Pump flow-rate (l/min)	R.P.M.	Use frequency (%)	Indicative time of opening (sec)	Max. torque (Nm)
640	640 RECTANGULAR	3750 / 4240	2	2800	100	4	210
		4250 / 5240	1,5	1400	100	5,5	250
		5250 / 6740	1	1400	100	8	340
		6750 / 7000	1	1400	100	8	340
	640 RECT. + SKIRT	3750 / 4740	1	1400	100	8	340
		4750 / 5240	1	1400	100	8	340
		5250 / 5740	1	1400	100	8	340
		5750 / 7000	0,75	1400	100	8	470
642 STD/40	620 RECTANGULAR	1315 / 2555	1	1400	70	3,5	150
		2565 / 3815	0,75	1400	70	4,5	200
	620 RECT. + SKIRT	1815 / 2805	1	1400	70	3,5	150
		2815 / 3815	0,75	1400	70	4,5	200
	620 ROUND	1500 / 3240	1	1400	70	3,5	150
		3250 / 4000	0,75	1400	70	4,5	200
	620 ROUND PIVOTING	1500 / 2740	1	1400	70	3,5	150
		2750 / 3000	0,75	1400	70	4,5	200
642 R/40	620 RECTANGULAR	1315 / 2555	2	2800	100	2	90
		2565 / 3815	1,5	1400	100	3	110
	620 ROUND	1500 / 3240	2	2800	100	2	90
		3250 / 4000	1,5	1400	100	3	110
	620 ROUND PIVOTING	1500 / 2240	1,5	1400	100	3	110
		2250 / 3000	2	2800	100	2	90
642/70	640 RECT.	3750 / 4240	2	2800	100	4	210
		4250 / 5240	1,5	1400	100	5,5	250
		5250 / 7000	1	1400	100	8	340
	640 RECT. + SKIRT	3750 / 5740	1	1400	100	8	340
		5750 / 7000	0,75	1400	100	8	470

Attachment 2
Installation Manual for 624 BLD Controller

624 BLD

2easy

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ENGLISH

Translation of the original instructions

CE DECLARATION OF CONFORMITY

Manufacturer: FAAC S.p.A.

Address: Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY

Declares that: 624 BLD control unit

conforms to the essential safety requirements of the following EEC directives:

2006/95/EC Low Voltage Directive
2004/108/EC Electromagnetic Compatibility Directive

Additional note:
This product underwent tests in a typical uniform configuration (all products manufactured by FAAC S.p.A.).

Bologna, 01-01-2014   CEO
                             A. Marcellan

WARNINGS FOR THE INSTALLER
GENERAL SAFETY OBLIGATIONS

1) **ATTENTION! To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.**

2) Carefully read the instructions before beginning to install the product.

3) Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger.

4) Store these instructions for future reference.

5) This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.

6) FAAC declines all liability caused by improper use or use other than that for which the automated system was intended.

7) Do not install the equipment in an explosive atmosphere: the presence of inflammable gas or fumes is a serious danger to safety.

8) The mechanical parts must conform to the provisions of Standards EN 12604 and EN 12605.

For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.

9) FAAC is not responsible for failure to observe Good Technique in the construction of the closing elements to be motorised, or for any deformation that may occur during use.

10) The installation must conform to Standards EN 12453 and EN 12445.

For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.

11) Before attempting any job on the system, cut out electrical power.

12) The mains power supply of the automated system must be fitted with an all-pole switch with contact opening distance of 3 mm or greater. Use of a 6A thermal breaker with all-pole circuit break is recommended.

13) Make sure that a differential switch with threshold of 0.03 A is fitted upstream of the system.

14) Make sure that the earthing system is perfectly constructed and connect metal parts of the closure to it.

15) The automated system is supplied with an intrinsic anti-crushing safety device consisting of a torque control. Nevertheless, its tripping threshold must be checked as specified in the Standards indicated at point 10.

16) The safety devices (EN 12978 standard) protect any danger areas against **mechanical movement Risks**, such as crushing, dragging, and shearing.

17) Use of at least one indicator-light (e.g. FAACLIGHT) is recommended for every system, as well as a warning sign adequately secured to the frame structure, in addition to the devices mentioned at point "16".

18) FAAC declines all liability as concerns safety and efficient operation of the automated system, if system components not produced by FAAC are used.

19) For maintenance, strictly use original parts by FAAC.

20) Do not in any way modify the components of the automated system.

21) The installer shall supply all information concerning manual operation of the system in case of an emergency and shall hand over to the user the warnings handbook supplied with the product.

22) Do not allow children or adults to stay near the product while it is operating.

23) Keep remote controls or other pulse generators away from children, to prevent the automated system from being activated involuntarily.

24) Transit is permitted only when the automated system is idle.

25) The user must not attempt any kind of repair or direct action whatever and contact qualified personnel only.

26) Check at least every 6 months the efficiency of the system, particularly the efficiency of the safety devices (including, where foreseen, the operator thrust force) and of the release devices.

27) **Anything not expressly specified in these instructions is not permitted.**

CONTROL UNIT 624 BLD

1. WARNINGS

Attention: Before attempting any work on the control unit (connections, maintenance), always turn off power.

- Install, upstream of the system, a differential thermal breaker with adequate tripping threshold.
- Connect the earth cable to the terminal on the J9 connector of the unit (see fig.2).
- Always separate power cables from control and safety cables (push-button, receiver, photocells, etc.). To avoid any electrical noise, use separate sheaths or a screened cable (with the screen earthed).

2. TECHNICAL SPECIFICATIONS

Power supply voltage *	230 V~ (+6% -10%) - 50/60 Hz or 115 V~ (+6% -10%) - 50/60 Hz
Absorbed power	7 W
Motor max. load	1000 W
Power supply for accessories	24 Vdc
Accessories max. current	500 mA
Operating ambient temperature	from -20°C to +55°C
Protection fuses *	F1 = F 10A - 250V F2 = T 0,8A - 250V or F1 = F 20A - 120V F2 = T 0,8A - 120V
Work time	Programmable (from 0 to 4 minutes)
Pause time	Programmable (from 0 to 4 minutes)
Motor power	Programmable on 50 levels
Programming	3 programming levels for greater flexibility of use
Rapid connector	Coupling for 5-pin Minidec board, Decoder, Receiver RP/RP2
Programmable outputs	4 programmable outputs in 18 different functions
Features	Management of slow-downs, multifunction display, BUS technology and INTEGRATED METALLIC MASS DETECTOR

* The power supply voltage and fuses depend on the version purchased:

	230 V~	115 V~
BARRIER	F1 = F 5A F2 = T 0,8A	F1 = F 10A F2 = T 0,8A
BOLLARD	F1 = F 10A F2 = T 0,8A	/

3. LAYOUT AND COMPONENTS OF 624BLD
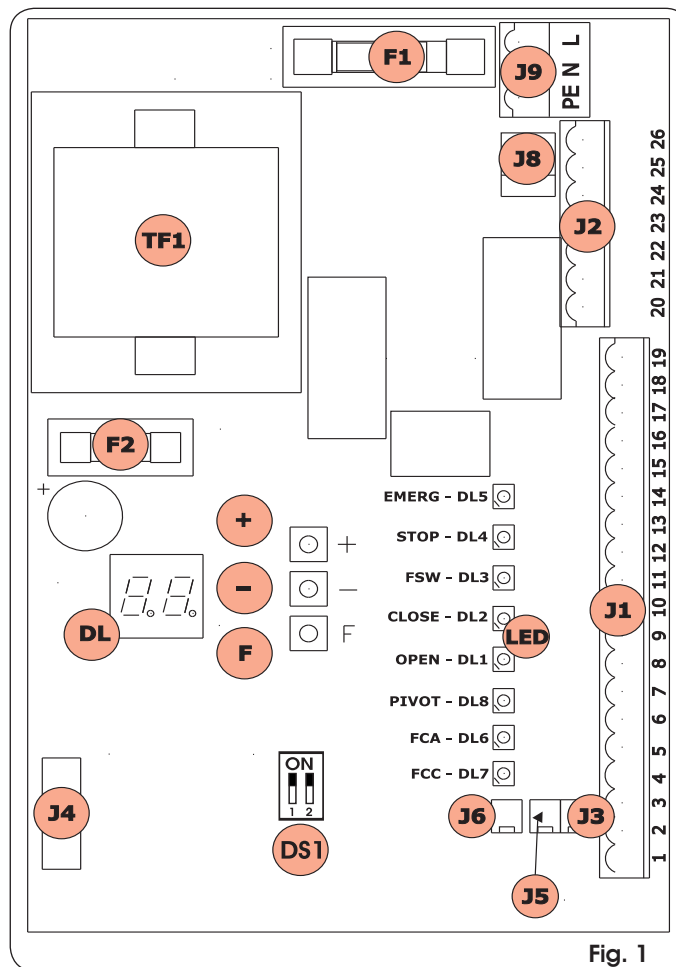
Fig. 1

3.1 DESCRIPTION OF COMPONENTS

DL	SIGNALS AND PROGRAMMING DISPLAY
LED	INPUT STATUS CONTROL LEDs
J1	LOW-VOLTAGE TERMINAL BOARD
J2	TERMINAL BOARD FOR CONNECTION OF MOTOR, FLASHING LAMP AND FAN
J3	OPENING LIMIT-SWITCH CONNECTOR
J4	CONNECTOR FOR DECODER MINIDEC / RP RECEIVER
J5	CLOSING LIMIT-SWITCH CONNECTOR
J6	CONNECTOR FOR ROD BREAKING SENSOR
J8	CONNECTOR FOR MOTOR THRUST CAPACITOR
J9	TERMINAL-BOARD FOR 230 VAC POWER SUPPLY
DS1	LOOP 1 and LOOP 2 FREQUENCIES SELECTOR
F1	FUSE FOR MOTORS AND TRANSFORMER PRIMARY WINDING (F 5A)
F2	FUSE FOR LOW VOLTAGE AND ACCESSORIES (T 800mA)
F	PROGRAMMING PUSH-BUTTON "F"
+	PROGRAMMING PUSH-BUTTON "+"
-	PROGRAMMING PUSH-BUTTON "-"

4. ELECTRICAL CONNECTIONS

Fig. 2

4.1. J1 TERMINAL-BOARD - ACCESSORIES (FIG. 2)

LOOP 1 - Magnetic loop LOOP 1 (OPEN - terminals 1-2): it activates the OPENING function

LOOP 2 - Magnetic loop LOOP 2 (SAFETY/CLOSE - terminals 3-4): it activates the SAFETY/CLOSING function

OPEN - "Opening" Command (N.O. - terminal 5): this refers to any pulse generator (e.g.: push-button) which, by closing a contact, commands the barrier to close and/or open.

CLOSE - "Closing" Command (N.O. - terminal 6): this refers to any pulse generator (e.g.: push-button) which, by closing a contact, commands the barrier to close.

FSW - Closing safety-devices contact (N.C. - terminal 7). The purpose of the closing safety devices is to protect the barrier movement area during closure, by reversing motion. They are never tripped during the opening cycle. If the closing **Safety devices** are engaged when the automated system is in open status, they prevent the closing movement.

⚠️ *If closing safety devices are not connected, jumper connect the FSW and GND terminals (fig. 6).*

STOP - STOP contact (N.C. - terminal 8): this refers to any device (e.g.: push-button) which, by opening a contact, can stop the motion of the automated system.

⚠️ *If stop safety devices are not connected, jumper connect the STOP and GND terminals (fig. 6).*

EMERGENCY - EMERGENCY contact (N.C- terminal 9): this refers to any switch which, by being activated in emergency state, opens the barrier and stops its movement until the contact is restored.

⚠️ *If emergency safety devices are not connected, jumper connect the EMERGENCY and GND terminals (fig. 6).*

GND (terminals 10-11-19) - Negative contact for feeding accessories

24 Vdc (terminals 12-13)- Positive contact for feeding accessories

⚠️ *Max. load of accessories: 500 mA. To calculate absorption values, refer to the instructions for individual accessories*

OUT 1 - Output 1 GND open-collector (terminal 14): The output can be set in one of the functions described in the 2nd programming level (see par. 5.2.). Default value is FAILSAFE. Maximum load: **24 Vdc with 100 mA.**

OUT 2 - Output 2 GND open-collector (terminal 15): The output can be set in one of the functions described in the 2nd programming level(see par. 5.2.). Default value is CLOSED beam. Maximum load: **24 Vdc with 100 mA**.

OUT 3 - RELAY Output 3 (terminal 16-17): The output can be set in one of the functions described in the 2nd programming level (see par. 5.2.). Default value is INDICATOR LIGHT: Maximum load: **24 Vdc or Vac with 500 mA.**

⚠️ *To avoid endangering correct operation of the system, do not exceed the indicated power indicated in fig. 2.*

OUT 4 - Output 4 open-collector +24Vdc (terminal 18): The output can be set in one of the functions described in the 2nd programming level (see par. 5.2.). The default value for ALL THE PRE-SETTINGS is **BUS COMMUNICATION.** Maximum load: **24 Vdc with 100 mA**.

FAAC   FAAC

4.2. CONNECTION OF RELAY PHOTOCELLS AND SAFETY DEVICES WITH "N.C." CONTACT

The 624 BLD board envisages the connection of **closing safety devices** which are tripped only during the barrier closing movement, and are therefore suitable for protecting the closing zone against the risk of impact.

⚠️ *If two or more safety devices (NC contacts) have to be connected, put them in series with each other as shown in figures 3, 4, 5 under the heading "SAFE".*

Connection of 1 pair of closure photocells

Fig. 3

Connection of 2 pairs of closure photocells

Fig. 5

Connection of 1 pair of closure photocells with FAIL SAFE facility

To be set in the 2nd programming level : FS = Y and o1 = 00

Fig. 4

Connection of no safety device

Fig. 6
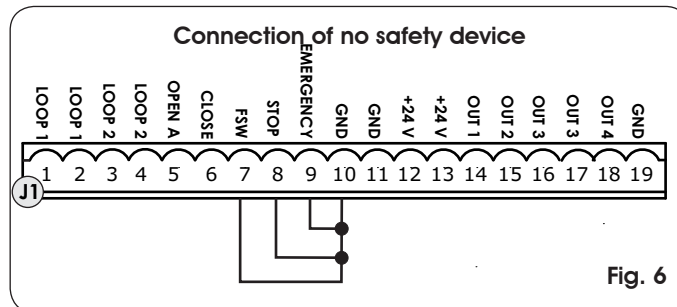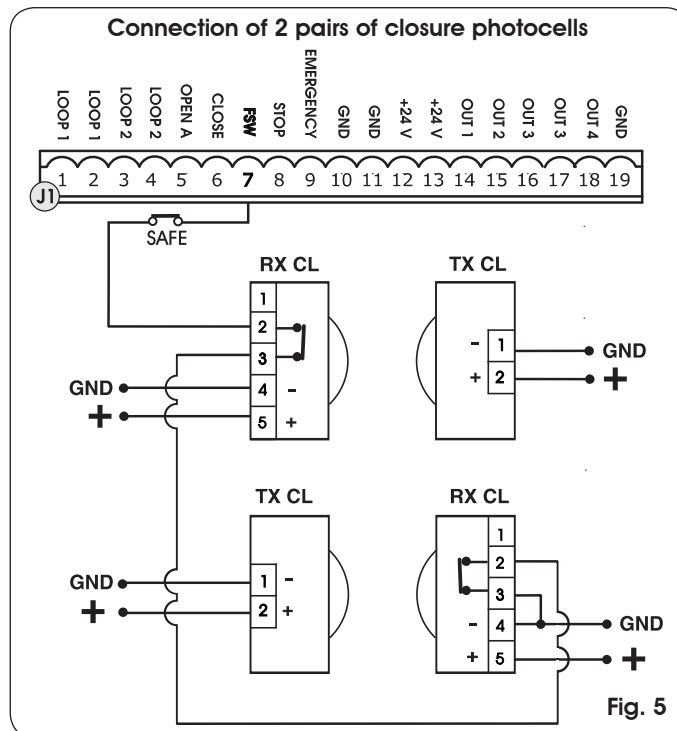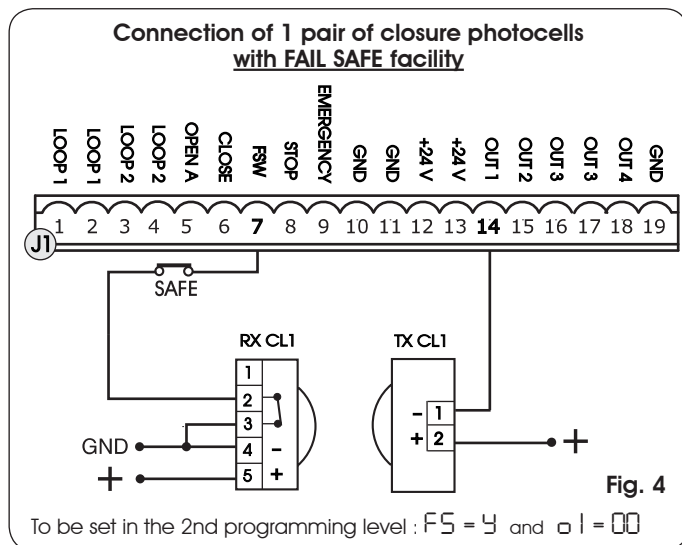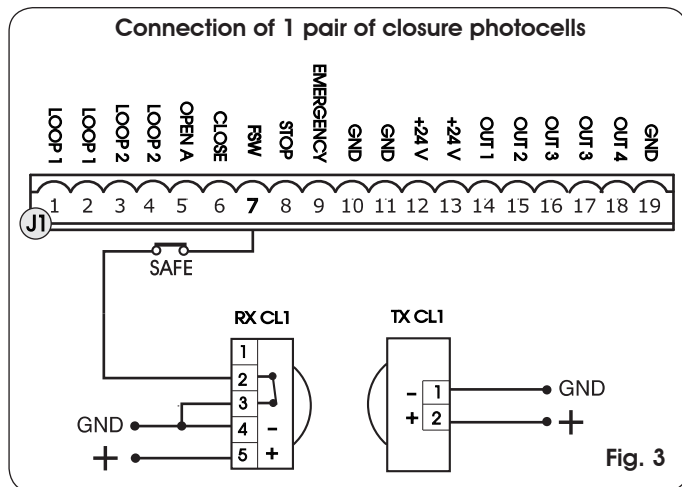
4.3. CONNECTION OF BUS PHOTOCELLS

Photocells using BUS technology are connected to the 624 BLD control unit ALL IN PARALLEL as shown in Fig. 7 through single power/communication line.

👉 *The BUS photocells do not have connection polarity.*

Up to a maximum of 8 pairs of BUS photocells can be connected to the board.
The photocells are subdivided by quantity into the following groups:

Pairs of closure photocells: max 7
Pairs of photocells for OPEN pulse: max 1

Make sure that at the 2nd programming level:
o4 = 00 and P4 = no

1st Pair of photocells   **2nd Pair of photocells**

Fig. 7
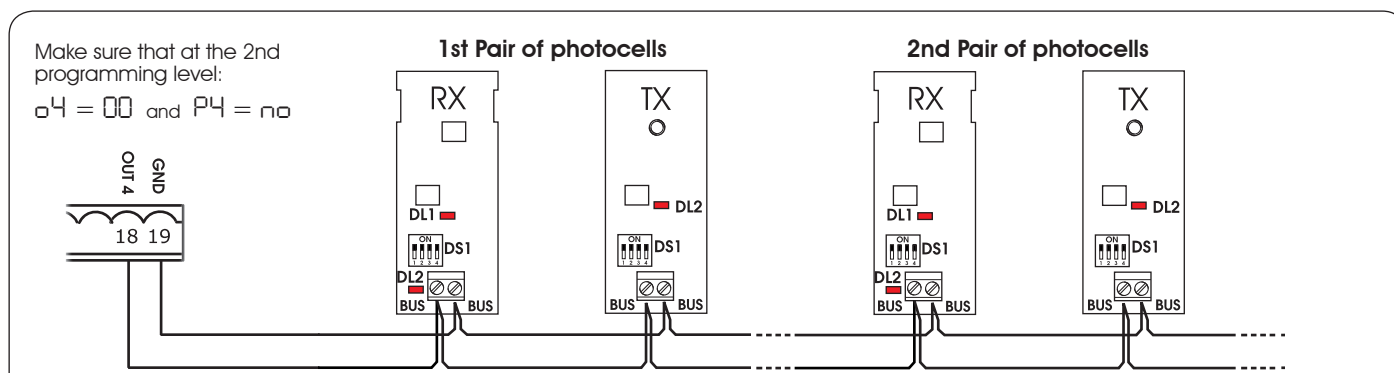
After positioning of the BUS technology photocells, select the address of each pair through the combination of the DIP-SWITCHES present on each photocell.

⚠️ *Set THE SAME DIP-SWITCH ADDRESS chosen on both the transmitter and the receiver of the same pair.*

☞ *Make sure that there are not two or more pairs of photocells with the same address*

☞ *If no BUS accessory is used, leave terminals 18 and 19 free.*

Table 4 shows the programming of the dip-switches present within the transmitter and receiver of the BUS photocells.

Tab. 4 - Address of PAIRS of BUS photocells

DIP-SWITCH TX [ON 1 2 3 4]		SAME ADDRESS	[ON 1 2 3 4] DIP-SWITCH RX		
Dip1	Dip2	Dip3	Dip4	Pair number	Type
ON	OFF	OFF	OFF	1st pair	
ON	OFF	OFF	ON	2nd pair	
ON	OFF	ON	OFF	3rd pair	
ON	OFF	ON	ON	4th pair	CLOSURE Photocells
ON	ON	OFF	OFF	5th pair	
ON	ON	OFF	ON	6th pair	
ON	ON	ON	OFF	7th pair	
ON	ON	ON	ON	Single Pair	OPEN PULSE

⚠️ *To make the installed Bus accessories operational, perform on-board memorisation as explained in chapter 5.3.*

4.4. J2 TERMINAL-BOARD - MOTOR, FLASHING LAMP AND FAN (FIG. 2)

M (COM-MOT1-MOT2): Motor Connection
LAMP (LAMP-COM): Flashing lamp output
FAN (FAN-COM): Fan output

4.5. J8 CONNECTOR - MOTOR CAPACITOR (FIG. 2)

Rapid connector for connecting the motor thrust capacitor.

4.6. J9 TERMINAL-BOARD - POWER SUPPLY (FIG. 2)

PE : Earth connection
N : Power supply 230 V~ or 115 V~(Neutral)
L : Power supply 230 V~ or 115 V~(Line)

⚠️ *For correct operation, the board must be connected to the earthing conductor present in the system. Install, upstream of the system, a differential thermal breaker.*

4.7. J3, J5 RAPID CONNECTORS - FOR OPENING AND CLOSING LIMIT-SWITCHES (FIG. 2)

Quick-fit connector for connection of the opening (J3) and closing (J5) limit-switches.

4.8. J6 CONNECTOR - BEAM BREAKING SENSOR (FIG. 2)

Quick-fit connector for connecting the beam breaking sensor (where present). If this sensor is absent, leave the supplied jumper in place.

4.9. DS1 FREQUENCY SELECTOR (FIG. 1)

DIP-SWITCH selector used to set a HIGH or LOW working frequency of the vehicle loop detectors. Consult chapter 5.5.

4.10. J4 CONNECTOR - FOR MINIDEC, DECODER AND RP

It is used for rapid connection of Minidec, Decoder and RP/RP2 Receivers.

If you are using an RP2 twin-channel receiver, you will be able to directly command the automated system's OPEN and CLOSE from a twin-channel radio control.

If using a single-channel RP type receiver, only OPEN can be commanded.

Fit the accessory with the component side directed toward the board interior.

⚠️ *Insert and remove the boards ONLY after cutting power.*

An example of a radio accessory connection

RP / RP2

J4

624BLD

Fig. 8
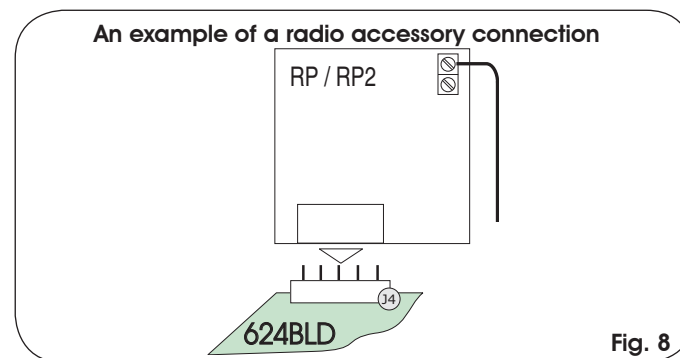
5. PROGRAMMING

To programme the operation of the automated system, the **"PROGRAMMING"** mode must be accessed.

Programming is in three parts: **1st LEVEL, 2nd LEVEL** and **3rd LEVEL.**

☞ *modification of the programming parameters is immediately effective, whereas definitive memory-storage occurs only on exiting programming and returning to the view of the automated system status. If you cut power to the unit before returning to view the status, all the modifications made will be lost.*

☞ *You can return to viewing the status from any point of programming at any level, by pressing keys F and - simultaneously.*

5.1. 1ST LEVEL PROGRAMMING

To access 1st LEVEL PROGRAMMING, use push-button **F**:

- if you press it (and hold it down), the display shows the name of the first function.

- if you release the push-button, the display shows the value of the function, which can be changed with keys

- if you press **F** again (and hold it down), the display shows the name of the next function, etc.
- when you reach the last function, press the push-button **F** to exit programming, and the display resumes showing the inputs status.

1ST LEVEL PROGRAMMING

| Display	Function	Default
dF ⚠	**LOADING PARAMETERS:** 00 Neutral condition (F) 01 Default FAAC 1 loaded 02 Default RESERVED FOR FAAC 03 Default FAAC CITY loaded 04 Default FAAC CITY K loaded 05 Default J275 loaded 06 Default J355 loaded 07 Default J200 loaded LEAVE AT 00 IF YOU DO NOT WISH TO MAKE ANY CHANGE TO THE PROGRAMMING. For an explanation of the dF parameter refer to *page 8 chapter 5.2*.	00
bu	**BUS ACCESSORY MENU** For an explanation of this parameter refer to *page 8 chapter 5.3*.	▬
LO	**FUNCTION LOGICS:** A Automatic A1 Automatic 1 E Semiautomatic P Parking PA Parking automatic Cn Condo CA Condo automatic rb Faac-City (traffic bollard logic) C Dead-man r Remote Cu Custom	E
PA	**PAUSE TIME:** This operates only if an automatic logic was selected. Can be adjusted from 0 to 59 sec. in 1 second steps. Subsequently, the display changes to show minutes and tenths of a second (separated by a dot) and time is adjusted in 10 second steps, up to the maximum value of 4.1 minutes. e.g. if the display shows 2.5, the pause time will be 2 min and 50 sec.	20
F0	**OPENING MOTOR POWER:** Adjusts the thrust of the motor during the opening phase. 00 Minimum power 50 Maximum power	50
FC	**CLOSING MOTOR POWER:** Adjusts the thrust of the motor during the closing phase. 00 Minimum power 50 Maximum power	50
L1	**LOOP 1:** If this function is enabled, the loop connected to the Loop1 input will have the OPEN function. Y = loop1 active no = loop1 not active **Attention:** if the function is not enabled, loop1 status will nevertheless be available on one of the outputs, if appropriately set.	no

Display	Function	Default
L2	**LOOP 2:** If this function is enabled, the loop connected to Loop2 input will have the SAFETY/CLOSE function, i.e. it will operate as SAFETY during the closing stage, and will command CLOSE to the board at release. Y = loop2 active no = loop2 not active **Attention:** if the function is not enabled, loop2 status will nevertheless be available on one of the outputs, if appropriately set.	no
H1	**BOOST LOOP 1 FUNCTION** Y = Active no = Not active Thanks to this function you can increase the sensitivity level at the moment of detection. When the vehicle leaves the loop, the sensitivity returns to the selected level. This system holds the detection contact even in the event of very high vehicles as well as during the passage of a tractor with trailer.	no
H2	**BOOST LOOP 2 FUNCTION** Y = Active no = Not active See BOOST LOOP1 function.	no
S1	**SENSITIVITY LOOP 1** Regulates the sensitivity of the loop: 01 = minimum 10 = maximum	05
S2	**SENSITIVITY LOOP 2** Regulates the sensitivity of the loop: 01 = minimum 10 = maximum	05
St	**AUTOMATED SYSTEM STATUS:** Exit programming, memory storage of data set and return to automated system status view. 00 Closed 01 Opening pre-flashing 02 Opening 03 Open 04 In pause 05 Closing pre-flashing 06 Closing 07 Stopped ready to close 08 Stopped ready to open 09 Emergency opening 10 Closing safety device in operation	

☞ *The display of the automated system status* St *is of fundamental importance for the operator assigned to installation/ maintenance, to distinguish the logical processes the board performs during movements. If, for example, the automated system is in CLOSED state* 00 *must be shown on the display. On reaching the command OPEN, the display will change to* 01, *if pre-flashing is enabled, or directly to* 02 *(the OPENING movement), to*

Example of sequence of states displayed starting from barrier closed:

00 Closed

02 Opening

03 Open

04 Pause (if present)
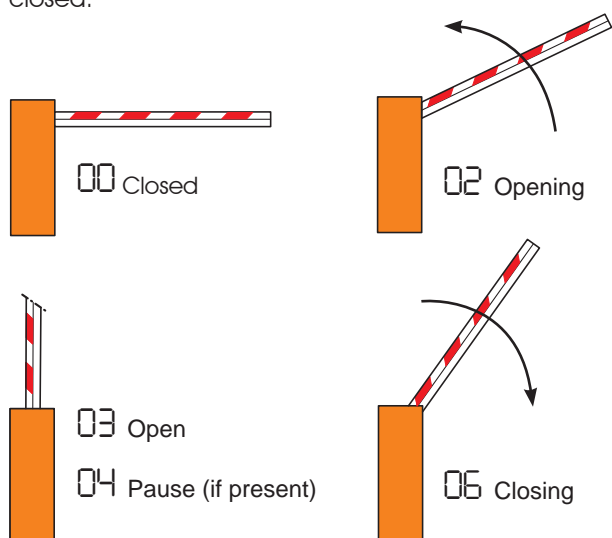
06 Closing

In the sequence, states 01 and 05 are not shown; these correspond to pre-flashing at opening and at closing, respectively.

5.2. MODIFICATION OF THE PRE-SETTING

The modification of the dF parameter enables you to automatically load 7 different configurations modifying **all programming values at every level** with preset values.

This possibility is a convenient starting point for subsequent rapid 'fine tuning' of the 624 BLD for functioning with 7 different types of installation.

7 PRE-SETTINGS may be selected:

01   Default FAAC for barriers
02   Default RESERVED FOR FAAC
03   Default for the FAAC CITY 275 H600 and H800 range
04   Default for FAAC CITY 275 H700 K
05   Default for J275
06   Default for J355
07   Default for J200

To implement loading of the values of one of the 7 pre-settings, select the required pre-setting (01, 02, 03 04, 05, 06, 07) and exit 1st level programming.

EXAMPLE: selecting 01 and exiting 1st level programming, all the FAAC default values which can be found in the 1st, 2nd and 3rd level tables in the "Default" column are loaded. The 624 BLD is therefore configured for movement of a barrier.

⚠️ ☞ *THE LOADING OF A PRE-SETTING CANCELS ALL THE MODIFICATIONS PREVIOUSLY MADE AT ANY PROGRAMMING STEP. IF YOU DO NOT WISH TO LOAD ANY PRE-SETTING, LEAVE THE dF STEP AT 00*

The dF, step, unlike the others, does not store the value selected but returns to show 00 again, as standard condition.

It is therefore not possible to identify what pre-setting was previously set.

If you do not wish to load any pre-setting, ALWAYS leave the dF step at value 00 and move on to the following programming step.

> *Ensure that you load the desired default and exit 1st level programming BEFORE modifying other steps, in order to avoid deleting all the modifications made.*

To learn more about the specifications of each pre-setting, refer to chapter 10 on page 15.

5.3. SETUP and BUS SYSTEM CONTROL

Each time you install one or more BUS accessories (as explained in chapter 4.3) these must be stored on the board.

Storage is performed as follows:
- enter the first programming level as explained in chapter 5.1;
- at the bu programming step, release programming push-button **F** and press push-button **+** for 1 second.

The display shows -- for an instant and then returns to the standard condition indicated in fig. 10. The storage procedure is finished.

The bu programming step also has the function of displaying the status of the BUS technology accessories. Figure 9 indicates the exact correspondence between the segments of the display and the inputs.

FSW CL

FSW CL = BUS photocells closing

OPEN = BUS photocell pulse generators OPEN

FSW CL   **OPEN**
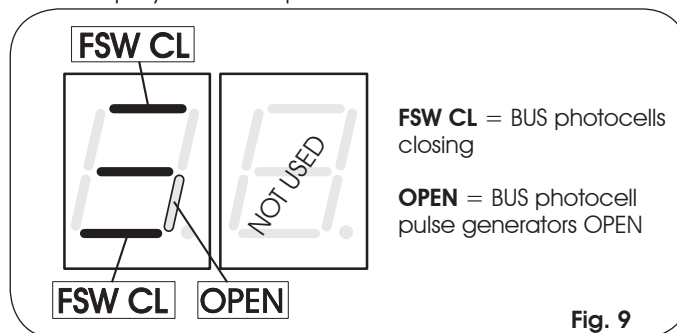
Fig. 9

Segment ON = closed contact
Segment OFF = open contact

The configuration for correct operation of the automated system should show the three horizontal segments ON as in figure 10.

Fig. 10

In case of engagement of the closure photocells, the upper and lower segments switch off, leaving the central segment on, as in figure 11.

Fig. 11

In case of engagement of the PULSE GENERATOR OPEN pair, the corresponding vertical segment switches on for the engagement time of the pair, as illustrated in figure 12.

Fig. 12

The PULSE GENERATOR OPEN pair of photocells, if engaged, commands opening of the application and prevents its closure until it is released.

☞ **If no pair of BUS photocells is present on the system, the bu programming step will still show the display in figure 10.**

The BUS communication system uses a self-diagnostic function able to supply reports of incorrect connection or of erroneous configuration of the BUS accessories.

The display shows the cc signal FLASHING when a SHORT-CIRCUIT is present along the BUS line, as in figure 13. Check the connections made (chapter.4.3).

Fig. 13

The display shows the Er message FLASHING, as in figure 14, if more than one pair of photocells should have the same address.

Fig. 14

In this latter case, check all the addresses set on all the photocells installed, referring to chapter 4.3.

FAAC

5.4. 2nd LEVEL PROGRAMMING

To access 2nd LEVEL PROGRAMMING, press push-button **F** and, while holding it down, press push-button **+**:

- if you release the **+** push-button, the display shows the name of the first function.
- if you also release the **F** push-button, the display shows the value of the function, which can be changed with keys **+** and **-**.
- if you press the **F** key (and hold it down), the display shows the name of the next function; if you release it, the value is shown and can be modified with keys **+** and **-**.
- when you reach the last function, press push-button **F** to exit programming, and the display resumes showing the inputs status.

2ND LEVEL PROGRAMMING		**F** + **+**
Display	**Function**	**Default**
bo	**MAXIMUM THRUST TORQUE**: the motor runs at maximum torque (ignoring torque regulation) at the initial moment of movement. Y = Active no = Excluded	Y
PF	**PRE-FLASHING:** it permits activation of the flashing lamp for 5 secs before the start of movement. no excluded OC before each movement PA at end of pause only CL before closing	no
SC	**SLOW CLOSING:** for setting the entire closing stage at slow speed. Y = Active no = Excluded	no
tr	**DECELERATION TIME AFTER LIMIT SWITCHES:** for setting the deceleration time (in seconds) after the opening and closing limit switches have operated. Can be adjusted from 0 to 10 sec. in 1 second steps. 00 = deceleration excluded 10 = maximum deceleration	03
t	**WORK TIME (time-out):** A value should be set from 5 to 10 seconds longer than the time required for the automated system to move from the closed position to the open position, and vice-versa. Can be adjusted from 0 to 59 sec. in 1 second steps. Subsequently, the display changes to show minutes and tenths of a second (separated by a dot) and time is adjusted in 10 second steps, up to the maximum value of 4.1 minutes.	20
FS	**FAIL SAFE:** If this function is activated, it enables a function test of the photocells before any automated system movement, independently of the output used. If the test fails, the automated system does not start the movement. Y = Active	no

Display	Function	Default
o1	**OUTPUT 1:** The output can be set to one of the following functions: 00 FAILSAFE 01 INDICATOR LIGHT (lighted at opening and pause, flashing at closing and off when automated system closed). 02 BEAM LIGHTING (output active with beam closed and on pause, inactive with beam open, flashing during movement) 03 beam CLOSED 04 beam OPEN or in PAUSE, it goes off during closing pre-flashing. 05 beam MOVING AT OPENING, pre-flashing included. 06 beam MOVING AT CLOSING, pre-flashing included. 07 beam STILL 08 beam in EMERGENCY status 09 LOOP1 engaged 10 LOOP2 engaged 11 OPEN for 624 SLAVE 12 CLOSE for 624 SLAVE 13 beam DETACHED 14 bollard lights 15 bollard buzzer 16 FCA engaged 17 FCC engaged 18 interlock	00
P1	**OUTPUT 1 POLARITY:** For configuring the output polarity status. Y = N.C. polarity no = N.O. polarity **Note:** if the output is set to FAIL-SAFE (00) leave the default value no.	no
o2	**OUTPUT 2:** See output 1	03
P2	**OUTPUT 2 POLARITY**: See output 1 polarity	no
o3	**OUTPUT 3:** See output 1	01
P3	**OUTPUT 3 POLARITY:** See output 1 polarity	no
o4	**OUTPUT 4 / BUS:** **If set at 00 the output is dedicated to accessories with BUS technology. Refer to chapter 4.3 on page 5** for an explanation. This output retains the possibility of configuration of output 1 with the exception of functions 11, 12, 18 which in this case have no effect.	00
P4	**OUTPUT 4 POLARITY:** For configuring the output polarity status. Y = N.C. polarity no = = **N.O. polarity (for BUS)**	no

⌂5	**ASSISTANCE REQUEST (coupled to the next two functions):** If activated at the end of the count-down (settable with the next two functions under "Cycle programming"), it activates LAMP output for 4 sec every 30 sec. (assistance request). Can be useful for setting scheduled maintenance. ⅄ = Active ⁿ◻ = Excluded	ⁿ◻
ⁿc	**CYCLE PROGRAMMING IN THOUSANDS:** For setting a count-down of the system operating cycles, settable value from 0 to 99 (thousands of cycles). The displayed value is reset as the cycles progress, interacting with the ⁿC value (99 ⁿc decrementing steps correspond to one ⁿC decrement). The function can be used combined with ⁿc, to check the use of the system and to make use of the "Assistance request".	◻◻
ⁿC	**CYCLE PROGRAMMING IN HUNDREDS OF THOUSANDS:** For setting a count-down of the system operating cycles, settable value from 0 to 99 (hundreds of thousands of cycles). The displayed value is reset as the cycles progress, interacting with the ⁿc. (1 ⁿc decrement corresponds to 99 ⁿC decrementing steps). The function can be used combined with ⁿc, to check the use of the system and to make use of the "Assistance request".	◻l
h l	**HOLD TIME LOOP 1** For setting the presence time on loop 1. At the end of this time the board calibrates itself and indicates "loop free" (decimal point of the units OFF). On switching on the board, an automatic reset is performed. ⅄ = 5 minutes ⁿ◻ = infinite	ⁿ◻
h2	**HOLD TIME LOOP 2** For setting the presence time on loop 2. At the end of this time, the board calibrates itself and indicates "loop free" (decimal point of the tens OFF). On switching on the board, an automatic reset is performed. ⅄ = 5 minutes ⁿ◻ = infinite	ⁿ◻
5t	**AUTOMATED SYSTEM STATUS:** Exit programming, memory storage of data and return to gate status display (see paragraph 5.1.).	

The 624 BLD is equipped with an integrated metallic mass detector for induction detection of vehicles.

Features:
- galvanic separation between the electronics of the detector and of the loop
- automatic alignment of the system immediately after activation
- continual resetting of frequency drifts
- sensitivity independent of loop inductivity
- regulation of the working frequency of the loops
- message of loop engaged with LED display
- loop status addressable on the OUT 1, OUT 2, OUT 3 and OUT 4 outputs

Connection:
Connect the loop detectors as indicated in figure 2 on page 4:

- Terminals 1 - 2 for LOOP 1 = loop with opening function;
- Terminals 3 - 4 for LOOP 2 = loop with closing and/or closing safety function.

To learn more about the effect of signals originating from the loops on the automated system, please refer to the logic tables in chapter 12.

To enable the function of the connected loops, enter the 1st programming level and set steps Ll and L2 in ⅄. To enable the function of the connected loops, enter the 1st programming level and set steps.

The operating status of the loop detector is shown through the use of decimal points on the display <u>when automated system status is displayed (step 5t).</u>

<u>**CALIBRATION**</u>

<u>Each time the 624 BLD board is powered,</u> the display shows the automated system status and <u>the integrated loop detector calibrates the connected loops.</u> Therefore, perform a calibration, removing power from the 624 BLD for at least 5 seconds.

Calibration is shown on the display through flashing of the two points, as in figure 15.

Fig. 15
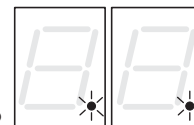
⚠ *If one or both the magnetic loops are not installed, the loop detector is continually calibrated <u>without this creating problems to the functioning of the board</u>. Therefore, during display of the automated system status, one or both the decimal points will flash constantly.*

Once calibration has taken place, the decimal points indicate the loop status:

LOOP 1   LOOP 2
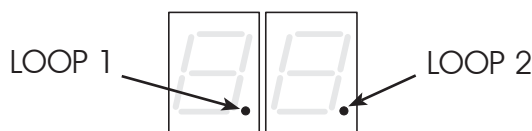
Point ON   = Loop ENGAGED
Point OFF   = Loop DISENGAGED
Point FLASHING   = Loop NOT CONNECTED or BEING CALIBRATED

REGULATION OF SENSITIVITY
Regulating the sensitivity determines the variation of the inductivity, for each channel, which a vehicle must cause to activate the relative output of the detector.
Regulation of sensitivity is performed separately for each channel with the aid of the two 5l and 52 parameters at the 1st programming level. You can also activate the BOOST function for both detectors. Consult chapter 5.1.

REGULATION OF HOLD TIME
The retaining time count starts on engagement of the loop. If, on expiry of this time, the loop is still engaged, a new calibration is performed automatically where the presence of the metallic mass on the loop no longer causes its engagement. At the end of the new calibration, the loop is considered "disengaged".
The retaining time can be regulated with the aid of the two h l and h2 parameters at the 2nd programming level.

Consult chapter 5.4
FREQUENCY REGULATION and NEW BALANCING

The working frequency of each of the detector channels can be regulated at two levels with the aid of the DS1 DIP- switch (see fig.1).

DIP 1	ON = Loop 1 frequency LOW
	OFF = Loop 1 frequency HIGH
DIP 2	ON = Loop 2 frequency LOW
	OFF = Loop 2 frequency HIGH

On changing one of these DIPs, it is recommended that a new calibration be performed. In case of installation of two loops, select different frequencies for each loop.

NOTES FOR CONSTRUCTION OF THE LOOPS

The loop must be located at least 15 cm. from fixed metal objects, at least 50 cm. from moving metal objects and not more than 5 cm. from the road surface.

Use a normal single-core cable with a section of 1.5 mm² (if the cable is buried directly, it must be double insulated). Construct a loop, preferably square or rectangular, preparing a PVC cable duct or making a track in the flooring as indicated in figure 16 (the angles must be cut at 45° to avoid cable breakage). Place the cable, performing the number of windings indicated in the table. The two ends of the cable must be intertwined (at least 20 times per metre) from the loop to the detector. Avoid any cable splicing (if it should be necessary, solder the wires and seal the junction with a thermo-shrinking

Loop Perimeter	No. of Windings
less than 3 m	6
from 3 to 4 m	5
from 4 to 6 m	4
from 6 to 12 m	3
over 12 m	2
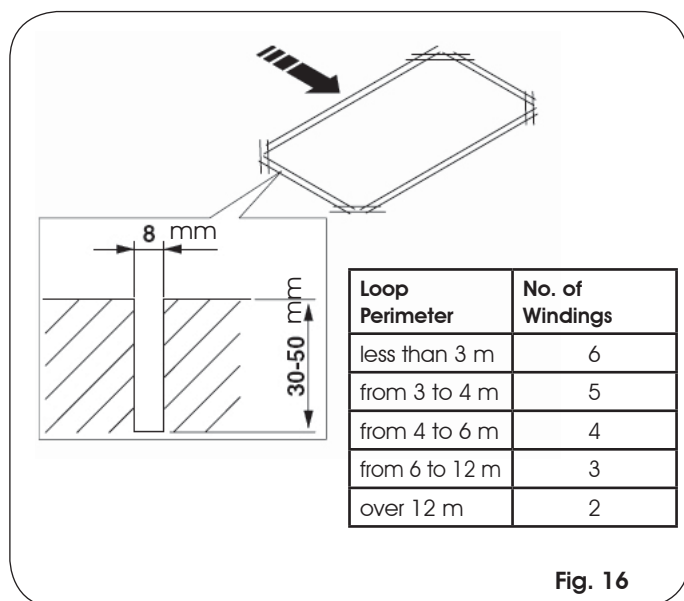
Fig. 16

6. START-UP

6.1. BOARD LEDS CHECK

sheath) and keep it separate from power supply lines.

Before the definitive start-up of the 624 BLD unit, control the activation status of the LEDs present.

These LEDs indicate the status of the board inputs and have particular importance for the handling of the automated system:

LED ON	: CLOSED contact
LED OFF	: OPEN contact

Figure 16 shows the configuration of the standard LEDs with the automated system CLOSED ready to open.

The Emergency inputs (DL5), STOP (DL4), Photocells (DL3) and Pivot (DL8) are safety inputs with N.C. (normally closed) contacts, therefore the corresponding LEDs are ON.

EMERG - DL5	●
STOP - DL4	●
FSW - DL3	●
CLOSE - DL2	○
OPEN - DL1	○
PIVOT - DL8	●
FCA - DL6	●
FCC - DL7	○

Fig. 16

The FCA and FCC LEDs are the N.C contacts of the limit switches which, if engaged, become open, consequently switching off the corresponding LED:

With Automated system CLOSED	FCA - DL6 ●	
	FCC - DL7 ○	FCC ENGAGED
With Automated system OPEN	FCA - DL6 ○	FCA ENGAGED
	FCC - DL7 ●	

6.2. CHECK ON BUS STATUS

Consult this paragraph if BUS photocells have been installed, as indicated in paragraph 4.3 on page 5.

Enter 1st programming level and show the bu programming step on the display.

This step must show three horizontal lines, confirming that all pairs of BUS photocells are not engaged.

Refer to paragraph 5.3 on page 8 for further details on displaying these devices.

7. AUTOMATED SYSTEM TEST

When you have finished programming, check if the system is operating correctly.
Check in particular if power of the automated system is adequately adjusted and if the safety devices connected to it operate correctly.

8. MASTER-SLAVE CONFIGURATIONS

If installation contemplates the use of two opposing barriers to be activated at the same time on opening/ closing, one of the connection diagrams shown below should be used, depending on the control boards used to move the barriers.

By MASTER equipment is meant the control board to which all the pulse generators and safety devices are connected.
By SLAVE equipment is meant the control board which is controlled by the MASTER through pulse inputs, while the safety inputs are short-circuited.

624BLD MASTER

OUT2:

o2 = 11   P2 = no

OUT3:

o3 = 12   P3 = no

624BLD SLAVE

① **1ST LEVEL PROGRAMMING**

LO = C

② **3rd LEVEL PROGRAMMING**

O3 = Y

③ **1ST LEVEL PROGRAMMING**

LO = CU

624 BLD MASTER

OUT 1:

o1 = 11   P1 = Y

OUT 2:

o2 = 12   P2 = Y

624 MPS SLAVE

1 OFF
2 OFF

Logica
Logic
Logique
Nur Logik   R

Lógica
De logica

per il resto lasciare il default
for the rest leave the default
pour le reste laisser par défaut
programmieren die anderen
werkeinstellungen lassen
por lo demas dejar el default
voor de rest default laten

624 MPS MASTER

624 BLD SLAVE

Logica
Logic
Logique
Nur Logik

Lógica
De logica

per il resto lasciare il default
for the rest leave the default
pour le reste laisser par défaut
programmieren die anderen
werkeinstellungen lassen
por lo demas dejar el default
voor de rest default laten

Fig. 17

9. 3rd LEVEL PROGRAMMING

The 3rd level programming is only used in the case of advanced customisation of the function logics already present in the memory.

⚠️ **Before making changes at this level, be sure you fully understand the nature of the steps you wish to modify and their effect on the automated system.**

To access 3rd LEVEL PROGRAMMING, **press push-button F and, while holding it down, press push-button + for about 10 seconds**. Use of the **F**, **+** and **-** keys is the same as for the other two programming levels.

⚠️ **To enable 3rd level programming see par. 9.1**

3rd LEVEL PROGRAMMING	F + + 10 secs	
D.	**Function**	**Setting**
01	If you enable this function, **automatic closure** occurs after pause time.	ꟿ = automatic closure no = disables
02	If you enable this function, operation is with **two different inputs**: OPEN for opening and CLOSE for closing.	ꟿ = operation on two inputs no = disables
03	Activation of recognition of the levels of the **OPEN and CLOSE inputs (command maintained).** That is to say, the board recognises the level (for example, with OPEN maintained and STOP pressed, on release of the latter the automated system continues to open). If 03 is disabled, the board commands a manoeuvre only if the input is varied.	ꟿ = recognition of level no = recognition of the change in status
04	Activation of DEAD MAN opening (command kept pressed). If the OPEN command is released, operation is stopped.	ꟿ = enables no = disables
05	If you enable this function, an **OPEN command** during opening stops the movement. If parameter 06 is no the system is ready for opening. If parameter 06 is ꟿ the system is ready for closing.	ꟿ = at opening stops movement no = disables
06	If you enable this function, an **OPEN command** during opening reverses movement. If parameters 05 and 06 are no OPEN has no effect during opening.	ꟿ = at opening reverses no = disables
07	If you enable this function, an **OPEN command** during the pause stops operation. If parameters 07 and 08 are no OPEN recharges pause time.	ꟿ = in pause stops movement no = disables
08	If you enable this function, an **OPEN command** during the pause causes closure. If parameters 07 and 08 are no l'OPEN recharges pause time.	ꟿ = in pause closes no = disables
09	If you enable this function, an **OPEN command** during closure, stops operation, otherwise it reverses movement.	ꟿ = stops no = reverses
10	DEAD MAN closing enabled (command kept pressed). If you release the **CLOSE command**, operation is stopped.	ꟿ = enables no = disables
11	If you enable this function, a **CLOSE command** has priority over OPEN, otherwise OPEN has priority over CLOSE.	ꟿ = enables no = disables
12	If you enable this function, a **CLOSE command** commands closure when it is released. Until CLOSE is enabled, the unit remains in closure pre-flashing.	ꟿ = closes when released no = closes at once
13	If you enable this function, a **CLOSE command** during opening stops operation, otherwise the CLOSE command commands reversing immediately or at end of opening (also see parameter 14)	ꟿ = CLOSE stops movement no = CLOSE reverses
14	If you enable this function, and if parameter 13 is no, the **CLOSE command** commands immediate closure at end of opening cycle (memory stores CLOSE). If parameters 13 and 14 are no CLOSE commands immediate closure.	ꟿ = closes at the end of opening no = immediate closure
15	If you enable this function, when the system is stopped by a STOP, **a subsequent OPEN command** moves in the opposite direction. If parameter 15 is no t always closes.	ꟿ = moves in the opposite direction no = always closes
16	If you enable this function, during closing, the **CLOSING SAFETY DEVICES** stop movement and allow resumption of movement when disengaged, otherwise they immediately reverse at opening.	ꟿ = closes at disengagement no = immediate reversing
17	If you enable this function, the **CLOSING SAFETY DEVICES** command closure when disengaged (also see parameter 18).	ꟿ = closure when FSW disengaged no = disables
18	If you enable this function, and if parameter 17 is ꟿ, the unit waits for the opening cycle to end before executing the closing command supplied by the **CLOSING SAFETY DEVICES**.	ꟿ = closes at the end of opening no = disables
19	If you enable this function, during closing, **LOOP2** stops movement and allows it to resume at disengagement, otherwise it immediately reverses at opening.	ꟿ = closure at disengagement no = immediate reversing
20	If you enable this function, **LOOP2** commands closing when it disengages (also see parameter 21).	ꟿ = closes if LOOP2 is free no = disables
21	If you enable this function, and if parameter 20 is ꟿ, the unit waits for the opening cycle to end before executing the closing command supplied by **LOOP2.**	ꟿ = closes at the end of opening no = disables
22	If you enable this function, **LOOP1** commands have priority over **LOOP2** commands	ꟿ = enables

D.	Function	Setting
23	**LOOP 1** commands opening and, at end of opening, closes if released (useful if a vehicle reverses with consecutive loops).If disabled at disengagement of LOOP 1, no closure is performed.	Ꮜ = closes if LOOP1 is free no = disables
24	**NOT USED**	/
25	**A.D.M.A.P function** If you enable this function, **the safety devices operate according to French standards.**	Ꮜ = enables no = disables
26	If you enable this function, during closure, the **CLOSING SAFETY DEVICES** stop movement and, when disengaged, reverse movement, otherwise they reverse immediately.	Ꮜ = stops movement and reverses when disengaged. no = reverses immediately.
27	**NO EFFECT**	/
A1	**PRELAMPEGGIO:** Used for adjusting - in 1 sec steps - the duration of required pre-flashing, from a minimum of 0 to a maximum of 10 seconds	05
A2	**TIMEOUT FOR REVERSING AT CLOSURE:** If you enable this function, during closing, you can decide whether to reverse or stop the movement when time out elapses (closing stroke limit not reached).	Ꮜ = reversal no = block
A3	**OPENING AT POWER UP:** In case of a power cut, when power is restored, an opening operation can be commanded by enabling this function (only if the automated system is not closed, FCC free).	Ꮜ = opening no = stays idle
A4	**TIME FOR ENABLING FAAC CITY PRESSURE SWITCH (J5):** This is the time after which the unit considers the signal originating from the pressure switch as the CLOSING TRAVEL-LIMIT. Can be adjusted from 0 to 59 sec. in 1 second steps. Subsequently, the display changes to show minutes and tenths of a second (separated by a dot), up to a maximum value of 4.1 minutes.	4.0
A5	**DISABLING OF BOLLARD PRESSURE SWITCH AT START OF MOVEMENT:** For a correct operation of the bollard, you have to disable the pressure switch check at start of the upstroke movement (time: 0.4 seconds). Set this function to Ꮜ with bollards.	Ꮜ = pressure switch not active at thrust no = pressure switch always active
A6	**BOLLARD SOLENOID VALVE POWER SUPPLY CHECK (terminals 22-23):** FAAC CITY K - J355: solenoid valve output usually not supplied with power – supplied with power during downstroke. FAAC CITY - J275 standard-J200: standard: solenoid valve output usually supplied with power – not supplied with power during downstroke**.**	Ꮜ = for FAAC CITY K /J355 no = for FAAC CITY/ J275 standard and J200
A7	**POLARITY OF OPENING TRAVEL-LIMIT STOP:** Configuration of the travel-limit stop contact	Ꮜ = NO polarity no = NC polarity
A8	**POLARITY OF CLOSING TRAVEL-LIMIT STOP:** Configuration of the travel-limit stop contact	Ꮜ = NO polarity no = NC polarity
A9	**FAAC CITY PRESSURE SWITCH ENABLE (J5):** Detection of the PRESSURE SWITCH contact as safety device during the first upstroke phase and as limit switch after activation time of FAAC CITY pressure switch (parameter A4):	Ꮜ = Operation for FAAC CITY no = Standard limit switch operation
b0	**SAFETY ONLY PRESSURE SWITCH FOR BOLLARDS (terminals 7 - GND):** Recognition of PHOTOCELL contact as a safety PRESSURE SWITCH. (The contact is ignored at start of movement and at the end of the upstroke)	Ꮜ = Operation of safety only pressure switch no = Operation of standard photocells
b1	**HOLD CLOSE / HOLD OPEN FUNCTION DELAY:** Delay of the activation of the **HOLD CLOSE / HOLD OPEN** function (see parameters b3 and b4). The count starts when the involved limit switch has been reached. If, at the end of the set time, the limit switch is involuntarily disengaged, the **HOLD CLOSE / HOLD OPEN** function is activated. 　　00 = **HOLD CLOSE / HOLD OPEN** function activated immediately 　　01 to 99 = minutes of count before activation of **HOLD CLOSE / HOLD OPEN**	30
b2	**DO NOT MODIFY**	30
b3	**HOLD CLOSE FUNCTION:** If the closing limit switch is involuntarily disengaged, the board commands automatically a movement for 2 sec. to restore the position; if the closing limit switch is not engaged during this period of time, the automated system is activated max. for the operating time "t" see 2nd PROGRAMMING LEVEL	Ꮜ = enables no = disables
b4	**HOLD OPEN FUNCTION:** If the opening limit switch is involuntarily disengaged, the board commands automatically a movement for 2 sec. to restore the position; if the opening limit switch is not engaged during this period of time, the automated system is activated max. for the operating time "t" see 2nd PROGRAMMING LEVEL: (parameter A3 recommended on Ꮜ if parameter b3 set on Ꮜ):	Ꮜ = enables no = disables

D.	Function	Setting
b5	**CONTROL OF BOLLARDS SOLENOID VALVE:** Function to be set to Y for J275 /J355/J200 Function to be set to no for FAAC CITY / FAAC CITY K.	Y = for J275 / J355 / J200 no= FAAC CITY / FAAC CITY K
b6	**EMERGENCY INPUT OPERATING LOGIC:** If you activate this function, the emergency input commands a closure, which is kept until the contact is restored. If the function is not active, the emergency input commands an opening, which is kept until the contact is restored.	Y = active no = not active
St	**AUTOMATED SYSTEM STATUS:** Exit programming, memory storage of data and return to gate status display (see par. 5.1.).	

9.1. CUSTOMISATION OF FUNCTION LOGIC

The 3rd programming level values vary depending on the logic selected at the first programming level.

The 3rd programming level is dedicated to customisation of one of the logics selectable if non-standard behaviour of application should be needed.

Procedure for implementing the modification of one or more 3rd programming level parameters which customise the function of the logic set:

1. Select one of the basic logics most suitable for your requirements.
2. Enter the 3rd programming level and modify the required parameters.
3. Exit the 3rd programming level and select logic Cu.

The Cu logic activates the modifications made at the 3rd level.

The following table contains the default parameters affecting the function logics.

10. PRE-SETTING VALUES

The table below shows the values of the steps at each programming level in relation to the pre-setting chosen

1st LEVEL		Default FAAC1	RESER-VED FOR FAAC	Default FAAC CITY	Default FAAC CITY K	Default J275	Default J355	Default J200
dF	pre-setting	01	02	03	04	05	06	07
bu	BUS	=	=	=	=	=	=	=
Lo	logic	E	AI	rb	rb	rb	rb	rb
PA	pause	20	20	30	30	30	30	30
FO	power	50	50	15	15	50	35	50
FC	power	50	50	50	50	50	50	50
L1	loop 1	no	no	no	no	no	no	no
L2	loop 2	no	no	no	no	no	no	no
H1	loop 1	no	no	no	no	no	no	no
H2	loop 2	no	no	no	no	no	no	no
S1	sensitivity	05	05	05	05	05	05	05
S2	sensitivity	05	05	05	05	05	05	05

Step	A	A1	E	P	PA	Cn	CA	rb	C
01	Y	Y	N	N	Y	N	Y	Y	N
02	N	N	N	Y	Y	Y	Y	Y	Y
03	N	N	N	N	N	N	N	Y	N
04	N	N	N	N	N	N	N	N	Y
05	N	N	Y	N	N	N	N	N	N
06	N	N	Y	N	N	N	N	N	N
07	N	N	N	N	N	N	N	N	N
08	N	N	N	N	N	N	N	N	N
09	N	N	N	N	N	N	N	N	N
10	N	N	N	N	N	N	N	N	Y
11	N	N	N	N	N	N	N	N	N
12	N	N	N	Y	Y	N	N	N	N
13	N	N	N	N	N	N	N	N	N
14	N	N	N	Y	Y	Y	Y	N	N
15	N	N	N	N	N	N	N	N	N
16	N	N	N	Y	Y	N	N	N	N
17	N	Y	N	N	N	N	N	N	N
18	N	Y	N	N	N	N	N	N	N
19	N	N	N	Y	Y	N	N	N	N
20	N	Y	N	Y	Y	Y	Y	N	N
21	N	Y	N	Y	Y	Y	Y	N	N
22	N	N	N	N	N	Y	Y	N	N
23	N	N	N	Y	Y	N	N	N	N
24	N	N	N	N	N	N	N	N	N
25	N	N	N	N	N	N	N	N	N

2nd LEVEL		Default FAAC1	RESER-VED FOR FAAC	Default FAAC CITY	Default FAAC CITY K	Default J275	Default J355	Default J200
bo	boost	Y	Y	Y	Y	Y	Y	Y
PF	pre-flashing	no	CL	no	no	no	no	no
SC	slow closing	no	no	no	no	no	no	no
tr	slow-down	03	03	01	01	01	01	01
t	time out	20	20	12	12	12	12	12
FS	fail safe	no	no	no	no	no	no	no
o1	output 1	00	16	15	15	15	15	15
P1	polarity 1	no	no	no	no	no	no	no
o2	output 2	03	17	14	14	03	03	03
P2	polarity 2	no	no	no	no	no	no	no
o3	output 3	01	01	01	01	02	02	02
P3	polarity 3	no	no	no	no	no	no	no
o4	output 4	00	00	00	00	00	00	00
P4	polarity 4	no	no	no	no	no	no	no
AS	assistance	no	no	no	no	no	no	no
nc	cycles 1.	00	00	00	00	00	00	00
nC	cycles 2.	01	01	01	01	01	01	01
h1	hold	no	no	no	no	no	no	no

ENGLISH

Translation of the original instructions

3rd LEVEL	Default FAAC1	RESERVED FOR FAAC	Default FAAC CITY	Default FAAC CITY K	Default J275	Default J355	Default J200
01	no	y	y	y	y	y	y
02	no	no	y	y	y	y	y
03	no	no	y	y	y	y	y
04	no	no	no	no	no	no	no
05	y	no	no	no	no	no	no
06	y	no	no	no	no	no	no
07	no	no	no	no	no	no	no
08	no	no	no	no	no	no	no
09	no	no	no	no	no	no	no
10	no	no	no	no	no	no	no
11	no	no	no	no	no	no	no
12	no	no	no	no	no	no	no
13	no	no	no	no	no	no	no
14	no	no	no	no	no	no	no
15	no	no	no	no	no	no	no
16	no	no	no	no	no	no	no
17	no	y	no	no	no	no	no
18	no	y	no	no	no	no	no
19	no	no	no	no	no	no	no
20	no	y	no	no	no	no	no
21	no	y	no	no	no	no	no
22	no	no	no	no	no	no	no
23	no	no	no	no	no	no	no
24	no	no	no	no	no	no	no
25	no	no	no	no	no	no	no
26	no	no	no	no	no	no	no
27	no	no	no	no	no	no	no
A1	05	01	05	05	05	05	05
A2	no	no	no	no	no	no	no
A3	no	no	no	no	no	no	no
A4	4.0	4.0	04	04	4.0	4.0	05
A5	no	no	y	y	y	y	4
A6	no	no	no	y	no	y	no
A7	no	no	y	y	no	no	no
A8	no	no	no	y	no	no	no
A9	no	no	y	y	no	no	no
b0	no	no	no	no	y	y	y
b1	00	00	05	05	05	05	05
b2	30	30	30	30	30	30	30
b3	no	no	y	y	y	y	y
b4	no	no	no	no	no	no	no
b5	no	no	no	no	y	y	y

11. NOTES

12. INTERLOCK CONNECTION
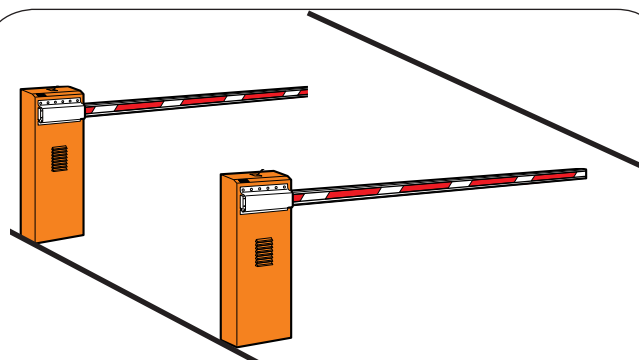
The interlock function controls two in-line barriers (see fig.) so that the opening of a barrier is interlocked with the closure of the other barrier.
The operation can be one-way or bidirectional
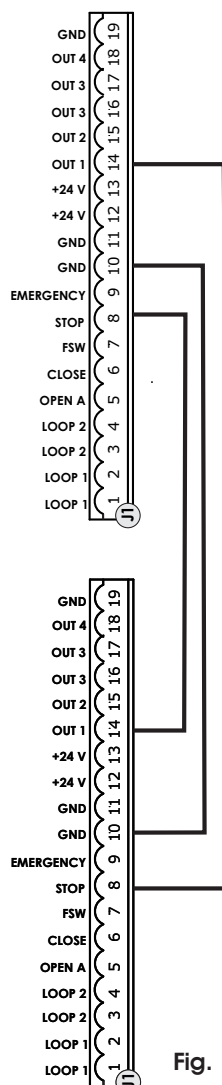
For in-line barriers, enable OUT1 INTERLOCK on parameter 18 (see 2nd PROGRAMMING LEVEL) on both boards and connect them as shown in fig. 18

GND 19
OUT 4 18
OUT 3 17
OUT 3 16
OUT 2 15
OUT 1 14
+24 V 13
+24 V 12
GND 11
GND 10
EMERGENCY 9
STOP 8
FSW 7
CLOSE 6
OPEN A 5
LOOP 2 4
LOOP 2 3
LOOP 1 2
LOOP 1 1

GND 19
OUT 4 18
OUT 3 17
OUT 3 16
OUT 2 15
OUT 1 14
+24 V 13
+24 V 12
GND 11
GND 10
EMERGENCY 9
STOP 8
FSW 7
CLOSE 6
OPEN A 5
LOOP 2 4
LOOP 2 3
LOOP 1 2
LOOP 1 1

Fig. 18

13. FUNCTION LOGIC TABLES

Tab. 1/a

LOGIC "A"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW	LOOP 1	LOOP 2
CLOSED	opens and re-closes after pause time	no effect	no effect (opening disabled)	no effect	opens and re-closes after pause time	no effect
OPENING	no effect	reverses immediately at closing	stops operation	no effect	no effect	no effect
OPEN IN PAUSE	recharges pause time	closes	stops operation	recharges pause time (closing disabled)	recharges pause time	recharges pause time (closing disabled))
CLOSING	reverses immediately at opening	no effect	stops operation	reverses immediately at opening	reverses immediately at opening	reverses immediately at opening
STOPPED	closes	closes	no effect (opening and closing disabled)	no effect (closing disabled)	opens and re-closes after pause time	no effect (closing disabled)

Tab. 1/b

LOGIC "A1"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW	LOOP 1	LOOP 2
CLOSED	opens and re-closes after pause time	no effect	no effect (opening disabled)	no effect	opens and re-closes after pause time	no effect
OPENING	no effect	reverses immediately at closing	stops operation	closes immediately at end of opening	no effect	closes immediately at end of opening
OPEN IN PAUSE	recharges pause time	closes	stops operation	closes	recharges pause time	closes
CLOSING	reverses immediately at opening	no effect	stops operation	reverses immediately at opening	reverses immediately at opening, closes at pause end	reverses immediately at opening, re-closes when opening finished
STOPPED	closes	closes	no effect (opening and closing disabled)	no effect (closing disabled)	opens and re-closes after pause time	no effect (closing disabled)

Tab. 1/c

LOGIC "E"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW	LOOP 1	LOOP 2
CLOSED	opens	no effect	no effect (opening disabled)	no effect	opens	no effect
OPENING	stops operation	reverses immediately at closing	stops operation	no effect	no effect	no effect
OPEN	closes	closes	no effect (closing disabled)	no effect (closing disabled)	closes	no effect (closing disabled)
CLOSING	reverses immediately at opening	no effect	stops operation	reverses immediately at opening	reverses immediately at opening	reverses immediately at opening
STOPPED	closes	closes	no effect (opening and closing disabled)	no effect (closing disabled)	opens	no effect (closing disabled)

➲ In brackets the effects on the other active pulse inputs

Tab. 1/d

LOGIC "P"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW	LOOP 1	LOOP 2
CLOSED	opens	no effect	no effect (opening disabled)	no effect	opens and at end of opening closes if disengaged	no effect
OPENING	no effect	closes immediately at end of opening	stops operation	no effect	no effect	closes immediately at end of opening
OPEN	no effect (closing disabled)	closes	no effect (closing disabled)	no effect (closing disabled)	prevents closure	closes
CLOSING	reverses immediately at opening	no effect	stops operation	stops and continues to close on release	reverses immediately at opening and closes at end of opening if disengaged	stops and continues to close on release
STOPPED	opens	closes	no effect (opening and closing disabled)	no effect (closing disabled)	opens and at end of opening closes if disengaged	no effect (closing disabled)

Tab. 1/e

LOGIC "PA"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW	LOOP 1	LOOP 2
CLOSED	opens and re-closes after pause time	no effect	no effect (opening disabled)	no effect	opens and at end of opening closes if disengaged	no effect
OPENING	no effect	closes immediately at end of opening	stops operation	no effect	no effect	closes immediately at end of opening
OPEN IN PAUSE	recharges pause time	closes	stops operation	recharges pause time (closing disabled)	recharges pause time	closes
CLOSING	reverses immediately at opening	no effect	stops operation	stops and continues to close on release	reverses immediately at opening and closes at end of opening if disengaged	stops and continues to close on release
STOPPED	opens and re-closes after pause time	closes	no effect (opening and closing disabled)	no effect (closing disabled)	opens and at end of opening closes if disengaged	no effect (closing disabled)

Tab. 1/f

LOGIC "Cn"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW	LOOP 1	LOOP 2
CLOSED	opens	no effect	no effect (opening disabled)	no effect	opens	no effect
OPENING	no effect	closes immediately at end of opening	stops operation	no effect	no effect	closes immediately at end of opening
OPEN	no effect (closing disabled)	closes	no effect (closing disabled)	no effect (closing disabled)	no effect	closes
CLOSING	reverses immediately at opening	no effect	stops operation	reverses at opening and closes after pause time	reverses immediately at opening	reverses immediately at opening
STOPPED	opens	closes	no effect (opening and closing disabled)	no effect (closing disabled)	opens	no effect (closing disabled)

● In brackets the effects on the other active pulse inputs

Tab. 1/g

LOGIC "CA"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW	LOOP 1	LOOP 2
CLOSED	opens and re-closes after pause time	no effect	no effect (opening disabled)	no effect	opens and re-closes after pause time	no effect
OPENING	no effect	closes immediately at end of opening	stops operation	no effect	no effect	closes immediately at end of opening
OPEN IN PAUSE	recharges pause time	closes	stops operation	recharges pause time (closing disabled)	recharges pause time	closes
CLOSING	reverses immediately at opening	no effect	stops operation	reverses at opening and closes after pause time	reverses immediately at opening	reverses immediately at opening
STOPPED	opens and re-closes after pause time	closes	no effect (opening and closing disabled)	no effect (closing disabled)	opens and re-closes after pause time	no effect (closing disabled)

Tab. 1/h

LOGIC "rb"	PULSES					
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW	LOOP 1	LOOP 2
CLOSED	opens and re-closes after pause time	no effect	no effect (opening disabled)	no effect	opens and re-closes after pause time	no effect
OPENING	no effect	reverses immediately at closing	stops operation	no effect	no effect	no effect
OPEN IN PAUSE	recharges pause time	closes	stops operation	recharges pause time (closing disabled)	recharges pause time	recharges pause time (closing disabled)
CLOSING	reverses immediately at opening	no effect	stops operation	reverses immediately at opening	reverses immediately at opening	reverses immediately at opening
STOPPED	opens and re-closes after pause time	closes	no effect (opening and closing disabled)	no effect (closing disabled)	opens and re-closes after pause time	no effect (closing disabled)

Tab. 1/i

LOGIC "C"	MAINTAINED COMMANDS		PULSES			
AUTOMATED SYSTEM STATUS	OPEN A	CLOSE	STOP	FSW	LOOP 1	LOOP 2
CLOSED	opens	no effect	no effect (opening disabled)	no effect	no effect	no effect
OPENING	/	no effect	stops operation	no effect	no effect	no effect
OPEN	no effect (closing disabled)	closes	stops operation	no effect	no effect (closing disabled)	no effect (closing disabled)
CLOSING	reverses immediately at opening	/	stops operation	Stops operation	stops operation	stops operation
STOPPED	opens	closes	no effect (opening and closing disabled)	no effect (closing disabled)	no effect (closing disabled)	no effect (closing disabled)

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