## FORTA PRO

WE BUILD MODULAR













## **ABOUT FORTA PRO**







- Forta PRO offers prefabricated volumetric modular solutions for:
  - Hospitals and clinics
  - Apartments
  - Student and Workers dormitories
  - Hotels and more...
- Authorized supplier to Danish hospitals
- Experienced in medical design
- Implemented projects in Denmark, Sweden, Iceland, UK, USA, Norway, Latvia
- 120 000 m2 per annum capacity
- Worldwide shipping

## **IDENTIFICATION**





### MODULAR RESPIRATORY ICU CLINIC

MANUFACTURER Forta Prefab SIA, company No 40103727283

### **CERTIFICATES**

Quality Management, Environmental Management, Occupational Health and Safety Management Systems of Forta Prefab Ltd. are ISO 14000, ISO 50001, ISO 45001 and ISO 9001 certified: http://www.fortapro.com/certificates/

### **IDENTIFICATION**



### **DISCLAIMER**

- The illustrations in this document are all subject to changes and amendments.
- If the build-up and dimensions should be amended during the design detailing phase, any such amendments may impact the price.
- All dimensions are in millimetres
- This drawing is a copyright and property of Forta PRO and is not to be produced, copied, handed over to third party or used for any other purpose other than for which it is intended.
- All dimensions shall be verified on site prior to start of work. Any discrepancy shall be brought to the notice of Forta PRO.
- The construction manager/ contractor must check all dimensions and details and be responsible for the same.
- Dimensions are to be read and not to be scaled.
- This drawing is to be read in conjunction with all relevant architectural, structural, MEP drawings, specialist drawings along with their specifications.
- Any discrepancy shall be brought to the notice of the consultants within 7 working days of receipt of this drawing,
- but always prior to procurement/ execution of works.
- Drawing approval is for the conformity with outline design intent only and does not relieve the project managers/ contractors/ sub contractors from full responsibility for the accuracy, integration and fitness for purpose of design.
- Project managers to revert back within 7 working days of receipt, of this drawing on co-ordination and buildability issues. If
  otherwise, it would be deemed that they have understood and accepted the drawings/ design and own full responsibility for
  the works carried out accordingly.
- Optional items are not included in the price.

### **DESCRIPTION**





# FREE STANDING MODULAR FAST DEPLOYMENT 20-BED RESPIRATORY ICU BLOCK WITH TECHNICAL FACILITIES

This 20-bed clinical department block is supposed to be placed on site-build or prefabricated foundations (not included in the modular program) and connected to hospital systems (ventilation, heating, medical gas, electrical, HIS etc.).

All mechanical, electrical, plumbing, heating, ventilation, air conditioning, medical gas system distribution components up to terminal units are factory installed in the module. Fixed medical equipment can be included and factory installed (not included in the given modular program). The module is ready for plug-and-play functionality.

### **GENERAL NOTES AND EXCLUSIONS**



- All proposed details are indicative only!
- All the details need to be addressed during the design phase!
- All sizes adjustable/alterable for modular design, construction and transportation!
- All potential risks and procedures to eliminate them should be evaluated during design phase!
- During the project, all standards and their application must be evaluated!
- It is possible to reduce module types by making all floor heights identical!

- Architectural, engineering and other specifications/details will be developed during the design phase
- Shafts and utility points should be considered during the design phase
- Structural solutions will be developed during the design phase
- Facade structure and finishing is excluded
- Areas other than marked as MODULAR are not included, if not specified otherwise
- All specifications and documents shall be made available to producer in plain English
- Explicit information on accessibility- or any other specific requirements should be provided to FORTA PRO in the initial design stage. Such as, but not limited to room sizes, special accessibility equipment installation, floor slopes, lighting, door opening sizes
- Gross modular area is defined excluding facade layers (assumed 110mm in thickness)

FIRE: EI 60

Gross Modular Area (GMA) closed type ICU					
Name	Number	Area			
ICU 01.3	01.3-001	49.91 m²			
ICU 01.3	01.3-002	49.91 m²			
ICU 01.3	01.3-003	49.91 m²			
ICU 01.3	01.3-004	49.91 m²			
ICU 01.3	01.3-005	49.91 m²			
ICU 01.3	01.3-006	49.91 m²			
ICU 01.3	01.3-007	49.91 m²			
ICU 01.3	01.3-008	49.91 m²			
ICU 02.3	02.3-001	60.22 m²			
ICU 02.4	02.4-001	63.43 m²			
ICU 03.1	03.1-001	52.57 m²			
11		575.46 m <sup>2</sup>			

not included

ICU-03.1 ICU-01.3 ICU-01.3 ICU-01.3 ICU-01.3 ICU-01.3 ICU-01.3 ICU-01.3 ICU-01.3 ICU-02.3 ICU-02.4

PROJECT NAME:		PROJECT Nº:	
	RICU	20EU-M004	
SHEET NAME:		REVISION:	
ICU	department plan	X	
DRAWING ID:		SCALE:	
	A100 / X	1:200 @	)A3
PROJ. MAN.	Ethan Chetrit	STAGE:	
APPROVED BY	Kristaps Miķelsons	Estimation	
ARCHITECT	Mārcis Rancāns		
DRAWN BY	Mārcis Rancāns		
REVIEW DATE	31/03/2020 08:57:20		
PROJECT ISSUED	Issue Date		

FORTA PRO

W E B U I L D M O D U L A R SIA Forta Pro, Rīga, Emiļa Melngaiļa iela 1A, LV-1010

5	Revision	Date	Description	Issued by	bι
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3x - ventilator, flowmeter pipeline, anesthetic machine; 10L/min/bed

2x - ventilator

2x - suction apparatus Suction

24x - bed, ventilator, multi parameter monitor, 4-9x infusion pump, GPO 4x syringe pump, computer, examination lamp, blood warmer, ecg,

eeg, us/cardiac-echo, endoscopy, anaesthetic machine,

haemofiltration, +redundant outlets 16x - equipotential earth connector plugs

1x - residual current device for sockets RCD

2x - computer Data

Wall supplies:

6x - electric fan, humidifier, defibrilator, x-ray, GPO

vacuum cleaner

RCD 1x - residual current device for sockets

2x - CCTV, computer Data

1x - Staff/staff call, cardiac arrest call + audio-visual signal elements Nurse call:

**Room Material and outline specifications:** 

Vinyl/Linoleum flooring, slip resistant, 150mm coving, heavy duty Floor Paint, chemically resistant to daily wet cleaning with disinfectants Walls

Ceiling tiles, accoustically absorbent, sealed Ceiling

1800Wx1600H mm wall opening, transparent from inside, Window: exterior

translucent from outside

Worktop laminate

#### Other Fixtures, Equipment and associated Services:

#### Surface cleaning:

All surface materials be compatible with hard cleaning with disinfectants containing:

Hydrogen Peroxide Sodium Hypochlorite

Isopropanol Formaldehyde

Glutaraldehyde

Peracetic acid

#### Notes:

Haemodialysis No RO water and sewage provisioned for haemodialysis

Examination light Assumed fixed on wall panel rail

Bariatric Services not provisioned for bariatric patients Column dimensions w/out fire paint thickness Columns

Mechanical ventilation and cooling, Air supply

arrestance 85% (F7 according to EN 1822:2009), min. 10 AC/hr

No special emergency power outlets are provisioned Emergency power

Locally controllable Temperature Locally controllable Humidity

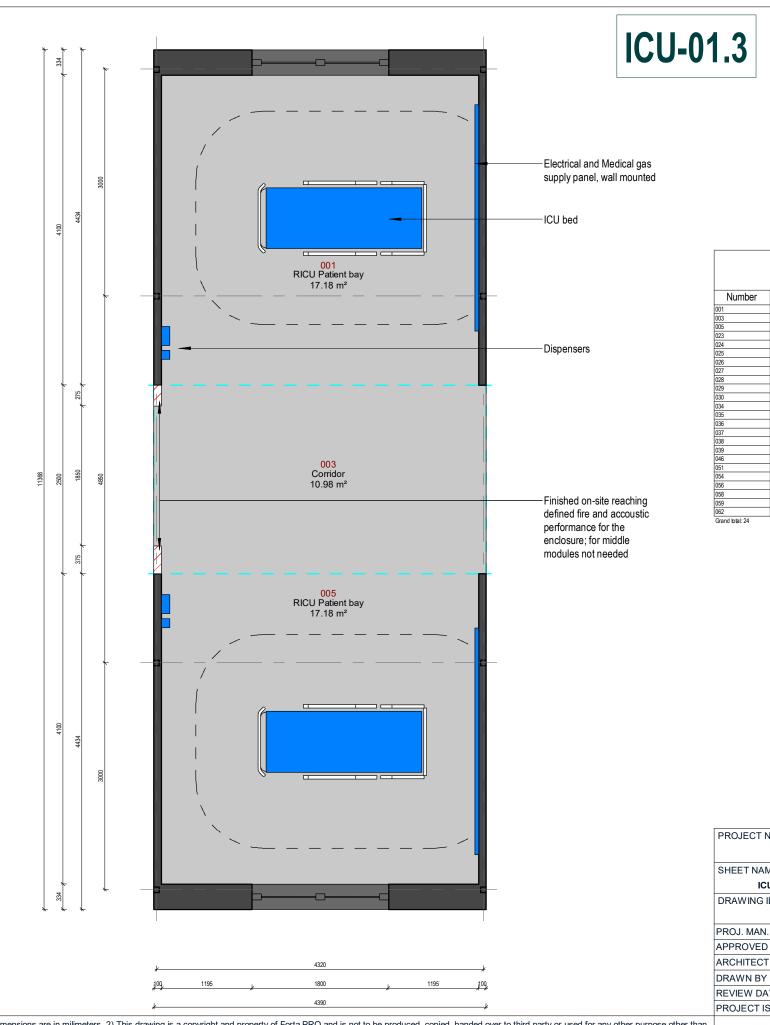
2020.03.23 first draft

Low Pressure Hot Water radiators, thermostatically controllable Heating Lighting 20lux night general service illumination, 500lux daytime general service

Description

illumination, 1000lux local task illuminance at bed

level (by examination lamp)



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Gross Modular Area (GMA)

FIRE: EI 60

	• •	
Name	Number	Area
ICU 01.3	01.3-001	49.91 m²
ICU 01.3	01.3-002	49.91 m²
ICU 01.3	01.3-003	49.91 m²
ICU 01.3	01.3-004	49.91 m²
ICU 01.3	01.3-005	49.91 m²
ICU 01.3	01.3-006	49.91 m²
ICU 01.3	01.3-007	49.91 m²
ICU 01.3	01.3-008	49.91 m²
ICU 02.3	02.3-001	60.22 m²
ICU 02.4	02.4-001	63.43 m²
ICU 03.1	03.1-001	52.57 m²
11		575.46 m²

closed type ICU

RICU Patient bay Corridor RICU Patient bay RICU Patient bay	17.18 m² 10.98 m²	16.58 m
RICU Patient bay		40.00
		13.23 m
RICU Patient bay	17.18 m²	16.58 m
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RICU Patient bay	17.18 m²	16.58 m
RICU Patient bay	17.18 m²	16.58 m
RICU Patient bay	17.18 m²	16.58 m
RICU Patient bay	17.18 m²	16.58 m
Corridor	10.98 m²	13.23 m
Corridor	10.98 m²	13.23 m
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Corridor	10.98 m²	13.23 m
RICU Patient bay	17.18 m²	16.58 m
RICU Patient bay	17.18 m²	16.58 m
Corridor	10.98 m²	13.23 m

WIDTH\*:4400 mm HEIGHT\*:4106 mm LENGTH\*:11368 mm WEIGHT\*\*:17.51 t

\*Structural elements are not taken into account \*\*Indicative and for information only.

PROJECT NAME:		PROJECT Nº:	
	RICU	20EU-M004	
SHEET NAME:		REVISION:	
ICU-01.3 /	floor plan - architecture	X	
DRAWING ID:		SCALE:	
	A101 / X	1:50	@A3
PROJ. MAN.	Ethan Chetrit	STAGE:	
APPROVED BY	Kristaps Miķelsons	Estimation	
ARCHITECT	Mārcis Rancāns		
DRAWN BY	Mārcis Rancāns		
REVIEW DATE	31/03/2020 08:57:21		
PROJECT ISSUED	Issue Date		

FURTH PRU

SIA Forta Pro, Rīga, Emiļa Melngaiļa iela 1A, LV-1010

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Dispensers

ICU bed

**Electrical and Medical gas supply panel:** 

Air 2x - ventilator 2x - suction apparatus Suction

24x - bed, ventilator, multi parameter monitor, 4-9x infusion pump, GPO 4x syringe pump, computer, examination lamp, blood warmer, ecg,

eeg, us/cardiac-echo, endoscopy, anaesthetic machine,

3x - ventilator, flowmeter pipeline, anesthetic machine: 10L/min/bed

haemofiltration, +redundant outlets GND 16x - equipotential earth connector plugs RCD 1x - residual current device for sockets

Data 2x - computer

Wall supplies:

8x - electric fan, humidifier, defibrilator, x-ray, vacuum cleaner, +redundant outlets RCD 1x - residual current device for sockets

2x - CCTV, computer Data

1x - Staff/staff call, cardiac arrest call + audio-visual signal Nurse call:

elements

Surface cleaning:

Sodium Hypochlorite

Glutaraldehyde

Peracetic acid

Room Material and outline specifications:

Vinyl/ Linoleum flooring, slip resistant, 150mm coving,

heavy duty

RICU Patient room

16.76 m<sup>2</sup>

Paint, chemically resistant to hard cleaning Walls Ceiling tiles, accoustically absorbent, sealed Ceiling effective clear opening width min. 1400 mm Door: sliding

Window: exterior 1800Wx1600H mm wall opening, transparent from inside,

translucent from outside

laminate

Notes:

Bariatric

Columns Air supply:ICU

Air supply:isol.

Haemodialysis

Examination light

Other Fixtures, Equipment and associated Services:

Net Internal Area (NIA) in ICU-02.3 Area Perimeter Number Department 14.43 m

RICU Patient bay

17.18 m²

WEIGHT\*\*:21.13 t \*Structural elements are not taken into account

WIDTH\*:4400 mm

HEIGHT\*:4106 mm

LENGTH\* :13718 mm

Electrical and Medical gas supply panel, wall mounted

\*\*Indicative and for information only

		,	
PROJECT NAME:		PROJECT Nº:	
	RICU	20EU-M004	
SHEET NAME:		REVISION:	
ICU-02.3	/ floor plan - architecture	X	
DRAWING ID:		SCALE:	
	A102 / X	1:50	@A3
PROJ. MAN.	Ethan Chetrit	STAGE:	
APPROVED BY	Kristaps Miķelsons	Estimation	
ARCHITECT	Mārcis Rancāns		
DRAWN BY	Mārcis Rancāns		
REVIEW DATE	31/03/2020 08:57:22		

PROJECT ISSUED Issue Date FORTA PRO

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All surface materials be compatible with hard cleaning with disinfectants containing

Hydrogen Peroxide

Isopropanol Formaldehvde

2020.03.23 first draft Description

arrestance 99.95% (HEPA H13 according to EN 1822:2009), min. 15 AC/hr Emergency power No special emergency power outlets are provisioned

arrestance 85% (F7 according to EN 1822:2009), min. 10 AC/hr

No RO water and sewage provisioned for haemodialysis

Services not provisioned for bariatric patients

Column dimensions w/out fire paint thickness

Assumed fixed on wall panel rail

Mechanical ventilation and cooling,

Mechanical ventilation and cooling,

Temperature Locally controllable Humidity

Low Pressure Hot Water radiators, thermostatically controllable Heating Lighting

20lux night general service illumination, 500lux daytime general service illumination, 1000lux local task illuminance at bed level (by examination lamp)

007

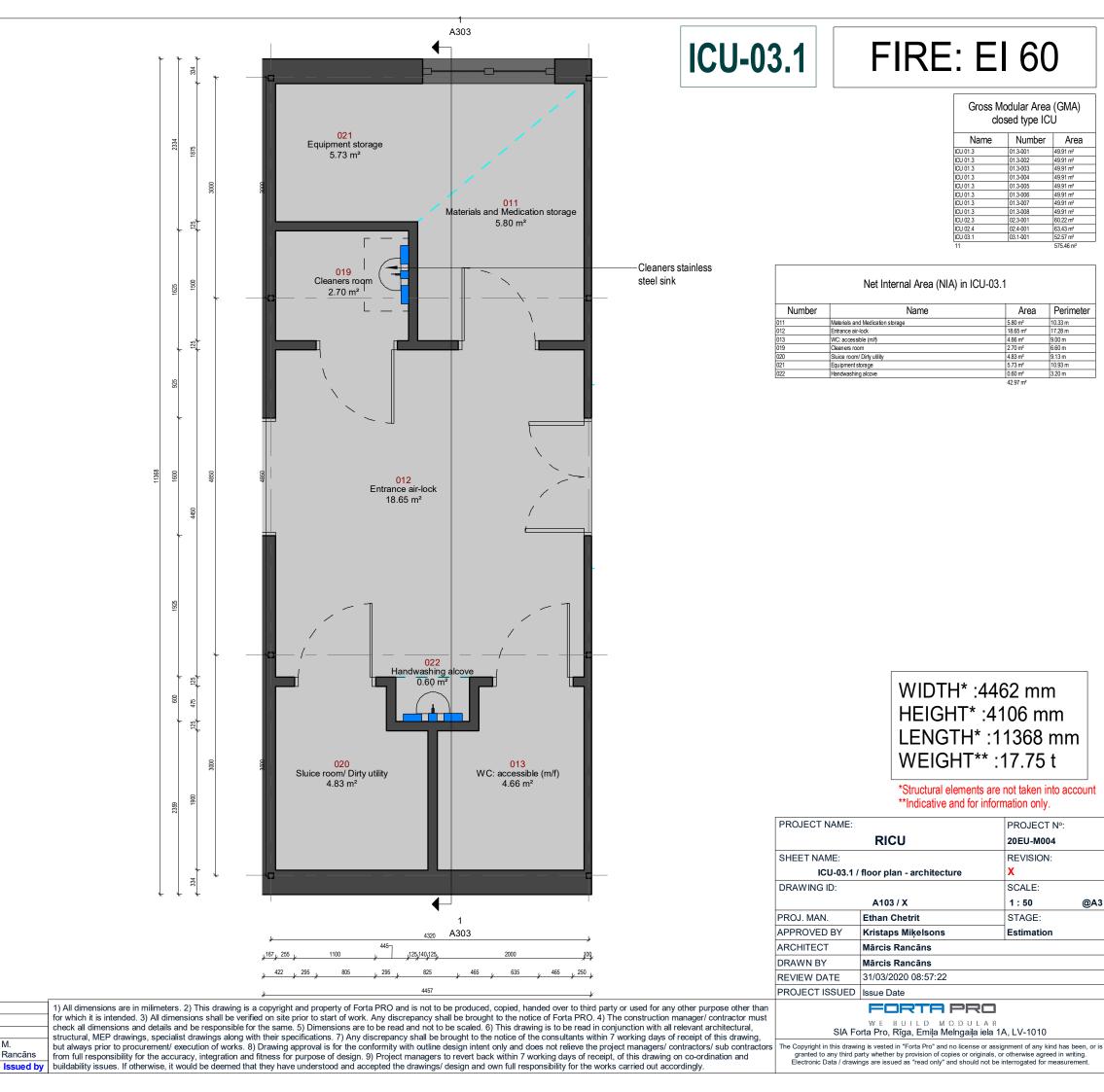
Corridor

11.58 m<sup>2</sup>

Air-lock

8.54 m<sup>2</sup>

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2020.03.23 first draft

Description

Number Area

01.3-004

49.91 m² 60.22 m² 63.43 m² 52.57 m²

575.46 m

Area Perimeter

9.00 m 6.60 m 9.13 m 10.93 m

## **ROOM EQUIPMENT**



<b>ELECTRICAL</b>	<b>APPLIANCES</b>	S PER ROOM:
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2 pcs.	Hook single, wall mounted	INCLUDED
12 pcs.	Socket, double general power outlets, 16A	INCLUDED

### MEDICAL EQUIPMENT PER ROOM

MEDICAL EQ	JIPMENT PER ROOM:	
1 pcs.	White board approx. 600H 900W, with pen holder	OPTIONAL
1 pcs.	Cleaners socket general power outlet, 16A	OPTIONAL
1 pcs.	Luminaire examination, examination, wall fixed, adjustable, 1000lux	OPTIONAL
1 pcs.	Wall services panel medical services, length as drawn	OPTIONAL
1 pcs.	Dispenser, hand sanitizer lever action, wall mounted	OPTIONAL
1 pcs.	Dispenser, paper towel	OPTIONAL
1 pcs.	Dispenser, disposable gloves set of three (S,M,L) + disposable apron	OPTIONAL
1 pcs.	Bed ccu/icu, radio-translucent with rising backrest, height adjustable (685-860), on castors,	OPTIONAL
	two way tilt	
2 000	Sack holder foot apprated freestanding approx 975U 420W 295D	ODTIONAL

2 pcs. Sack holder foot-operated, freestanding, approx. 875H 430W 285D OPTIONAL 1 pcs. Sharps box 7L capacity, rail/trolley hang or wall mounted, approx. 170H 125W 100D OPTIONAL

3 pcs. Infusion pump volumetric pump, approx. 190H 110W 60D OPTIONAL

1 pcs. Infusion pump enteral feeding, approx. 365H 180W 180D OPTIONAL

## **ROOM EQUIPMENT**



### MEDICAL EQUIPMENT PER ROOM:

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I pcs		r hadalda	tour compartments	IOOKONIO COOT	ION/drawor tak	IOI ro	Il at rear side, on castors
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1 000	. Lookei	beautae,	iodi odilipartificito,		ion, anavvor, tov	CIIG	ii at i cai biac, bii babtoib

1 pcs. Monitor vital signs, multi-parameter (ECG, Temperature, BP, O<sub>2</sub>/CO<sub>2</sub> etc.), with accessories

1 pcs. Trolley modular storage, open frame, max 5 inserts, worktop, approx. 850H 730W 450D

2 pcs. Infusion stand twin hook, mobile, with breaks

6 pcs. Syringe pump battery operated, approx. 170H 40W 80D

1 pcs. Ventilator portable, adjustable minute volume, approx. 460H 470W 310D

1 pcs. Monitor EEG machine

1 pcs. Haemo-filtration

1 pcs. Endoscopy fibre optic light source

1 pcs. Laryngoscope video laryngoscope

3 pcs. Regulator O<sub>2</sub>

2 pcs. Regulator suction

### MEDICAL EQUIPMENT PER UNIT

1 pcs. X-ray mobile

5 pcs. Defibrillator mobile

1 pcs. Ultrasound/ cardiac-echo

OPTIONAL

OPTIONAL

OPTIONAL

OPTIONAL

OPTIONAL

OPTIONAL

OPTIONAL

**OPTIONAL** 

OPTIONAL

OPTIONAL

OPTIONAL

OPTIONAL

**OPTIONAL** 

**OPTIONAL** 

**OPTIONAL** 



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