INSTRUCTIONS FOR USE OF THE TURNSTILE TYPE:

ROUND

(ROUND-J, ROUND-E, ROUND-F)
With electronics MLU5

1. INTRODUCTION

This instruction guide is intended for the operating employees and contains all the necessary information to successfully run an installed and operational turnstile. It is very important that the operator is thoroughly acquainted with this instruction guide prior to the device usage.

The installation of the turnstile, connection to the mains supply or the connection of the electrical control circuits of the turnstile are not a subject of this guide.

A Troubleshooting chapter which serves to help you analyze malfunctions before contacting the service department at COMINFO a.s. is a part of this guide. Analyzing malfunctions with this chapter will help to quickly eliminate the problem and put the turnstile into operation.

The Instructions employ the following categories of safety instructions:

DANGER!
Mechanical danger. Omission of these instructions may cause personal injuries or device damage.

WARNING!
Important information or procedure.

NOTICE!
Information or procedure recommending how to use the device or its equipment optimally and thus prolong its lifetime, prevent potential damage and optimize work in relation to the safety standards.

2. PURPOSE - USE

The **ROUND** turnstile is a device that enables to control the passage of persons and to separate areas with free movement from areas accessible only to persons with defined access rights. In general, it is used to control the movement of persons in various facilities such as:

- Industrial businesses
- State offices
- Schools
- Transport systems
- Airports
- Sports and entertainment centres
- Administration buildings and complexes
- Chemical industries
- Power plants

IT IS THE OPERATOR'S OBLIGATION TO ENSURE THAT PERSONS WHO WILL BE USING THIS TURNSTILE ARE WELL ACQUAINTED AND EDUCATED ABOUT USAGE OF THIS DEVICE ACCORDING TO THIS MANUAL.

This device may be used by children aged 8 years and older and persons with reduced physical, sensory or mental abilities or lack of experience and knowledge, provided they are under supervision or have been instructed in the safe use of the device and understand the potential dangers. Children must not play with the device. Cleaning and maintenance carried out by the user must not be carried out by unsupervised children. When a person under 8 years of age passes through the turnstile, it is necessary to be accompanied by a person over 18 years of age to ensure safe passage.

3. TECHNICAL DESCRIPTION OF THE TURNSTILE

The ROUND type turnstile consists of a rotary gate with a vertical axis of rotation and an internal barrier. For turnstiles that have wings spaced by 120°, the turnstile also includes an external barrier. Turnstiles that have wings spaced by 90° have an external barrier as an optional accessory or the external barrier can be replaced by placing the turnstile against a suitable object (e.g. reception). It is not advisable to install the turnstile directly against the wall of a room or building as this will significantly reduce the width of the passage in the shoulder area of the person passing through.

The turnstile is an electromechanical device, its essential part is a compact motor drive unit consisting of an electric motor, planetary gearbox, electromechanical brake and speed sensor.

The motor unit is supplied in a **FAIL-SAFE** variant (in case of power supply failure the turnstile is unlocked for free passage).

The turnstile is controlled by a programmable control electronics which blocks or releases the rotary gate depending on the input control signals. The electronics can control the rotation speed depending on speed of the passing person. The electronics output signals provide information on the operating states and the passage of persons for evaluation by the superior system and allows you to monitor the functional states of the turnstile via PC.

During maintenance or when replacing parts, the turnstile must be disconnected from the power supply.

All service works may be only carried out by a COMINFO service department employee or worker, who possess the certificate of installation schooling from the COMINFO Company.

Unprofessional manipulation can lead to damaging the turnstile or endangering people.

The ROUND type turnstiles are manufactured in the following standard versions:

ROUND-J (5 versions): ROUND-J, ROUND-J-S, ROUND-J-90-U, ROUND-J-90, ROUND-J-90-DUO

ROUND-E (2 versions): ROUND-E, ROUND-E-S

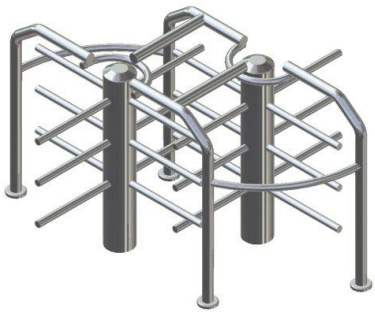
ROUND-F (1 version): ROUND-F

4. BASIC TECHNICAL PARAMETERS

4.1. COMMON TECHNICAL PARAMETERS

- Standard range of operating temperatures: **+10°C**… **+50°C**
- Standard range of operating temperatures: **-25°C**… **+50°C**
  (when using heating - optional accessory)
- Range of storage temperatures: **0°C**… **+50°C**
- Maximum relative humidity: **80%** (non-aggressive environment)
- Use in an interior or exterior with a roof
- MCBF: **3 000 000** cycles (number of cycles prior to error)
- The level of sound pressure generated by the device shall not exceed **70 dB** (A).
- Number of passages ranges from **15 to 30 persons** per minute depending on the type of drive unit, mode of operation and method of identification of passing persons. In case of the ROUND-J-90-DUO turnstile which is fitted with two rotary gates, the number of passages ranges between **30 to 60 persons** per minute.
- Powered by a **13VDC±**10% voltage from an external source that meets the SELV power supply network requirements. The power supply is not included in the turnstile.
- Power consumption depends on the type of the drive unit, mode of operation and optional accessories used:
  3W… minimum input power in standby (idle) mode without optional accessories
  50W… maximum input power including the optional accessories
  The input power is double for the ROUND-J-90-DUO turnstile
- Materials the turnstile is made from:
  - stainless-steel materials are standardly of a brush type AISI 304
  - Inner steel parts are galvanized or blackened
  - Outer rotating casing: ø168mm stainless-steel tube (standard) or ø204mm
  - Upper lid: 1mm stainless-steel sheet
  - For other materials, see the *Table of basic technical parameters*.

4.2. TABLE OF BASIC TECHNICAL PARAMETERS

		Number of wings (angle between the wings)	Material of the wing	Material of the barriers	Intended environment
ROUND-J		3 (120°)	Handles from ø30mm stainless-steel tube	ø60mm stainless-steel tube with inner partition made of ø40mm tube	Interior / Exterior [1]
ROUND-J-S		3 (120°)	Handles from ø30mm stainless-steel tube	ø50mm stainless-steel tube with inner partition made of ø40mm tube	Interior / Exterior [1]
ROUND-J-90-U		4 (90°)	Handles from ø30mm stainless-steel tube	ø60mm stainless-steel tube with inner partition made of ø40mm tube	Interior / Exterior [1]
ROUND-J-90		4 (90°)	Bar arms from ø40mm stainless-steel tube	ø60mm stainless-steel tube with inner partition made of ø40mm tube	Interior / Exterior [1]
ROUND-J-90-DUO		4 (90°)	Bar arms from ø40mm stainless-steel tube	ø60mm stainless-steel tube with inner partition made of ø40mm tube	Interior / Exterior [1]

		Number of wings (angle between the wings)	Material of the wing	Material of the barriers	Intended environment
ROUND-E		3 (120°)	8mm tempered safety glass with handle made from ø22mm stainless-steel tube	ø60mm stainless-steel tube with inner partition made of ø40mm tube	Interior
ROUND-E-S		3 (120°)	8mm tempered safety glass with handle made from ø22mm stainless-steel tube	ø50mm stainless-steel tube with inner partition made of ø40mm tube	Interior
ROUND-F		3 (120°)	8mm tempered safety glass with handle made from ø22mm stainless-steel tube	ø60mm stainless-steel tube with inner filling from 8mm tempered safety glass	Interior

[1]) The construction design of this type of turnstile ensures its increased resistance to the weather conditions and splashing water up to a height of 1 m with the exception of pressure water.

5. GENERAL DESCRIPTION AND BASIC DIMENSIONS

The dimensions and shape of the wings and barriers of individual turnstiles depend on the required passage gate and are adapted to the required architectural design of the installation. In this chapter you will find dimensions of the standard series of the ROUND type turnstiles. Dimensions in brackets are valid for turnstiles with outer rotating casing made of ø204mm tube.

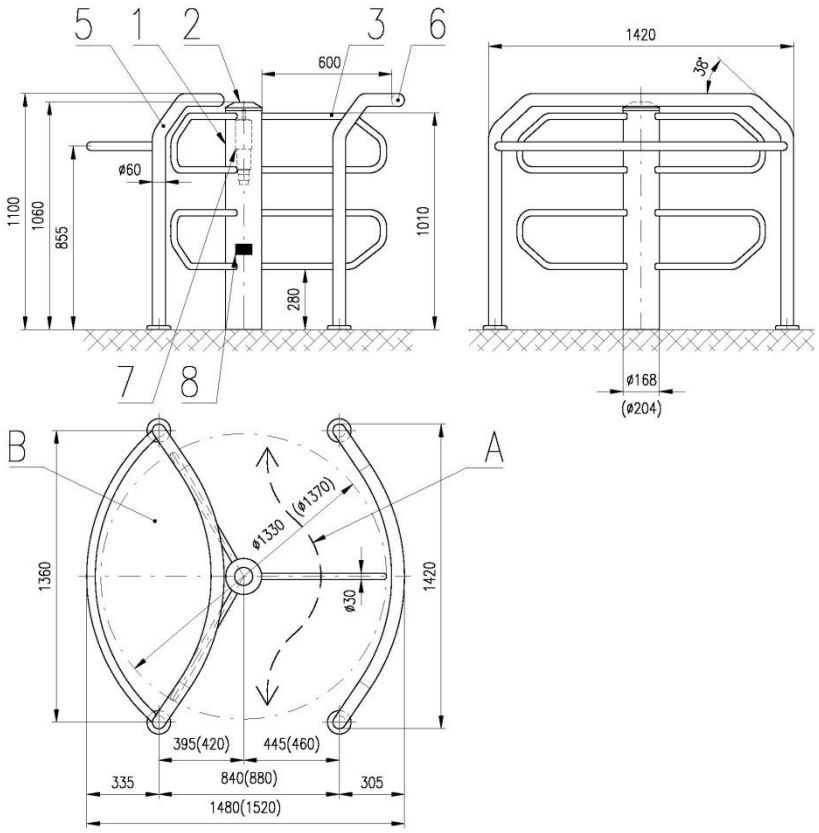
CAPTIONS FOR THE FIGURES:

1. Outer rotating casing
2. Upper lid
3. Wing of the rotary gate
4. Handle of the glass wing
5. Inner barrier
6. Outer barrier
7. Motor drive unit with control electronics
8. Product label location (inside the turnstile)

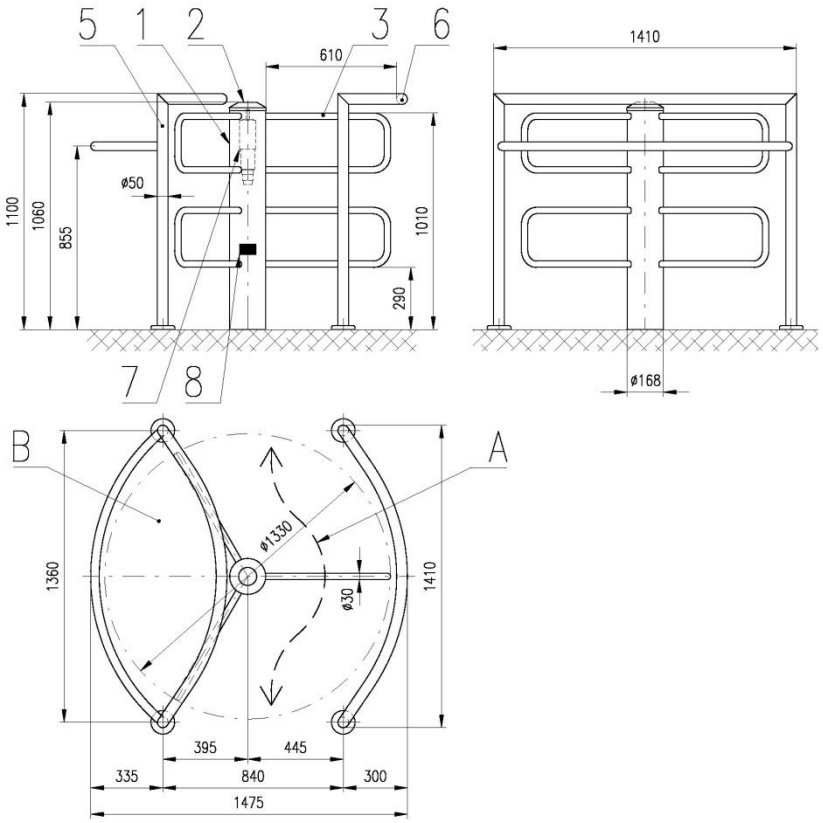
A. Passage zone

B. Forbidden zone

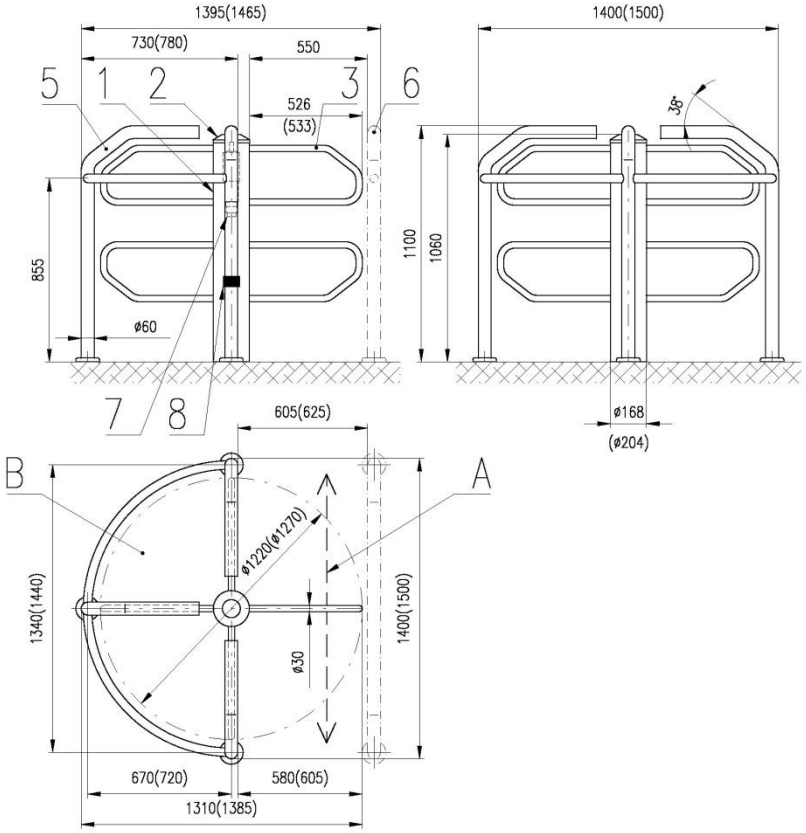
5.1. ROUND-J



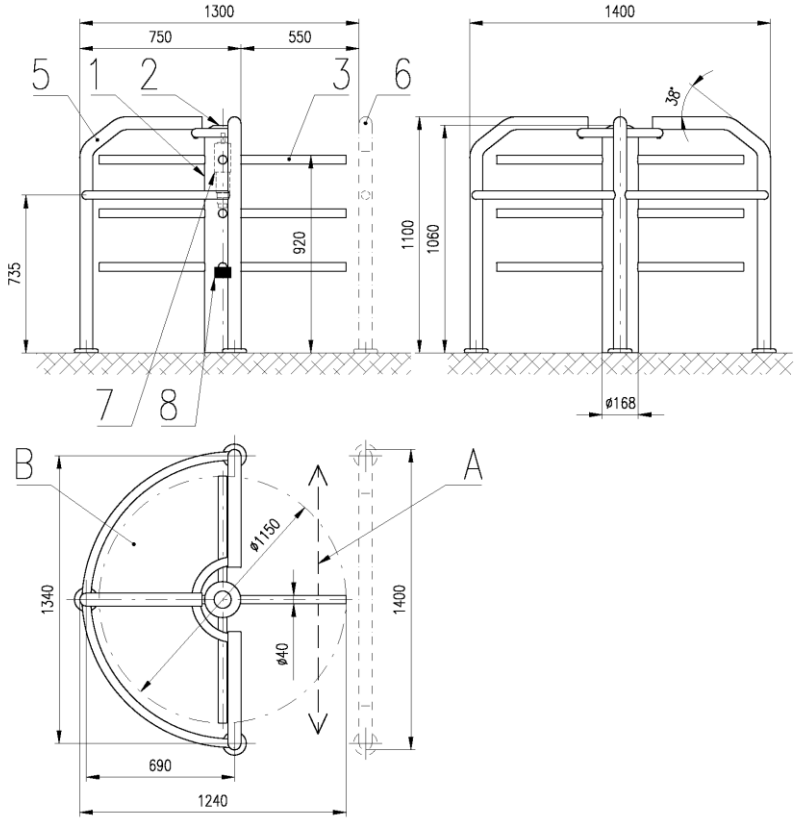
5.2. ROUND-J-S



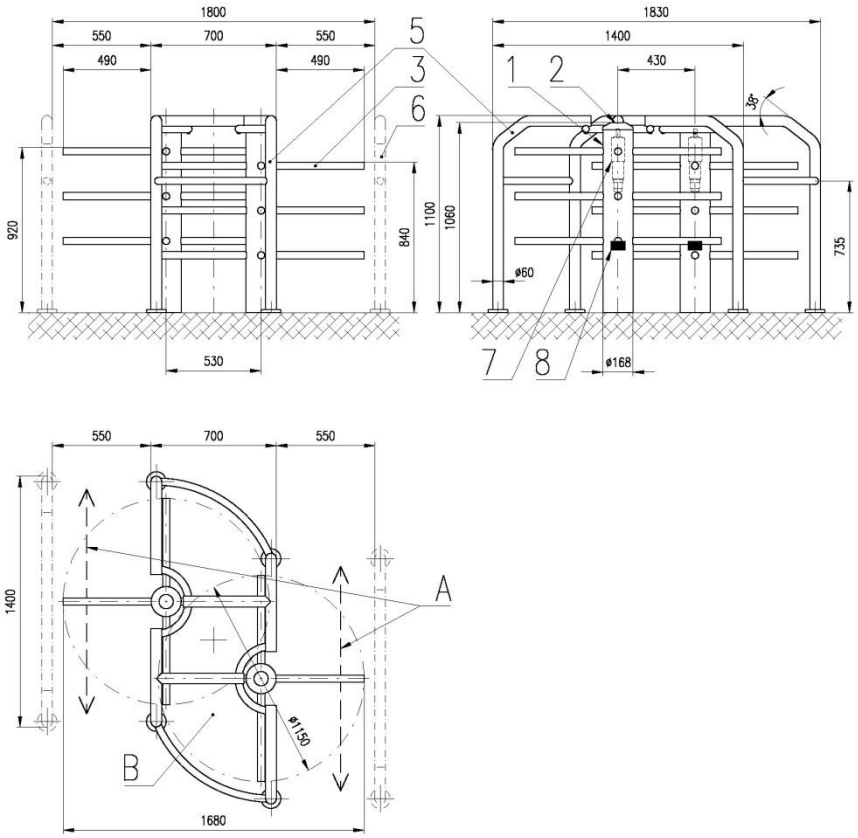
5.3. ROUND-J-90-U



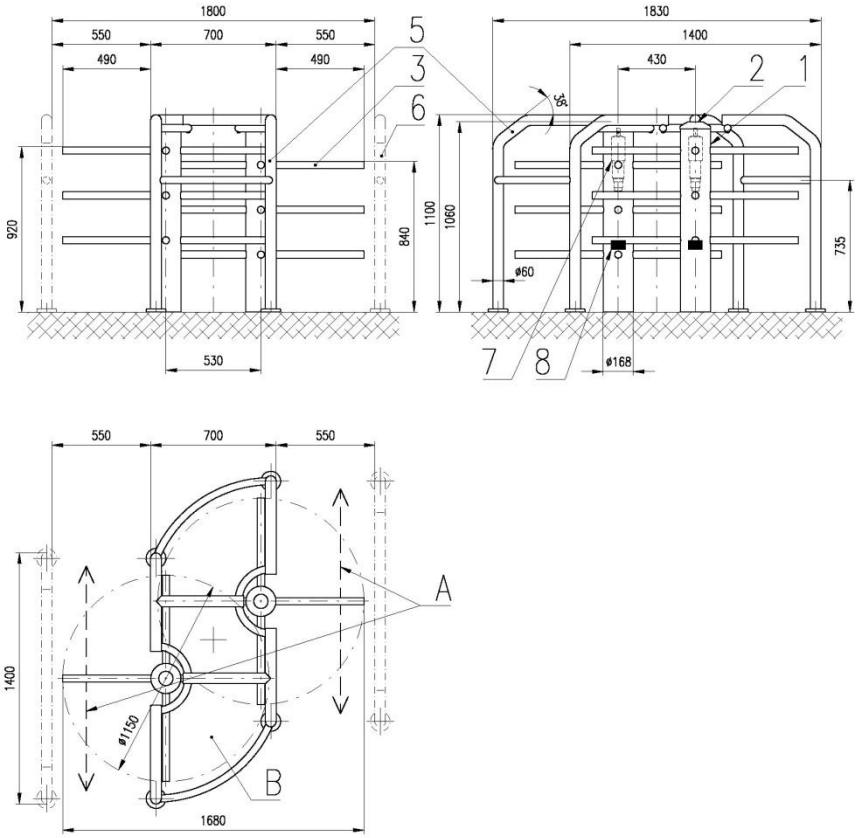
5.4. ROUND-J-90



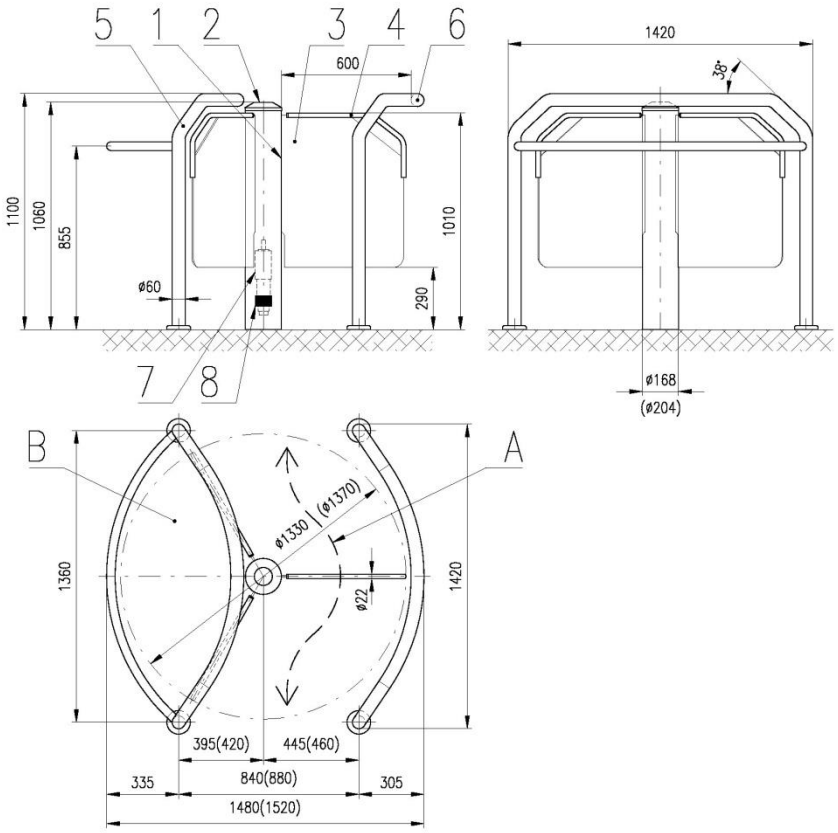
5.5. ROUND-J-90-DUO-Right



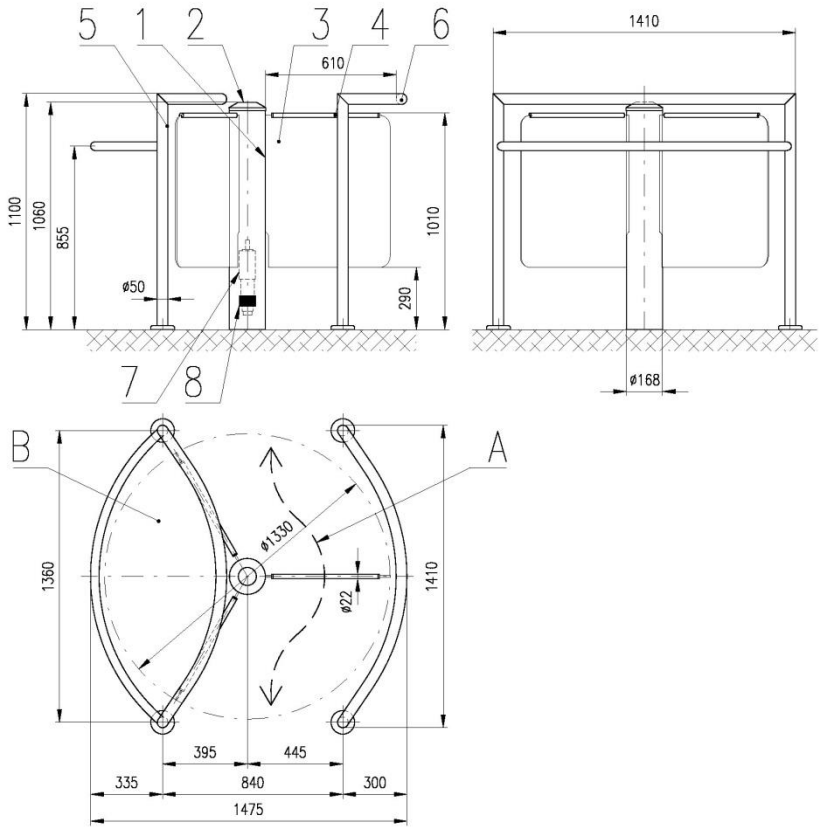
5.6. ROUND-J-90-DUO-Left



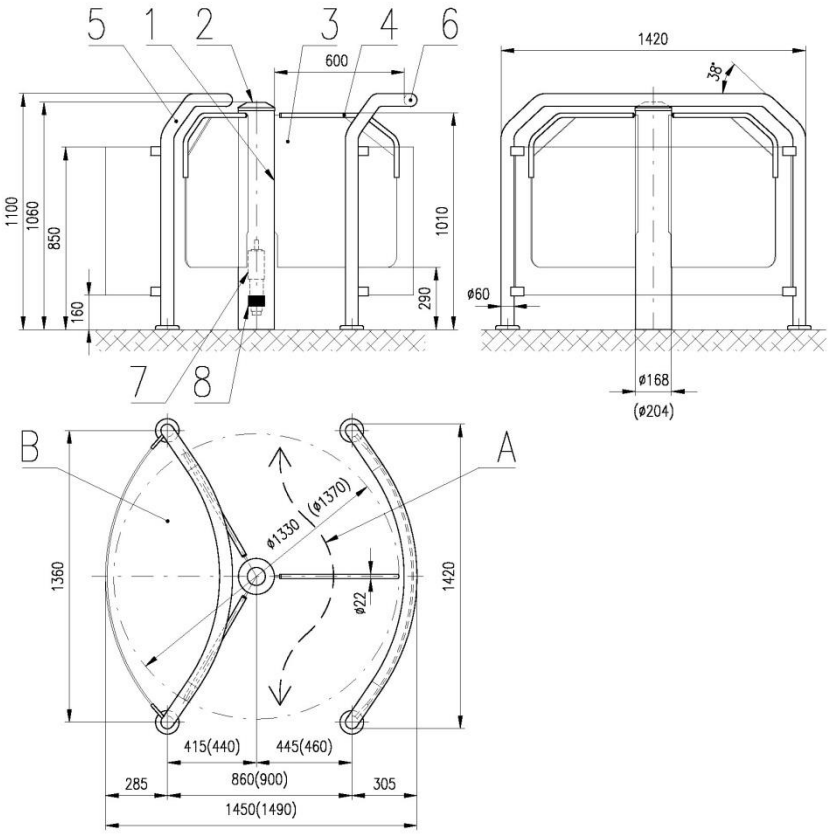
5.7. ROUND-E



5.8. ROUND-E-S



5.9. ROUND-F


5 1 2 3 4 6
600
1420
38°
1100
1060
850
160
1010
290
ø60
ø168
(ø204)
7 8
B
A
ø1330
(ø1370)
ø22
1360
1420
415(440)
445(460)
285
860(900)
305
1450(1490)

6. OPTIONAL ACCESSORIES

- **Heating:**
  Automatic heating of the drive unit for installations with operating temperature below +10°C.

- **Touch Panel:**
  - Remote cable control and display of statuses of three to four turnstiles from one control panel
  - Activation of the following functions:
  Passage / Permanent Passage / Blocking / On / Off / EMERGENCY

- **Easy Touch:**
  - Remote cable control and display of statuses of any number of turnstiles from one control panel
  - Activation of the following functions:
  Passage / Permanent Passage / Blocking / On / Off / EMERGENCY

- **Backup accumulator:**
  The accumulator will ensure operation of the turnstile for a minimum of 6 hours of continuous operation in the event of a power failure.

- **Columns and holders for accessories**
  Columns and holders for placement of identification system sensors or other accessories

- **Identification systems:**
  Any type of identification terminal with relay / OC outputs can be connected to the turnstiles for the purpose of identification of a passing person.

- **TCONF:**
  Configuration SW for setting the parameters and diagnostics of the turnstile.
  – see manual: *Instructions for the TCONF application*

- **TMON:**
  SW application for controlling and monitoring of the turnstile's activity.
  - see manual: *Instructions for the TMON application*

- **Anchoring bases:**
  For anchoring into interlocking paving or sandwich floor.

- **Guidance barriers:**
  For correct function of the turnstiles with wings spaced by 90°, it is desirable to add guidance barriers with minimal length of 1000mm or position the turnstile near a suitable object (e.g. reception desk).

7. INSTALLATION OF THE TURNSTILE

Turnstile is supplied partially disassembled and its installation requires technical knowledge, knowledge of technological assembly procedure and skillfulness.

Turnstile can only be installed by a COMINFO service department employee or worker, who possess the certificate of installation schooling from the COMINFO Company.

Connection to the mains power supply may only be performed by an authorized person with the appropriate qualifications.

The operator shall ensure that the supply line is equipped with a safety device to disconnect all poles (circuit breaker, residual-current protective device). The choice of the circuit breaker value must comply with the circuit selectivity. Recommended residual-current protective device is for example HAGER CDA 216D, 16A/I_{Δ}N=0,03A.

8. PUTTING THE TURNSTILE INTO OPERATION - INITIALIZATION OF THE TURNSTILE

Turnstile can only be put into operation by a COMINFO service department employee or worker, who possess the certificate of installation schooling from the COMINFO Company.

RISK OF INJURY DURING THE TURNSTILE INITIALIZATION

While putting the turnstile into operation it is necessary to perform initialization and calibrate the rotation of the turnstile. The turnstile revolves at maximal speed during the initialization. Workers performing the initialization are obliged to ensure that the revolving turnstile does not injure anybody.

9. DESCRIPTION OF THE TURNSTILE OPERATION

Description of operation during a standard passage:

If the input signal for releasing the passage is received, the control electronics waits for a configurable period of time, before starting the rotation, which is done by the passing person using slight pressure on the wing of the rotary gate in the released direction. The angle of automatic deflection of the wing in the passage direction (by deflecting the wing, the turnstile signals it is possible to pass through) can be also set through a parameter. The turnstile will automatically adjust the rotary gate speed to the speed of the passing person depending on the force the person is applying on the rotary gate wing. If a passing person speeds up during passage or slows down the passage by pushing or braking the turnstile rotary gate, this change is always evaluated and the turnstile adjusts the speed of the passage. If a passing person does not push the rotary gate wing but pulls instead, the rotary gate will start to rotate at a slow speed in the correct direction, thus indicating to the passing person the correct logic of the passage. After reaching the home position (passage completed), the rotation is gradually braked and the rotary gate will stop. Sound signalization is active during the entire duration of the passage.

When passing through the turnstile, it is necessary to take increased caution with regard to movement in the narrowed space limited by the wings of the rotary gate. In particular, be especially cautious of adjusting the speed of the passing person to the movement of the wings in the lower limbs area so that they do not come into contact with the bottom edge of the wing. The passing person must adjust not only the speed but especially the size and length (intensity) of individual steps in the limited area of lower limbs.

Description of operation in case of unexecuted passage:

If the input signal to release the passage is received and the wing of the rotary gate is not pushed in an adjustable period of time, the release is terminated and the turnstile enters an idle mode (waiting for another signal to release the passage). If the parameter of automatic deflection of the wing in the direction of passage is set, the wing returns to the idling position. The audio signaling is active during this entire time and the reception of any input signals is blocked.

Description of operation in case of hitting an obstacle or jamming:

If the rotary gate is not able to complete the rotation due to an obstacle in the path or due to a mechanical failure, the electronics evaluates this condition, the speed is reduced to a minimum and the turnstile continuously tries to turn the rotary gate to the home position with minimum force. The audio signaling is active during this entire time.

Description of operation in case of an attempt to change direction during the passage:

In the event of an attempt to forcibly change the direction of rotation during passage (an attempt of a passing person to return or an attempt of a person to push through from the other direction), the rotary gate is blocked for a few seconds and then attempts to automatically rotate in the original direction to the home position. If the turnstile is blocked this way several times (adjustable) during one passage, it enters a fault mode in which it is blocked in this position for an adjustable period of time. After this time has elapsed, the rotary gate automatically rotates to the home position. It is possible to unblock the turnstile only by another control signal during this time period. Regardless of the signal direction, the turnstile will automatically finish the step in the original direction. The audio signaling is active during the entire time of blocking.

Description of operation when activating a permanent release of the desired direction:

This function is used for passage gates where specific leaving persons are not registered. When activating this function, the turnstile in the free direction behaves the same way as during a standard passage, but no sound signalization is activated during the passage. The superior system is informed of the number of passages in the free direction, but the turnstile behaves neutrally.

Description of operation in case of an attempt for unauthorized passage:

If an input signal to release the passage is not received and the function of permanently release passage in given direction is not active, the bar arm of the rotary gate will slightly rotate if pushed, which is evaluated as an unauthorized passage attempt and the turnstile will be blocked for a few seconds (adjustable time). The turnstile then attempts to automatically return the rotary gate to its home position. If the pressure on the rotary gate bar arm persists, the turnstile will enter a fault mode after an adjustable number of braking and turning movements, it will remain blocked in this mode for an adjustable period of time. After this time has elapsed, the rotary gate will return to its home position. During this time, the turnstile can only be unblocked by a following control signal. After activating the signal, the rotary gate will finish rotation to the idle position according to the direction of the signal.

Description of operation in case of power supply loss:

In case of power supply failure of the turnstile for any external cause, the turnstile will be released in both directions so the turnstile can be freely rotated. If the power supply voltage is lost during passage, the turnstile will stop turning and the person must finish the passage by pushing the wing of the rotary gate.

Full functionality of the turnstile in case of power supply loss may be ensured by using a backup power supply or a backup accumulator located at the control electronics. If an incorrectly rated power supply is used, the control electronics will not allow the turnstile to start.

Description of operation in case of reduced supply voltage:

This state may occur in case of usage of soft or underrated power supply, when using a supply line with an insufficient cross-section, when running on backup accumulator during power failure, or in case of malfunction in the installation caused by contact resistance in an untightened clamp. The turnstile control electronics measures the supply voltage based on the current consumption. Because of that, it is able to analyze these states. When the supply voltage drops, the electronics tries to adapt the turnstile operation to standard behavior.

10. MAINTENANCE

10.1. MAINTENANCE OF THE TURNSTILE SURFACE

- In terms of comfort and perfect look, it is necessary to maintain general cleanliness of the whole device with cleaning agents intended for this purpose.
- It is necessary to treat the glass parts of the turnstile with general window cleaning products.
- Stainless surfaces should be treated with cleaning agents intended for this purpose. These products are recommended by the manufacturer:
    - RAPELLE - GLASS & STAINLESS-STEEL SEAL & PROTECT
    - KIM-TEC – EDELSTAHLREINIGERSPRAY (850001)
    - WÜRTH – EDELSTAHLPFLEGESPRAY (0893121)
    - WÜRTH – EDELSTAHLREINIGUNGSTUCH (089312130)

No solvents, lyes and caustics must be used to clean any dirt.
The turnstile must not come into contact with detergents containing chlorine.

The turnstile cannot be cleaned with pressure cleaners (pressure water)

10.2. MAINTENANCE OF THE MOTOR DRIVE UNIT

The technical solution of the motor drive unit requires no special care during operation due to its method of lubrication.

Manufacturer recommends to perform initialization (see *Putting the turnstile into operation – Initialization of the turnstile*) after running-in of the drive unit or in case the turnstile does not operate correctly.

This can only be done by a COMINFO service department employee or worker, who possess the certificate of installation schooling from the COMINFO Company.

10.3. PROPHYLACTIC CHECK

It is necessary to perform a prophylactic check of the turnstile once a year to maintain the warranty, it consists of following procedures:

- Complete diagnostics of all electronic systems
- Inspection of the wiring and connection of all devices
- Inspection and tightening of all bolted connections
- Inspection and adjustment of drive mechanisms and checking the alignment
- Cleaning the interior of the turnstile
- Testing all the turnstile functions

Prophylactic check can only be done by a COMINFO service department employee or worker, who possess the certificate of installation schooling from the COMINFO Company.

11. TROUBLESHOOTING

For quick removal of your turnstile's malfunction, it is necessary to fill out the *Claim Report Form* **when contacting the Service Department of the COMINFO Company. The report should indicate serial number of the turnstile in compliance with the production label, and a description of the malfunction. Along with the completed form, send a video which clearly shows the occurring malfunction. The** *CLAIM REPORT FORM* **can be found at the end of these Instructions.**

MALFUNCTION	POSSIBLE CAUSE	REMEDY	Difficulty level
The turnstile does not respond to activation of input control signals and cannot be passed through	Processor application in non-standard state or power supply failure	Check the power supply and reset the turnstile by turning the power supply off and on. If this procedure does not help, contact the COMINFO Service Department	Customer / COMINFO Service Department
The turnstile can be passed through without activating the control signal	Fault of the turnstile power supply or electromechanical brake malfunction	Checking the supply voltage or replacement of the brake by the COMINFO Service Department	Customer / COMINFO Service Department
Turnstile doesn't adjust to the passage speed, runs irregularly, accelerates or decelerates by itself	Correct initialization wasn't executed or mechanical properties of the drive unit changed after running-in	New turnstile initialization is necessary	COMINFO Service Department
The turnstile does go all the way to the home position after passage and can only be passed through with continuous pressure on the bar arm of the rotary gate	Motor malfunction	Replace the motor	COMINFO Service Department
When pushed, the turnstile rotates by half a step and remains in the intermediate position, where it locks	The home position sensor malfunction	The home position sensor replacement	COMINFO Service Department
The turnstile keeps rotating and searches for the home position	The home position sensor malfunction	The home position sensor replacement	COMINFO Service Department
Turnstile can be freely rotated after activating the control signal	Malfunction of the magnetic encoder that reads the turnstile speed	Replace the magnetic encoder	COMINFO Service Department

In case of a persisting malfunction, it is necessary to fill out the *CLAIM REPORT FORM* and send it to the address of the manufacturer. For quick removal of your malfunction, please describe it thoroughly as per the following example.

EXAMPLE - CLAIM REPORT FORM

Product label information:

Name – type:	*ROUND-J-168*

Serial number:	*0*	*9*	*0*	*0*	*1*	*2*	*3*	*4*	*5*	*6*

Information on the control electronics (MLU 5):

Serial number:	*5*	*4*	*3*	*0*	*0*	*0*	*4*	*6*	*7*

Your request:

Wing of the turnstile is opening and closing during passage, but it is possible to freely move it.
We checked the power supply voltage.
After turning off and on the supply voltage initialization of the turnstile takes place, but the malfunction persists.
We are guessing an electrical malfunction of the brake as per the previous table.
We are attaching a video of initialization a malfunction simulation.

Customer:	*Company Ltd*		
Address:	*11 Business Park, London SW12 9RT, United Kingdom*		
Contact person:	*Jack Smith*	Telephone:	*4420 7777 7777*
E-mail:	*jack@company.com*	Date:	*31. 1. 2022*

CLAIM REPORT FORM

Product label information:

Name – type:

Serial number:

Information on the control electronics (MLU 5):

Serial number:

Your request:

Customer:

Address:

Contact person:

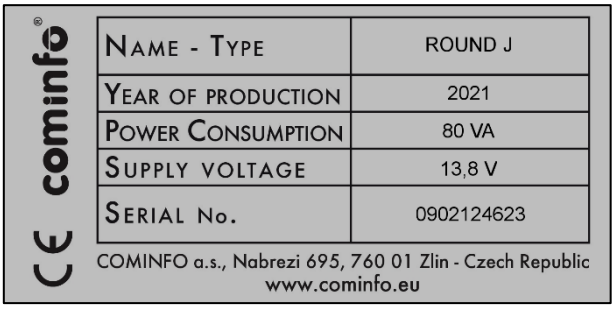
Telephone:

E-mail:

Date:

12. PRODUCT LABEL LOCATION

The product label is always placed in the interior side of the turnstile. Its placement is shown in the chapter *General description and basic dimensions*. To access the product label, we must remove the outer rotating casing of the turnstile. This can only be done by a COMINFO service department employee or worker, who possess the certificate of installation schooling from the COMINFO Company.



Description of the access to the product label for individual REXON turnstiles:

ROUND-J:

Remove the top lid by turning it anti-clockwise. After removing 3 pcs of M8 bolts in the top casing flange, slide the outer rotating casing with the wing upwards. For most ROUND-J type turnstiles, it is necessary to partially disassemble the inner barrier to be able to slide out the outer rotating casing.

REXON-E and ROUND-F:

Remove the top lid by turning it anti-clockwise. The outer rotating casing is composed of three separate segments. Disassemble the segment by unbolting 2 pcs of M4 bolts on the upper flange and 2 pcs of M4 bolts in the bottom part of the segment. To access the product label, simply remove any cover and turn the turnstile so that the label is visible.

13. DEVICE DIPOSAL

Entrust the device disposal to an expert company in compliance with the legislation effective at the time of the device disposal. Materials that are subject to regulations on handling hazardous materials were also used in the course of construction of the device.

Brief list of used materials:

- Steel of the class 11,12,14,17
- light alloys
- safety toughened glass and laminated glass
- tin bronze, copper, silver, zinc, lead
- plastics PA, PE, PVC
- surface finish by galvanization in alkaline bath, blackening, powder spraying with DRYLAC paints
- lubricating greases
- electric devices (motor drive unit and control electronics)

Electric devices (hereinafter referred to as "ED") also contain precious metals in low amounts. Production labels of EDs stated in this Instruction Manual contain, in accordance with the Act No. 185/2001 Coll. as amended, name of the producer and date of the ED launching. The producer (COMINFO a.s.) is registered in the list of manufacturers of electric devices kept by the Ministry of Environment via the Retela collective scheme where the user of any electric device may turn to dispose this electric device.

The turnstile is RoHS compliant. RoHS stands for Restriction of Hazardous Substances and affects the entire electronics industry as well as many electronic products.

14. PROHIBITED MANIPULATIONS

1. It is prohibited to anyhow interfere in the control electronics and self-perform a disassembly of the motor drive unit. These activities have to be entrusted exclusively to the technicians of the provider. All service reparations are performed within the warranty and post-warranty service exclusively by service technicians of the COMINFO a.s. company or workers, who possess the certificate of installation schooling from the COMINFO Company. In case of a breach of this condition in the course of the warranty period, the device operator loses the right for warranty service.
2. It is prohibited to use violence when manipulating the gate of the turnstile in the blocked position in an effort to enter the area with defined access rights.
3. It is forbidden to hang on the wings and handles of the turnstile rotary gate
4. Device cannot be cleaned or treated with acids, lyes and other dangerous chemicals.

15. CERTIFICATIONS

The COMINFO a.s. company acquired a type certificate for the ROUND motor driven turnstiles from the TÜV SÜD Czech s.r.o. certifying authority.

COMINFO a.s. holds a management system certificate according to the ISO 9001:2000 certification.

It is possible to send CE–Declaration of Conformity on request.

The Declaration can be found also on the following link:
http://www.cominfo-trade.com/cz/produkty/certifikaty-a-pos/

Cominfo, a.s.
Nábřeží 695
760 01 Zlín – Prštné
Czech Republic

Hotline: +420 603 151 334
e-mail: cominfo@cominfo.cz