

E VOLUME 2

SECTION 1
CONTRACT FORM

Друштво за трговија и услуги
АИРКОН ДОО увоз-извоз
Бр. 03-35/8
07.03. 2025 год.
СКОПЈЕ

WORKS CONTRACT FOR EUROPEAN UNION EXTERNAL ACTIONS

FINANCED FROM THE : The project is co-financed by the European Union, in accordance with the rules of IPA-II Annual Action Programme for the Republic of North Macedonia for the year 2020.

The project is co-financed by Municipality of Radovich.

Between

Municipality of Radovich, (hereinafter referred to as "contracting authority") with its seat at Bul. Aleksandar Makedonski No 7, 2420, Radovich, represented by the Mayor of the Municipality of Radovich, Aco Ristov

Of the one part,
and

AIRKON LTD (hereinafter referred to as "the contractor") with its seat at St. Dicho Petrov No.3, 1000, Skopje, with official registration number 5206758, and VAT registration number 4030998352526, represented by the Sonja Kitancheva Petkovska

of the other part,

Have agreed as follows:

PROJECT "Green Heat - introduction of efficient customer-oriented small-grid district heating service based on renewable energy sources" (Hereinafter: Green Heat).

CONTRACT TITLE Provision of works - turnkey for installation of high - efficient alternative central heating system (heat pumps) in Primary school "Krste Petkov Misirkov, Secondary School "Kosta Susinov", Kindergarten "Aco Karamanov", Sports Hall "25 May and Administrative Building of Municipality Radovich, Republic of North Macedonia.

Identification number IPA/2021/427/964

Whereas the contracting authority would like the contractor to carry out the following works:

Construction of:

works-turnkey for installation of high - efficient alternative central heating system (heat pumps) in Primary school "Krste Petkov Misirkov, Secondary School "Kosta Susinov", Kindergarten "Aco Karamanov", Sports Hall "25 May and Administrative Building of Municipality Radovich, Republic of North Macedonia, and has accepted a tender by the contractor for the execution and completion of such works and the remedying of any defects therein.

It is hereby agreed as follows:

- (1) In this contract, words and expressions shall have the meanings assigned to them in the contractual conditions set out below.
- (2) The following documents shall be deemed to form and be read and construed as part of this contract, in the following order of precedence:
 - (a) the contract,
 - (b) the special conditions,
 - (c) the general conditions,
 - (d) the bill of quantities (after arithmetical corrections) and detailed breakdown of prices,
 - (e) the technical and/or performance specifications,
 - (f) the design documentation (drawings),
 - (g) the tender: with appendix,
 - (h) any other documents forming part of the contract.

The various documents making up the contract shall be deemed to be mutually explanatory; in cases of ambiguity or divergence, they shall prevail in the order in which they appear above. Addenda shall have the order of precedence of the document they are amending.

- (3) In consideration of the payments to be made by the contracting authority to the contractor as hereinafter mentioned, the contractor undertakes to execute and complete the works and remedy defects therein in full compliance with the provisions of the contract.
- (4) The contracting authority hereby agrees to pay the contractor in consideration of the execution and completion of the works and remedying of defects therein the amount of:

Contract price (excluding VAT): 748.518,00 EUR

Funding sources:

- The EU component: 634.591,17 EUR
- Co-financing by the Municipality of Radovich and the Ministry of Local Self-Government: 113.926,83 EUR

VAT and other taxes shall not be paid on the funds originating from EU funds. The project is registered as tax payer no.28-203-29 from 08.02.2022 by Republic of North Macedonia, Ministry of Finance, Public revenue office and with the Certificate no.20-261/3 from 01.02.2022 issued by the Government of Republic of North Macedonia, Secretariat for European Affairs is excluded as taxpayer and no financial means are provided for payment of import taxes, VAT and an excise taxes.

- (5) Other specific conditions applying to the contract

The controller for the processing of personal data carried out in the contract implementation is the Municipality of Radovich.

(b) the data protection notice is available at <https://wikis.ec.europa.eu/display/ExactExternalWiki/Annexes>.

In witness whereof the parties hereto have signed the contract. This contract shall take effect on the date on which it is signed by the last party, namely the contractor.

Done in English in three originals, one original for the contracting authority, one original for the European Commission, and one original for the contractor.

For the contractor

Name: Sonja Kitancheva Petkovska

Title: Managing director

Signature:



Date: 07.03.2025

For the contracting authority

Name: Aco Ristov

Title: Mayor of Radovich Municipality

Signature:



Date: 04.03.2025

VOLUME 2

SECTION 3 SPECIAL CONDITIONS

CONTENTS

These conditions amplify and supplement the general conditions governing the contract. Unless the special conditions provide otherwise, the general conditions remain fully applicable. The numbering of the articles of the special conditions is not consecutive but follows the numbering of the general conditions. Other special conditions should be indicated afterwards.

Article 2 Language of the contract

2.1 The language used shall be English.

Article 4 Communication

4.1

For the Contracting Authority

Name:	Lazar Gazepov
Address:	Bul. Aleksandar Makedonski No 7, 2420, Radovish
Telephone:	+38975493191
e-mail:	lgazepov@gmail.com

For the Contractor

Name:	Sonja Kitancheva Petkovska
Address:	St.Dicho Petrov No.3, 1000, Skopje
Telephone:	+389 2 30 90 500; +389 71 317 135
e-mail:	sales@aircon.com.mk

4.2 An electronic system will be used by the contracting authority and the contractor for all stages of implementation including, inter alia, management of the contract (amendments and administrative orders), reporting (including reporting on results) and payments. The contractor will be required to register in and use the appropriate electronic exchange system to allow for the e-management of the contract.

The electronic management of the contract through the aforementioned system may commence on the date on which implementation of the contract starts, as described in Article 33 of the general conditions to the contract, or at a later date. In the latter case, the contracting authority will inform the contractor in writing that he will be required to use the electronic system for all communications within a maximum period of 3 months.

Article 5 Supervisor and supervisor's representative

- 5.1 "Supervision of works" must be a registered legal entity authorized to perform the appropriate activities and hold a license for supervision. It will be selected through a separate procedure in accordance with PRAG and the Law on Public Procurement.
- 5.2 The supervision and control over the works from this Agreement includes the performance of works and supervision in accordance with the Law on Construction and Control, and in particular:
- Ensuring the type and quality of work execution specified in this Agreement, in compliance with the project documentation, professional standards, and contractual provisions
 - Ensuring control over the quantities and quality of materials and equipment, as per the project documentation, accepted material samples, and equipment prospectuses. This includes verifying compliance with preliminary calculations certified by authorized institutions and adherence to prescribed standards. In cases where equivalent materials, devices, or equipment are used, they must meet the required standards.
 - Ensuring compliance with deadlines specified in the contract, including the timely initiation, execution, and completion of works, and the delivery of contracted items within the agreed-upon timeframe and
 - Conducting a final evaluation of the quality of work performed, as well as the materials, devices, and equipment used during the facility handover process specified in this Agreement.
- 5.3 The supervision and control engineers have the right of access to the construction site, workshops, plants, and locations for storing materials, devices, and equipment for the purpose of supervision and control
- 5.4 - The supervision and control engineers are obligated to promptly communicate any observations regarding the method of performing the works, the materials, devices, and equipment used, or the progress of the works specified in this Agreement to the Contractor.
- The supervision and control engineers are responsible for documenting all identified deficiencies or irregularities observed during the construction phases in the construction logbook."

Article 7 Subcontracting

The rights and obligations of the Subcontracting are laid down in Article 7 of the general conditions.

Article 8 Documents to be provided

- 8.1 - General Project (complete technical documentation) with specification for the equipment and drawings;

- Permits and approvals required according to the construction law.

Article 9 Access to the site

- 9.1 The contractor is reminded that there is a head of delegation of the European Commission in the state of the contracting authority. The contractor is obliged to give the head of delegation free access to its sites, factories, workshops, etc., and generally assist the head of delegation, like the project Supervisor, in the performance of his duties. The same provisions also apply to the appointed representatives of the head of delegation.

All correspondence between the contractor and the contracting authority or project supervisor must be copied, for information, to the head of delegation of the European Commission at the following official address: St. Kiril i Metodija 52B, 1000 Skopje.

Article 12 General obligations

- The contract includes a turnkey clause in accordance with the Law on Obligations, whereby the Contractor is solely responsible for completing all construction works and installations until the facility is fully ready for use
- The contractor is obligated to execute the works in accordance with the tender documentation, the provisions outlined in this Agreement, and the terms specified in their submitted offer.
- The contractor agrees to carry out the works outlined in this Agreement in compliance with the Building Permit, any amendments to the construction plan, including but not limited to the Revised Project and its annexes, as well as their submitted offer. This shall be done in accordance with prevailing construction regulations, standards, professional guidelines, and with the necessary attestations, certificates, and documentation from authorized institutions for materials, equipment, and work performance. Additionally, the contractor commits to maintaining a construction diary and book in adherence to legal and regulatory requirements.
- The contractor agrees to execute the work professionally and with high quality, providing professional, qualified, and authorized personnel in accordance with the Law and the submitted Offer. Furthermore, the contractor will appoint and formally notify the Investor in writing of the appointed Chief Engineer and Engineers for individual phases, ensuring they possess the appropriate technical expertise and authorization.
- The contractor has no right to independently change the project documentation.
- The contractor may submit a written request to the Investor for changes to the project documentation governing the works outlined in this Agreement if deemed necessary.
- The Investor reserves the right to modify the project documentation during the execution of the works. This includes issuing a Decision for changes in construction and an Annex to the Building Approval based on a revised Annex to the general project. The Contractor shall be notified of these changes in writing.
- If the Contractor notices deficiencies in the project documentation during construction, he is obliged to notify the Investor immediately.
- The Contractor is obliged to promptly request an explanation from the Investor for insufficiently clear details in the project documentation.

- If the contractor believes that changes to the project documentation are necessary for improvement or other reasons, they are obligated to promptly notify the Investor. The contractor must not make changes to the project documentation without prior written approval from the Investor. Additionally, they may request necessary explanations from the Investor.
- When making additions to the project, the designer of the basic project provides consent to ensure its harmonization. Subsequently, the Investor submits a request to the relevant authority responsible for carrying out works in the field of spatial planning
- The contractor is obliged to keep a construction logbook for the building, which will be signed by the Construction Supervisory Authority.
- The contractor undertakes to submit to the Chief Supervising Engineer samples of finishing materials and prospectuses for the devices and equipment to be installed and installed.
- The contractor undertakes to organize and conduct training of employees of the Investor on the way of use and use of the built-in equipment.
- The contractor is obliged to take care not to cause damage in any way or to hinder the normal use of the surrounding facilities and surfaces.
- If, however, damage occurs due to the fault of the Contractor, he is obliged to remove it, that is, to bring the damaged to its original condition at his own expense.

Article 15 Performance guarantee

- 15.1 The amount of the performance guarantee will be 5% of the amount of the contract and any addenda thereto.

Article 16 Liabilities and insurance

- 16.1 The Contractor is obliged to insure all staff engaged in the performance of the works against accidents or injuries.

Article 20 Sufficiency of tender prices

- 20.1 The Contract includes a turnkey clause according to the Law on obligation, hence the contractual tender price includes the value of all unforeseen and surpluses works that might occur during contract implementation. The Contractor is obliged to perform all unforeseen and surplus work at their own cost.

Article 27 Demolished materials

- 27.1 The Contractor is responsible for all demolished materials and in case of shortcomings or failure to meet standards of the integrated materials and installed equipment.

Article 34 Period of implementation of tasks

- 34.1 6 (six) months from the day of signing the contract.

Article 36 Delays in the implementation of tasks

- 36.1 The rate of liquidated damages for delays in the completion of works shall be 0.1% of the contract price for every day or part thereof which elapses between the end of

the period of implementation of tasks and the actual date of completion, up to a maximum amount of 10% of the contract price or, if the contract is subdivided into phases, 10% of the price of the phase concerned.

Article 40 Origin and quality of works and materials

- 40.1. All goods purchased under the contract must originate in any eligible source country as defined in programme.

for lump sum contracts Breakdown of the lump-sum price (Volume 4.2.3)

When importing goods, any change in the specified origin must be pointed out to the project supervisor and approved by him.

Article 44: General principles for payments

- 44.1 Payments shall be made in euro.

By derogation, pre-financing payment to the contractor for the lump-sum advance shall be made within 30 days. Other pre-financing payments to the contractor shall be made within 60 days. Interim payments to the contractor of the amounts due under each of the interim payment certificates approved by the supervisor shall be made within 60 days, and the final payment to the contractor of the amounts due after the final statement of account issued by the supervisor shall be made within 60 days.

Article 46 Pre-financing

- 46.2 The total amount of the pre-financing must not exceed 10 % of the original contract price.

- 46.8 Repayment of the pre-financing shall take the form of deductions based on monthly claims.

- a) The flat-rate pre-financing (maximum of 10%) shall be repaid by means of deductions from instalments and, if necessary, the balance due to the contractor. This repayment shall begin with the first instalment and be completed, at the very latest, by the time 80 % of the amount of the contract has been paid.

Repayment shall be made in the same currency as the pre-financing.

The amount to be deducted from each instalment shall be calculated using the following formula:

$$R = \frac{V_a \times D}{V_t \times 0.8}$$

where:

R = the amount to be repaid

V_a = the total amount of pre-financing

V_t = the initial contract amount

D = the amount of the instalment.

The result is rounded up to two decimal places.

- b) The pre-financing for plant, machinery and tools — and the pre-financing for other major prior outlays (20 % maximum) — shall be repaid by means of deductions from instalments and, if necessary, the balance due to the contractor. Repayment shall begin with the first instalment and end, at the very latest, by the time 90 % of the amount of the contract has been paid.

The amount to be deducted from each instalment shall be calculated using the following formula:

$$R = \frac{Va \times D}{Vt \times 0.9}$$

where:

R = the amount to be repaid

Va = the total amount of pre-financing

Vt = the initial contract amount

D = the amount of the instalment.

Article 47 Retention monies

- 47.1 The sum to be retained from interim payments to guarantee implementation of the contractor's obligations during the defects liability period is 10% of each instalment.

Article 49 Measurement

- 49.1 This is a lump-sum contract.
The amounts due shall be calculated.

Article 51 Final statement of account

51.(1) and (2)

- 51.1 The contractor shall, submit to the supervisor a draft final statement of account when it applies for the final acceptance certificate. In order to enable the supervisor to prepare the final statement of account, the draft final statement of account is submitted with supporting documents showing in detail the value of the work done in accordance with the contract and all further sums which the contractor considers to be due to it under the contract.
- 51.2 Within 30 days from issuing the final acceptance certificate referred to in Article 62, the supervisor shall prepare and signed the final statement of account.

Article 59 Partial acceptance

- 59.3 The defects liability period provided for in Article 61 shall run from completed and functional installation of the system.

Article 60 Provisional acceptance

- 60.1 Once the technical inspection is completed and is confirmed that the construction and installation have been done according to the project design/technical program/technical specification, and the Supervision Engineer has also confirmed

the completion of works in their final report, the CA shall take over the works from the Contractor.

A certificate of provisional acceptance must be issued before the hand over of the works.

Minutes Site Handover must be prepared and signed by the CA and the Contractor.

Article 61 Defects liability

- 61.1 The defects liability period is defined as the period commencing on the date of provisional acceptance, during which the contractor is required to make good any defect in, or damage to, any part of the work which may appear or occur during this period as notified by the supervisor or the contracting authority. The rights and obligations of the parties with regard to this defects liability period are laid down in Article 61 of the general conditions.

The liability period for the quality of the performed works and integrated materials amounts to a minimum of 2 years.

Article 68 Dispute settlement

- 68.4 Any dispute arising out of or relating to this contract which cannot be settled otherwise shall be referred to the exclusive jurisdiction of Primary Court in Strumica, North Macedonia in accordance with the national legislation of the state of the contracting authority.

Article 72 Data protection

[1. Processing of personal data related to the implementation of the contract by the contracting authority takes place in accordance with the national legislation of the state of the contracting authority and with the provisions of the respective financing agreement.

2. To the extent that the contract covers an action financed by the European Union, the Contracting Authority may share communications related to the implementation of the contract, with the European Commission. These exchanges shall be made to the Commission, solely for the purpose of allowing the latter to exercise its rights and obligations under the applicable legislative framework and under the financing agreement with the Partner country – contracting authority. The exchanges may involve transfers of personal data (such as names, contact details, signatures and CVs) of natural persons involved in the implementation of the contract (such as contractors, personnel, experts, trainees, subcontractors, insurers, guarantors, auditors and legal counsel). In cases where the contractor is processing personal data in the context of the implementation of the contract, he/she shall accordingly inform the data subjects of the possible transmission of their data to the Commission. When personal data is transmitted to the Commission, the latter processes them in accordance with Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC¹ and as detailed in the specific privacy statement published at ePRAG.]

¹ OJ L 205 of 21.11.2018, p. 39

Article 73 Further additional clauses

The contractor is obliged to act and take all actions in accordance with the regulations in the field of safety and health at work.

The contractor should have an employee or hired person who will be in charge of Safety and Health at Work in accordance with the Law on Safety and Health at Work ("Official Gazette of the Republic of Macedonia" No. 92/2007, 136/2011, 23/2013, 25/ 2013, 137/2013, 164/2013, 158/2014, 15/2015, 129/2015, 192/2015 and 30/2016).

* * *

VOLUME 2

SECTION 2

GENERAL CONDITIONS FOR WORKS CONTRACTS FINANCED BY THE EUROPEAN UNION BUDGET OR THE EUROPEAN DEVELOPMENT FUND (EDF)

CONTENTS

PRELIMINARY PROVISIONS	3
Article 1 - Definitions	3
Article 2 - Language of the contract	3
Article 3 - Order of precedence of contract documents	3
Article 4 - Communications	3
Article 5 - Supervisor and Supervisor's representative	4
Article 6 - Assignment	4
Article 7 - Subcontracting	5
OBLIGATIONS OF THE CONTRACTING AUTHORITY	6
Article 8 - Supply of documents	6
Article 9 - Access to site	6
Article 10 - Assistance with local regulations	7
Article 11 - Delayed payments to the Contractor's personnel	7
OBLIGATIONS OF THE CONTRACTOR	8
Article 12 - General obligations	8
Article 13 - Superintendence of the works	11
Article 14 - Personnel	11
Article 15 - Performance guarantee	12
Article 16 - Liabilities, Insurance and Security arrangements	13
Article 17 - Programme of implementation of tasks	16
Article 18 - Detailed breakdown of prices	17
Article 19 - Contractor's drawings and execution studies	17
Article 20 - Sufficiency of tender prices	19
Article 21 - Exceptional risks	19
Article 22 - Safety on sites	20
Article 23 - Safeguarding adjacent properties	20
Article 24 - Interference with traffic	21
Article 25 - Cables and conduits	21
Article 26 - Setting-out	22
Article 27 - Demolished materials	22
Article 28 - Discoveries	22
Article 29 - Temporary works	23
Article 30 - Soil studies	23
Article 31 - Overlapping contracts	23
Article 32 - Patents and licenses	24
IMPLEMENTATION OF THE TASKS AND DELAYS	25
Article 33 - Commencement orders	25

Article 34 -	Period of implementation of tasks	25
Article 35 -	Extension of the period of implementation of tasks	25
Article 36 -	Delays in implementation of the tasks	26
Article 37 -	Amendments	27
Article 38 -	Suspension	29
MATERIALS AND WORKMANSHIP		30
Article 39 -	Work register	30
Article 40 -	Origin and quality of works and materials	31
Article 41 -	Inspection and testing	31
Article 42 -	Rejection	32
Article 43 -	Ownership of plant and materials	33
PAYMENTS		34
Article 44 -	General principles	34
Article 45 -	Provisional price contracts	36
Article 46 -	Pre-financing	36
Article 47 -	Retention monies	37
Article 48 -	Revision of prices	37
Article 49 -	Measurement	38
Article 50 -	Interim payments	39
Article 51 -	Final statement of account	41
Article 52 -	Direct payments to sub-contractors	41
Article 53 -	Delayed payments	42
Article 54 -	Payments to third parties	43
Article 55 -	Claims for additional payment	43
Article 56 -	End date	44
ACCEPTANCE AND DEFECTS LIABILITY		44
Article 57 -	General principles	44
Article 58 -	Tests on completion	44
Article 59 -	Partial acceptance	45
Article 60 -	Provisional acceptance	45
Article 61 -	Defects liability	46
Article 62 -	Final acceptance	47
BREACH OF CONTRACT AND TERMINATION		47
Article 63 -	Breach of contract	47
Article 64 -	Termination by the Contracting Authority	48
Article 65 -	Termination by the Contractor	51
Article 66 -	Force majeure	51
Article 67 -	Decease	52
SETTLEMENT OF DISPUTES AND APPLICABLE LAW		53
Article 68 -	Settlement of disputes	53
Article 69 -	Applicable Law	53
FINAL PROVISIONS		54
Article 70 -	Administrative sanctions	54
Article 71 -	Verifications, checks and audits by European Union bodies	54
Article 72 -	Data protection	55

PRELIMINARY PROVISIONS

Article 1 - Definitions

- 1.1. The definitions of the terms used throughout this general conditions are laid down in the 'Glossary of terms', annex A1a to the practical guide, which forms an integral part of this contract.
- 1.2. The headings and titles in these general conditions shall not be taken as part thereof or be taken into consideration in the interpretation of the contract.
- 1.3. Where the context so permits, words in the singular shall be deemed to include the plural and vice versa, and words in the masculine shall be deemed to include the feminine and vice versa.
- 1.4. Words designating persons or parties shall include firms and companies and any organisation having legal capacity.

Article 2 - Language of the contract

- 2.1. The language of the contract and of all communications between the contractor, contracting authority and supervisor or their representatives shall be as stated in the special conditions.

Article 3 - Order of precedence of contract documents

- 3.1. The order of precedence of the contract documents shall be as stated in the contract.

Article 4 - Communications

- 4.1. Any written communications between the contracting authority and/or the supervisor on the one hand, and the contractor on the other hand, shall state the contract title and identification number and shall be sent by post, cable, telex, facsimile transmission, e-mail or personal delivery, to the appropriate addresses designated by those parties for that purpose in the special conditions.
- 4.2. If the sender requires evidence of receipt, it shall state such requirement in its communication and shall demand such evidence of receipt whenever there is a deadline for the receipt of the communication. In any event, the sender shall take all the necessary measures to ensure timely receipt of its communication.
- 4.3. Wherever the contract provides for the giving or issue of any notice, consent, approval, certificate or decision, unless otherwise specified such notice, consent, approval, certificate or decision shall be in writing and the words 'notify', 'consent', 'certify',

'approve' or 'decide' shall be construed accordingly. Any such consent, approval, certificate or decision shall not unreasonably be withheld or delayed.

Article 5 - Supervisor and supervisor's representative

- 5.1. The supervisor shall carry out the duties specified in the contract. Except as expressly stated in the contract, the supervisor shall not have authority to relieve the contractor of any of its obligations under the contract.
- 5.2. The supervisor may, from time to time, while retaining ultimate responsibility, delegate to the supervisor's representative any of the duties and authority vested in the supervisor and he may at any time revoke such delegation or replace the representative. Any such delegation, revocation or replacement shall be in writing and shall not take effect until a copy thereof has been delivered to the contractor. The administrative order which determines the duties, authority and identity of the supervisor's representative shall be issued by the supervisor at the moment of the commencement order. The role of the supervisor's representative shall be to supervise and inspect works and to test and examine the materials employed and the quality of workmanship. Under no circumstances will the supervisor's representative be empowered to relieve the contractor of its obligations under the contract or – save where express instructions to that effect are given below or in the contract – order works resulting in an extension of the period of implementation of tasks or additional costs to be paid by the contracting authority or introduce variants in the nature or scale of the works.
- 5.3. Any communication given by the supervisor's representative to the contractor in accordance with the terms of such delegation shall have the same effect as though it had been given by the supervisor, provided that:
 - a) any failure on the part of the supervisor's representative to disapprove any work, materials or plant shall not prejudice the authority of the supervisor to disapprove such work, materials or plant and to give the instructions necessary for the rectification thereof;
 - b) the supervisor shall be at liberty to reverse or vary the contents of such communication.
- 5.4. Instructions and/or orders issued in writing by the supervisor shall be considered an administrative order. Such orders shall be dated, numbered and entered by the supervisor in a register, and copies thereof delivered by hand, where appropriate, to the contractor's representative.

Article 6 - Assignment

- 6.1. An assignment shall be valid only if it is a written agreement by which the contractor transfers its contract or part thereof to a third party.
- 6.2. The contractor shall not, without the prior consent of the contracting authority, assign the contract or any part thereof, or any benefit or interest thereunder, except in the following cases:

- a) a charge, in favour of the contractor's bankers, of any monies due or to become due under the contract; or
 - b) the assignment to the contractor's insurers of the contractor's right to obtain relief against any other person liable in cases where the insurers have discharged the contractor's loss or liability.
- 6.3. For the purpose of Article 6.2 the approval of an assignment by the contracting authority shall not relieve the contractor of its obligations for the part of the contract already performed or the part not assigned for which the contractor's performance guarantee may be kept.
- 6.4. If the contractor has assigned its contract without authorization, the contracting authority may, without formal notice thereof, apply as of right the sanction for breach of contract provided for in Article 63 and 64.
- 6.5. Assignees must satisfy the eligibility criteria applicable for the award of the contract and they cannot fall under the exclusion criteria described in the tender dossier.
- 6.6. Before giving its approval the contracting authority should receive as needed a performance guarantee which may be requested for the full contract, a pre-financing guarantee and retention guarantee, from the assignees.

Article 7 - Subcontracting

- 7.1. A subcontract shall be valid only if it is a written agreement by which the contractor entrusts performance of a part of the contract to a third party. Simple plant hire, labour only and supply contracts are not considered or construed 'subcontracts' for the purpose of this article.
- 7.2. The contractor shall request to the contracting authority the authorisation to subcontract. The request must indicate the elements of the contract to be subcontracted and the identity of the subcontractors.
- Within 30 days of receipt of this request, the contracting authority must either extend the delay for a maximum of 15 days or notify the contractor of its decision, stating reasons should he withhold such authorization. If the contracting authority fails to notify its decision within the time limit referred to above, the request is deemed to be approved at the end of the time limit.
- 7.3. Subcontractors must satisfy the eligibility criteria applicable for the award of the contract. They cannot fall under the exclusion criteria described in the tender dossier and the contractor shall ensure that subcontractors are not subject to EU restrictive measures.
- 7.4. Subject to Articles 7.6 and 52, no subcontract creates contractual relations between any subcontractor and the contracting authority.
- 7.5. The contractor shall be responsible for the acts, defaults and negligence of its subcontractors and their agents or employees, as if they were the acts, defaults or negligence of the contractor, its agents or employees. The approval by the contracting authority of

the sub-contracting of any part of the contract or of the subcontractor to perform any part of the works shall not relieve the contractor of any of its obligations under the contract.

- 7.6. If a subcontractor has undertaken any continuing obligation for a period exceeding that of the defects liability period under the contract towards the contractor in respect of the work executed or the goods, materials, plant or services supplied by the subcontractor, the contractor shall, at any time after the expiration of the defects liability period, transfer immediately to the contracting authority, at the contracting authority's request and cost, the benefit of such obligation for the unexpired duration thereof. If the contractor fails to effect such a transfer, the said continuing obligation(s) shall be transferred automatically.
- 7.7. If the contractor enters into a subcontract without approval, the contracting authority may, without formal notice thereof, apply as of right the sanction for breach of contract provided for in Article 63 and 64.
- 7.8. If a subcontractor is found by the contracting authority or the supervisor to be incompetent in discharging its duties, the contracting authority or the supervisor may request the contractor to forthwith remove the subcontractor from the site and either to provide a subcontractor with qualifications and experience acceptable to the contracting authority as a replacement, or to resume the implementation of the tasks itself.

OBLIGATIONS OF THE CONTRACTING AUTHORITY

Article 8 - Supply of documents

- 8.1. Save where otherwise provided in the special conditions, within 30 days of the signing of the contract, the supervisor shall provide to the contractor, free of charge, a copy of the drawings prepared for the implementation of tasks as well as two copies of the specifications and other contract documents. The contractor may purchase additional copies of these drawings, specifications and other documents, insofar as they are available. Upon the final acceptance, the contractor shall return to the supervisor all drawings, specifications and other contract documents.
- 8.2. The contracting authority co-operates with the contractor to provide information that the latter may reasonably request in order to perform the contract.
- 8.3. Unless it is necessary for the purposes of the contract, the drawings, specifications and other documents provided by the contracting authority shall not be used or communicated to a third party by the contractor without the prior consent of the supervisor.
- 8.4. The supervisor shall have authority to issue to the contractor administrative orders incorporating such supplementary documents and instructions as shall be necessary for the proper and adequate execution of the works and the remedying of any defects therein.

Article 9 - Access to site

- 9.1. The contracting authority shall, in due time and in conformity with the progress of the works, place the site and access thereto at the disposal of the contractor in accordance

with the approved programme of implementation of tasks referred to in Article 17. The contractor grants appropriate access to other persons as set out in the special conditions or as instructed.

- 9.2. Any land procured for the contractor by the contracting authority shall not be used by the contractor for purposes other than the implementation of tasks.
- 9.3. The contractor shall preserve any facilities placed at its disposal in a good state while it is in occupation and shall, if so required by the contracting authority or the supervisor, restore them to their original state on completion of the contract, taking into account normal wear and tear.
- 9.4. The contractor shall not be entitled to any payment for improvements resulting from work carried out on its own initiative.

Article 10 - Assistance with local regulations

- 10.1. The contractor may request the assistance of the contracting authority in obtaining copies of laws, regulations and information on local customs, orders or by-laws of the country in which the works are executed, which may affect the contractor in the performance of its obligations under the contract. The contracting authority may provide the assistance requested to the contractor at the contractor's cost.
- 10.2. Subject to the provisions of the laws and regulations on foreign labour of the country in which the works are to be executed, the contracting authority provides reasonable assistance to the contractor, at its request, for its application for any visas and permits required by the law of the country in which the works are executed, including work and residence permits, for the personnel whose services the contractor and the contracting Authority consider necessary, as well as residence permits for their families.

Article 11 - Delayed payments to the contractor's personnel

- 11.1. Where there is a delay in the payment to the contractor's employees of wages and salaries owing and of the allowances and contributions laid down by the law of the country in which the works are executed, the contracting authority may give notice to the contractor that within 15 days of the notice the contracting authority intends to pay such wages, salaries, allowances and contributions direct. Should the contractor contest that such payments are due, it shall make representations to the contracting authority with reasons, within the 15 day period. If the contracting authority, having considered such representations, is of the opinion that payment of the wages and salaries should be made, it may pay such wages, salaries, allowances and contributions out of amounts due to the contractor. Failing this, the contracting authority may obtain a contribution under any of the guarantees provided for in these general conditions. Any action taken by the contracting authority under this Article shall not relieve the contractor of its obligations to its employees, except to the extent that any obligation may be satisfied by this action. The contracting authority shall not assume any responsibility towards the contractor's employees by this action.

OBLIGATIONS OF THE CONTRACTOR

Article 12 - General obligations

- 12.1. The contractor shall, with due care and diligence, design the works to the extent stated in the contract, execute and complete the works in accordance with the contract and with the supervisor instructions, and shall remedy any defects in the works.
- 12.2. The contractor shall provide all superintendence, personnel, materials, plant, equipment and all other items, of a temporary or permanent nature required in and for such design, execution, completion and remedying of any defects, insofar as specified in, or may be reasonably inferred from the contract.
- 12.3. The contractor shall take full responsibility for the adequacy, stability and safety of all operations and methods of construction under the contract.
- 12.4. The contractor shall comply with any administrative orders given to him. Where the contractor considers that the requirements of an administrative order go beyond the authority of the supervisor or of the scope of the contract, the contractor shall give notice, with reasons, to the supervisor. If the contractor fails to notify within the 30 day period after receipt thereof, he shall be barred from so doing. Execution of the administrative order shall not be suspended because of this notice.
- 12.5. The contractor shall supply, without delay, any information and documents to the contracting authority or the European Commission upon request, regarding the conditions in which the contract is being executed.
- 12.6. The contractor shall respect and abide by all laws and regulations in force in the country in which the works are executed and shall ensure that its personnel, their dependants, and its local employees also respect and abide by all such laws and regulations. The contractor shall indemnify the contracting authority against any claims and proceedings arising from any infringement by the contractor, its employees and their dependants of such laws and regulations.
- 12.7. Subject to Article 12.9, the contractor undertakes to treat in the strictest confidence and not make use of or divulge to third parties any information or documents which are linked to the performance of the contract without the prior consent of the contracting authority. The contractor shall continue to be bound by this undertaking after completion of the tasks and shall obtain from each member of its personnel the same undertaking. However, use of the contract's reference for marketing or tendering purposes does not require prior approval of the contracting authority, except where the contracting authority declares the contract to be confidential.
- 12.8. If the contractor acts on behalf of or is a joint venture or consortium of two or more persons, all such persons shall be jointly and severally bound in respect of the obligations under the contract, including any recoverable amount. The person designated by the consortium to act on its behalf for the purposes of this contract shall have the authority to bind the consortium. The composition or the constitution of the joint venture or consortium, including the share distribution between its members, shall not be altered

without the prior consent of the contracting authority. Any alteration of the composition or the constitution of the joint venture or consortium without the prior consent of the contracting authority may result in the termination of the contract.

- 12.9. Save where the European Commission requests or agrees otherwise, the contractor shall take all relevant measures to ensure the highest visibility to the financial contribution of the European Union. Additional communication activities required by the European Commission are described in the special conditions. All visibility and, if applicable, communication activities must comply with the latest Communication and Visibility Requirements for EU-funded external action, laid down and published by the European Commission.

The Parties will consult immediately and endeavour to remedy any detected shortcomings in implementing the visibility and, if applicable, communication requirements set out in this Article and in the special conditions. Failure to perform the obligations set out in this article and in the special conditions can constitute a breach of contract in the sense of Article 63 of these general conditions, and can lead to corresponding measures taken by the Contracting Authority, including suspension of payment and/or a reduction of the final payment in proportion of the seriousness of the breach of obligations.

- 12.10. Any records must be kept for a 7-year period after the final payment is made under the contract. In case of failure to maintain such the contracting authority may, without formal notice thereof, apply as of right the sanction for breach of contract provided for in Article 63 and 64.

Article 12a - Code of conduct

- 12a.1 The contractor must at all times act impartially and as a faithful adviser in accordance with the code of conduct of its profession. It shall refrain from making public statements about the project or services without the contracting authority's prior approval. It shall not commit the contracting authority in any way whatsoever without its prior consent and shall make this obligation clear to third parties.

Physical abuse or punishment, or threats of physical abuse, sexual abuse or exploitation, harassment and verbal abuse, as well as other forms of intimidation shall be prohibited. The contractor shall also provide to inform the contracting authority of any breach of ethical standards or code of conduct as set in the present Article. In case the contractor is aware of any violations of the abovementioned standards he shall report in writing within 30 days to the contracting authority.

- 12a.2 The contractor and its personnel shall respect human rights and applicable data protection rules.
- 12a.3 The contractor shall respect environmental legislation applicable in the country in which the works are executed and internationally agreed core labour standards, i.e. the ILO core labour standards, conventions on freedom of association and collective bargaining, elimination of forced and compulsory labour, elimination of discrimination in respect of employment and occupation, and the abolition of child labour, as well as applicable obligations established by these Conventions:

- Vienna Convention for the protection of the Ozone Layer and its Montreal Protocol on substances that deplete the Ozone Layer;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention);
- Stockholm Convention on Persistent Organic Pollutants (Stockholm POPs Convention);
- Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (UNEP/FAO) (The PIC Convention) Rotterdam, 10 September 1998, and its 3 regional Protocols.

12a.4 The contractor or any of its sub-contractors, agents or personnel shall not abuse of its entrusted power for private gain. The contractor or any of its sub-contractors, agents or personnel shall not receive or agree to receive from any person or offer or agree to give to any person or procure for any person, gift, gratuity, commission or consideration of any kind as an inducement or reward for performing or refraining from any act relating to the performance of the contract or for showing favour or disfavour to any person in relation to the contract. The contractor shall comply with all applicable laws and regulations and codes relating to anti-bribery and anti-corruption.

12a.5 The payments to the contractor under the contract shall constitute the only income or benefit it may derive in connection with the contract. The contractor and its personnel must not exercise any activity or receive any advantage inconsistent with their obligations under the contract.

12a.6 The execution of the contract shall not give rise to unusual commercial expenses. Unusual commercial expenses are commissions not mentioned in the contract or not stemming from a properly concluded contract referring to the contract, commissions not paid in return for any actual and legitimate service, commissions remitted to a tax haven, commissions paid to a recipient who is not clearly identified or commission paid to a company which has every appearance of being a front company. The European Commission may carry out documentary or on-the-spot checks it deems necessary to find evidence in case of suspected unusual commercial expenses.

The respect of the code of conduct set out in the present Article constitutes a contractual obligation. Failure to comply with the code of conduct is always deemed to be a breach of the contract under Article 63 of the General Conditions. In addition, failure to comply with the provision set out in the present Article can be qualified as grave professional misconduct that may lead either to suspension or termination of the contract, without prejudice to the application of administrative sanctions including exclusion from participation in future contract award procedures.

Article 12b - Conflict of Interest

12b.1 The contractor shall take all necessary measures to prevent or end any situation that could compromise the impartial and objective performance of the contract. Such conflict of interests may arise in particular as a result of economic interest, political or national affinity, family or emotional ties, or any other relevant connection or shared interest. Any conflict of interests which may arise during performance of the contract must be notified

to the contracting authority without delay. In the event of such conflict, the contractor shall immediately take all necessary steps to resolve it.

- 12b.2 The contracting authority reserves the right to verify that such measures are adequate and may require additional measures to be taken if necessary. The contractor shall ensure that its personnel, including its management, is not placed in a situation which could give rise to conflict of interests. Without prejudice to its obligation under the contract the contractor shall replace, immediately and without compensation from the contracting authority, any member of its personnel exposed to such a situation.
- 12b.3 The contractor shall refrain from any contact which would compromise its independence or that of its personnel.
- 12b.4 The contractor shall limit its role in connection with the project to the provision of the works described in the contract.
- 12b.5 The contractor and anyone working under its authority or control in the performance of the contract or on any other activity shall be excluded from access to other EU budget/EDF funds available under the same project. However, if the contractor is able to prove that his involvement in a previous stages of the project does not constitute unfair competition, he may participate, subject to the prior approval of the contracting authority.

Article 13 - Superintendence of the works

- 13.1. The contractor shall itself superintend the works or shall appoint a representative to do so. Such appointment shall be submitted to the supervisor for approval within 30 days of the signature of the contract. The supervisor shall approve or refuse the appointment within 10 days. The approval may at any time be withdrawn. Should the supervisor refuse the representative appointed within the deadline, or withdraw approval of the appointment, it shall set out the grounds on which its decision is based, and the contractor shall submit an alternative appointment without delay. The address of the contractor's representative shall be deemed to be the address for service given by the contractor.
- 13.2. If the supervisor withdraws its approval of the contractor's representative, the contractor shall, as soon as is practicable, after receiving notice of such withdrawal, remove the representative from the works and replace it with another representative approved by the supervisor.
- 13.3. The contractor's representative shall have full authority to make any decision necessary for the execution of the works, to receive and carry out administrative orders and to countersign the work register referred to in Article 39 or attachment, where appropriate. In any event, the contractor shall be responsible for ensuring that the works are carried out satisfactorily including ensuring that the specifications and administrative orders are adhered to by its own employees and by its sub-contractors and their employees.

Article 14 - Personnel

- 14.1. The persons employed by the contractor must be sufficient in number, and permit the optimum use of the human resources of the country in which the works are executed. Such employees must have the skills and experience necessary to ensure due progress and

satisfactory execution of the works. The contractor shall immediately replace all employees indicated by the supervisor, in a letter stating reasons, as likely to jeopardize the satisfactory execution of the works.

- 14.2. The contractor shall make its own arrangements for the engagement of all personnel and labour. The rates of remuneration and the general working conditions, as laid down by the law of the country in which the works are executed, shall apply as a minimum to employees on the site.

Article 15 - Performance guarantee

- 15.1. The contractor shall, together with the return of the countersigned contract, furnish to the contracting authority a guarantee for the full and proper performance of the contract. The amount of the guarantee shall be as specified in the special conditions and shall be in the range of 5 and 10% of the amount of the contract price including any amounts stipulated in addenda to the contract.
- 15.2. The performance guarantee shall be held against payment to the contracting authority for any loss resulting from the contractor's failure to perform its obligations under the contract.
- 15.3. The performance guarantee shall be in the format provided for in the contract and may be provided in the form of a bank guarantee, a banker's draft, a certified cheque, a bond provided by an insurance and/or bonding company, an irrevocable letter of credit or a cash deposit made with the contracting authority. If the performance guarantee is to be provided in the form of a bank guarantee, a banker's draft, a certified cheque or a bond, it shall be issued by a bank or bonding and/or insurance company approved by the contracting authority.
- 15.4. Unless stated otherwise in the special conditions, the performance guarantee shall be denominated in the types and proportions of currencies in which the original contract is payable.
- 15.5. No payments shall be made in favour of the contractor prior to the provision of the guarantee. The guarantee shall continue to remain valid until the date of the issuing of the signed final statement of account referred to in Article 51.
- 15.6. During the performance of the contract, if the natural or legal person providing the guarantee (i) is not able or willing to abide by its commitments, (ii) is not authorised to issue guarantees to contracting authorities, or (iii) appears not to be financially reliable, the guarantee shall be replaced. The contracting authority shall give formal notice to the contractor to provide a new guarantee on the same terms as the previous one. Should the contractor fail to provide a new guarantee, the contracting authority may terminate the contract.
- 15.7. The contracting authority shall demand payment from the guarantee of all sums for which the guarantor is liable under the guarantee due to the contractor's default under the contract, in accordance with the terms of the guarantee and up to the value thereof. The guarantor shall, without delay, pay those sums upon first demand by the contracting authority and the guarantor may not raise any objection for any reason whatsoever. Prior

to making any claim under the performance guarantee, the contracting authority shall notify the contractor stating the nature of the default in respect of which the claim is to be made.

- 15.8. Unless the special conditions provide otherwise, the performance guarantee shall be released within 60 days of the issuing of the signed final statement of account referred to in Article 51, for its total amount except for amounts which are the subject of amicable settlement, conciliation, arbitration or litigation.

Article 16 - Liabilities, insurance and security arrangements

16.1. Liabilities

a) Liability for damage to works

Without prejudice to Article 61 (defects liability) and Article 66 (force majeure), the contractor shall assume (i) full responsibility for maintaining the integrity of the works and (ii) the risk of loss and damage, whatever their cause, until the final acceptance as foreseen in Article 62.

Compensation for damage to the works resulting from the contractor's liability in respect of the contracting authority is capped at an amount equal to one million euros if the contract value is less than or equal to one million euros. If the contract value is greater than one million euros, compensation for damages resulting from the contractor's liability shall be capped to the contract value.

However, compensation for loss or damage resulting from fraud or gross negligence of the contractor, its personnel, its subcontractors and any person for which the contractor is answerable, can in no case be capped.

After the final acceptance as foreseen in Article 62, the contractor shall remain responsible for any breach of its obligations under the contract for such period as may be determined by the law governing the contract, or by default for a period of 10 years.

b) Contractor's liability in respect of the contracting authority

At any time, the contractor shall be responsible for and shall indemnify the contracting authority for any damage caused, during the performance of the works, to the contracting authority by the contractor, its personnel, its subcontractors and any person for which the contractor is answerable.

Compensation for damage resulting from the contractor's liability in respect of the contracting authority is capped at an amount equal to one million euros if the contract value is less than or equal to one million euros. If the contract value is greater than one million euros, compensation for damages resulting from the contractor's liability shall be capped to the contract value.

However, compensation for loss or damage resulting from the contractor's liability in case of bodily injury, including death, can in no case be capped. The same applies to

compensation for any damages of any kind resulting from fraud or gross negligence of the contractor, its personnel, its subcontractors and any person for which the contractor is answerable.

c) Contractor's liability in respect of third parties

The contractor shall, at its own expense, indemnify, protect and defend, the contracting authority, its agents and employees, from and against all actions, claims, losses or damage, direct or indirect, of whatever nature (hereinafter 'claim(s)') arising from any act or omission by the contractor, its personnel, its subcontractors and/or any person for which the contractor is answerable, in the performance of the duties.

The contracting authority must notify any third party claim to the contractor as soon as possible after the contracting authority becomes aware of them.

If the contracting authority chooses to challenge and defend itself against the claim(s), the contractor shall bear the reasonable costs of defence incurred by the contracting authority, its agents and employees.

Under these general conditions, the agents and employees of the contracting authority, as well as the contractor's personnel, its subcontractors and any person for which the contractor is answerable are considered to be third parties.

The contractor shall treat all claims in close consultation with the contracting authority

Any settlement or agreement settling a claim requires the prior express consent of the contracting authority and the contractor.

16.2. Insurance

a) Insurance – general issues

At the latest together with the return of the countersigned contract, and for the period of implementation of tasks, the contractor shall ensure that itself, its personnel, its subcontractors and any person for which the contractor is answerable, are adequately insured with insurance companies recognized on the international insurance market, unless the contracting authority has given its express written consent on a specific insurance company.

At the latest together with the return of the countersigned contract, the contractor shall provide the contracting authority and the supervisor with all cover notes and/or certificates of insurance showing that the contractor's obligations relating to insurance are fully respected. The contractor shall submit without delay, whenever the contracting authority or the project manager so requests, an updated version of the cover notes and/or certificates of insurance.

The contractor shall obtain from the insurers that they commit to personally and directly inform the contracting authority and the supervisor of any event likely to reduce, cancel or alter in any manner whatsoever, that coverage. The insurers shall deliver this information as quickly as possible, and in any event at least thirty (30) days before the reduction, cancellation or alteration of the cover is effective. The

contracting authority reserves the right to indemnify the insurer in case the contractor fails to pay the premium, without prejudice to the contracting authority's right to recover the amount of the premium it paid, and to subsequently seek compensation for its possible resulting damage.

Whenever possible, the contractor shall ensure that the subscribed insurance contracts contain a waiver of recourse in favour of the contracting authority and the supervisor, their agents and employees.

The purchase of adequate insurances by the contractor shall in no case exempt it from its statutory and/or contractual liabilities. As a minimum, the insurances listed hereafter shall provide cover up to the minimum contractual liabilities laid down in pursuance of Article 16.1 or minimum statutory liabilities laid down in pursuance of the applicable national legislation, whichever is the highest.

The contractor shall fully bear the consequences of a total or partial lack of coverage, and to the full discharge of the contracting authority and the supervisor.

The contractor shall ensure that its personnel, its subcontractors and any person for which the contractor is answerable comply with the same insurance requirements imposed to it under this contract. In case of default of insurance or inadequate insurance of its personnel, its subcontractors or any person for which the contractor is answerable, the contractor shall indemnify the contracting authority and the supervisor from all consequences resulting therefrom.

Under its own responsibility and without prejudice to the obligation to take out all insurance covering its obligations under this contract, the contractor shall ensure that all compulsory insurances are subscribed in compliance with the laws and regulations in force in the country in which the works are executed. It shall also ensure that all possible statutory obligations applying to the coverage are complied with.

The contracting authority and the supervisor shall not bear any liability for the assessment and adequacy of insurance policies taken out by the contractor with their contractual and/or statutory obligations.

b) Insurance – Specific issues

1. Insurance for damage to third parties

The contractor shall take out a civil liability insurance covering bodily injury and property damage that may be caused to third parties by reason of the execution of the works; as well as during the defects liability period. The insurance policy must specify that the contracting authority's and the supervisor's personnel, as well as that of other contractors and third parties located on site are considered third parties under this insurance, which shall be unlimited for bodily injury.

2. Works insurance

The contractor shall take out a 'Contractor All Risk' insurance to the joint benefit of itself, its subcontractors, the contracting authority and the supervisor.

This insurance shall cover all damage to which the works included in the contract may be subject, including damage due to a defect or a design flaw of the plans, the building materials or the implementation for which the contractor is responsible under the contract and the damages due to natural events. This insurance shall also cover damage to existing goods and properties of the contracting authority and of the supervisor.

This insurance shall also cover the equipment and the temporary works on the site up to their total value of reconstruction/replacement.

3. Motor insurance

The contractor shall take out insurance covering all vehicles used by the contractor or its subcontractors (whether they own them or not) in connection with the contract.

4. Insurance against accidents at work :

The contractor shall take out insurance policies providing coverage of the contractor itself, its personnel, its subcontractors and any person for which the contractor is answerable, in case of an accident at work or on the way to work. It shall ensure that its subcontractors do the same. It indemnifies the contracting authority against any claims that its employees or those of its subcontractors could have in this regard. For its permanent expatriate personnel, where appropriate, the contractor shall in addition comply with the laws and regulations applicable in the country of origin.

5. Insurance of liability related to the soundness of the works

The contractor shall take out insurance covering in full its liability that may be triggered with regard to the soundness of the works even after final acceptance, as foreseen by the law of the country in which the works are executed.

- 16.3. The contractor shall put in place security measures for its personnel commensurate with the physical danger possibly facing them in the country in which they work. The contractor shall be responsible for monitoring the level of physical risk to which its personnel are exposed and for keeping the contracting authority informed of the situation. If the contracting authority or the contractor becomes aware of an imminent threat to the life or health of any of the contractor's personnel, the contractor must take immediate emergency action to remove the individuals concerned to safety. If the contractor takes such action, he must communicate this immediately to the supervisor.

Article 17 - Programme of implementation of tasks

- 17.1. Notwithstanding any work programme submitted as part of its tender, the contractor shall provide the supervisor with a programme of implementation of tasks, broken down by activity and by month within 30 days of the signature of the contract. This programme includes at least the following information:

- a) the order and time limits within which the contractor proposes to carry out the works;
 - b) the time limits within which submission and approval of the drawings are required;
 - c) an organisation chart containing the names, qualifications and curricula vitae of the personnel responsible for the site,
 - d) a general description of the method including the sequence, by month and by nature, which the contractor proposes to carry out the works;
 - e) a plan for the setting out and organisation of the site, and
 - f) such further details and information as the supervisor may reasonably require.
- 17.2. The supervisor shall return these documents to the contractor with its approval or any relevant remarks within ten days of receipt, save where the supervisor, within those ten days, notifies the contractor of its wish for a meeting in order to discuss the documents submitted.
- 17.3. If the supervisor fails to notify its decision or remarks or wish for a meeting within these 10 days, the programme submitted is deemed approved.
- 17.4. The approval of the programme by the supervisor shall not relieve the contractor from any of its obligations under the contract.
- 17.5. No material alteration to the programme shall be made without the approval of the supervisor. If, however, the progress of the works does not conform to the programme, the supervisor may instruct the contractor to submit a revised programme in accordance with the procedure laid down in Article 17.

Article 18 - Detailed breakdown of prices

- 18.1. If not provided in its tender and where necessary for the purposes of the contract, the contractor shall provide a detailed breakdown of its rates and prices within no more than 20 days following the supervisor's reasoned request.
- 18.2. Within 30 days of notification of the award of contract, the contractor shall provide to the supervisor for its information only, a detailed cash flow estimate, in quarterly periods, of all payments which may be due to the contractor under the contract. The contractor shall subsequently supply revised cash flow estimates at quarterly intervals, if so required by the supervisor. The communication shall not impose any liability whatsoever on the contracting authority or the supervisor.

Article 19 - Contractor's drawings and execution studies

- 19.1. The contractor shall submit to the supervisor for approval at its own expense, all design and construction drawings and other documents and objects necessary for the proper execution of the contract, and in particular:

- a) drawings, documents, samples and/or models as may be specified in the contract within the time limits and procedures laid down therein or in the programme of implementation of tasks;
 - b) drawings as the supervisor may reasonably require for the implementation of tasks.
 - c) plans, drawings and calculations needed to provide evidence of the stability and resistance of the structures, including foundation design and detailed reinforcement plan. These calculations and surveys should be sustained by sufficient site investigations and should be submitted in triplicate to the supervisor for approval at least 30 days before commencing construction of the works in question.
- 19.2. The supervisor shall return to the contractor the drawings, documents, samples, models, design calculations, objects and other documents required under Article 19.1 with either its endorsement or its remarks within the time limits referred to in the contract or the approved programme of implementation of tasks or, if no time limit is specified, within 15 days of receipt. In the light of the complexity or the number of documents submitted for approval, if the supervisor cannot send its endorsement or its remarks within the time limit mentioned above, the supervisor shall send within 15 days of receipt a holding reply, indicating another time limit by which it will send its endorsement or its remarks, taking into account the relative urgency and complexity of the matter.
- If the supervisor fails to notify its endorsement, remarks or holding reply within the time limits referred above, the drawings, documents, samples, models, design calculations, objects and other documents submitted to the supervisor according to Article 19.1 shall be deemed to be approved at the end of the time limits specified above.
- 19.3. Approved drawings, documents, samples and models shall be signed or otherwise identified by the supervisor and shall not be departed from except as otherwise instructed by the supervisor. Any contractor's drawings, documents, samples or models which the supervisor refuses to approve, shall be modified to meet the requirements of the supervisor and resubmitted by the contractor for approval. Within 15 days of being notified of the supervisor's remarks, the contractor shall make the requisite corrections, adjustments etc. to the documents, drawings, design calculations etc. The corrected or adjusted documents, drawings, design calculations etc. shall be resubmitted for the supervisor's approval under the same procedure.
- 19.4. The contractor shall supply additional copies of approved drawings in the form and number stated in the contract or in subsequent administrative orders.
- 19.5. The approval of any drawings, documents, samples or models by the supervisor shall not relieve the contractor from any of its obligations under the contract.
- 19.6. The supervisor shall have the right at all reasonable times to inspect all drawings, documents, samples or models relating to the contract at the contractor's premises.
- 19.7. Before provisional acceptance of the works, the contractor shall supply operation and maintenance manuals together with drawings to the contracting authority, which shall be

in such detail as will enable the contracting authority to operate, maintain, adjust and repair all parts of the works. Unless otherwise stated in the special conditions, the manuals and drawings shall be in the language of the contract. The works shall not be considered to be completed for the purpose of provisional acceptance until such manuals and drawings have been supplied to the contracting authority.

Article 20 - Sufficiency of tender prices

- 20.1. Subject to any additional provisions which may be laid down in the special conditions, the contractor shall be deemed to have inspected and examined the site and its surroundings and to have satisfied itself before submitting its tender, as to the nature of the ground and sub-soil, and to have taken into account the form and nature of the site, the extent and nature of the work and materials necessary for the completion of the works, the means of communication with and access to the site, the accommodation it may require and in general to have obtained for itself all necessary information as to risks, contingencies and all other circumstances influencing or affecting its tender.
- 20.2. The contractor shall be deemed to have satisfied itself before submitting its tender as to the correctness and sufficiency of the tender and of the rates and prices stated in the bill of quantities or price schedule which shall, except in so far as it is otherwise provided in the contract, cover all its obligations under the contract.
- 20.3. Since the contractor is deemed to have determined its prices on the basis of its own calculations, operations and estimates, it shall carry out without additional charge any work which is the subject of any item whatsoever in its tender for which it neither indicates a unit price nor a lump sum.

Article 21 - Exceptional risks

- 21.1. If during the execution of the works the contractor encounters artificial obstructions or physical conditions which could not reasonably have been foreseen by an experienced contractor, and if the contractor is of the opinion that additional costs will be incurred and/or an extension of the period of implementation of tasks will be necessary as a result of this, it shall give notice to the supervisor in accordance with Articles 35 and/or 55. The contractor shall specify in such notice the artificial obstructions and/or physical conditions, giving details of the anticipated effects thereof, the measures it is taking or intends to take and the extent of the anticipated delay in or interference with the execution of the works.
- 21.2. Following receipt of the notice, the supervisor may inter alia:
 - a) require the contractor to provide an estimate of the cost of the measures it is taking or intends to take;
 - b) approve measures referred to in Article 21.2 (a) with or without modification;
 - c) give written instructions as to how the artificial obstructions or physical conditions are to be dealt with;

- d) order an amendment to, a suspension, or termination of the contract.
- 21.3. To the extent that the supervisor decides that the whole or part of the said artificial obstructions or physical conditions could not reasonably have been foreseen by an experienced contractor, the supervisor shall:
- a) take into account any delay suffered by the contractor as a result of such obstructions or conditions in determining any extension of the period of implementation of tasks to which the contractor is entitled under Article 35; and/or
 - b) in case of artificial obstructions or physical conditions other than weather conditions, determine additional payments due to the contractor in accordance with Article 55.
- 21.4. Weather conditions shall not entitle the contractor to claims under Article 55.
- 21.5. If the supervisor decides that the artificial obstructions or physical conditions could, in whole or in part, have been reasonably foreseen by an experienced contractor, he shall so inform the contractor as soon as practicable.

Article 22 - Safety on sites

- 22.1. The contractor shall have the right to forbid access to the site to any person not involved in the performance of the contract, with the exception of persons authorised by the supervisor or the contracting authority.
- 22.2. The contractor shall ensure the safety on sites during the whole period of execution and shall be responsible for taking the necessary steps, in the interests of its employees, agents of the contracting authority and third parties, to prevent any loss or accident which may result from carrying out the works.
- 22.3. The contractor shall take all essential steps, on its own responsibility and at its expense, to ensure that existing structures and installations are protected, preserved and maintained. It shall be responsible for providing and maintaining at its expense all lighting, protection, fencing and security equipment which proves necessary for the proper implementation of the tasks or which may reasonably be required by the supervisor.
- 22.4. If, during the implementation of the tasks, urgent measures are necessary to obviate any risk of accident or damage or to ensure security following any accident or damage, the supervisor shall give formal notice to the contractor to do what is necessary. If the contractor is unwilling or unable to undertake the necessary measures, the supervisor may carry out the work at the expense of the contractor to the extent that the contractor is liable.

Article 23 - Safeguarding adjacent properties

- 23.1. On its own responsibility and at its expense, the contractor shall take all the precautions required by good construction practice and by the prevailing circumstances to safeguard adjacent properties and avoid causing any abnormal disturbance therein.

- 23.2. The contractor shall indemnify the contracting authority against the financial consequences of all claims by neighbouring landowners or residents to the extent that the contractor is liable and to the extent that the damage to adjacent properties is not the result of a hazard created through the design or method of construction imposed by the contracting authority or the supervisor upon the contractor.

Article 24 - Interference with traffic

- 24.1. The contractor shall ensure that the works and installations do not cause damage to, or obstruct traffic on, communication links such as roads, railways, waterways and airports, save as permitted under the special conditions. It shall, in particular, take account of weight restrictions when selecting routes and vehicles.
- 24.2. Any special measures which the contractor considers necessary or which are specified in the special conditions or which are required by the contracting authority in order to protect or strengthen sections of roads, tracks or bridges, shall be at the expense of the contractor, whether or not they are carried out by the contractor. The contractor shall inform the supervisor of any special measures it intends to take before carrying them out. The repair of any damage caused to roads, tracks or bridges by the transport of materials, plant or equipment shall be at the expense of the contractor.

Article 25 - Cables and conduits

- 25.1. Where, in the course of carrying out the works, the contractor encounters bench-marks indicating the course of underground cables, conduits and installations, it shall keep such bench-marks in position or replace them, should execution of the works have necessitated their temporary removal. Such related operations require the authorisation of the supervisor.
- 25.2. The contractor shall be responsible for the preservation, removal and replacement, as the case may be, of the cables, conduits and installations specified by the contracting authority in the contract and for the cost thereof.
- 25.3. Where the presence of cables, conduits and installations has not been specified in the contract but is revealed by bench-marks and references, the contractor shall be under a general duty of care and similar obligations regarding preservation, removal and replacement to those set out above. In this case, the contracting authority shall compensate it for expenditure, to the extent that such work is necessary for the execution of the contract.
- 25.4. However, the obligations to remove and replace cables, conduits and installations and the expenditure resulting therefrom shall not be the responsibility of the contractor if the contracting authority decides to accept that responsibility. The same shall apply where this obligation and the expenditure resulting therefrom devolve upon another specialist administration or an agent.
- 25.5. When any work on the site is likely to cause disturbances in or damage to a public utility service, the contractor shall immediately inform the supervisor in writing, giving a

reasonable period of notice so that suitable measures may be taken in time to allow work to continue normally.

Article 26 - Setting-out

26.1. The contractor shall be responsible for:

- a) the accurate setting-out of the works in relation to original marks, lines and levels of reference given by the supervisor;
- b) the correctness, of the position, levels, dimensions and alignment of all parts of the works; and
- c) the provision of all necessary instruments, appliances and labour in connection with the foregoing responsibilities.

26.2. If, at any time during the execution of the works, any error appears in the position, levels, dimensions or alignment of any part of the works, the contractor, shall, if the supervisor so requires, at the contractor's cost, rectify such error to the satisfaction of the supervisor, unless such error is based on incorrect data supplied by the supervisor which an experienced contractor exercising due care would not have discovered, in which case the contracting authority shall be responsible for the cost of rectification.

26.3. The checking of any setting-out or of any line or level by the supervisor shall not in any way relieve the contractor of its responsibility for the accuracy thereof and the contractor shall carefully protect and preserve all bench-marks, sight-rails, pegs and other items used in setting-out the works.

Article 27 - Demolished materials

27.1. Where the contract includes demolition work, materials and articles obtained therefrom shall, unless the special conditions and /or the law of the country in which the works are executed otherwise provide and subject to the provisions of Article 28, become the property of the contractor.

27.2. Should the special conditions reserve to the contracting authority the right of ownership of materials or all or part of the articles obtained from the demolition work, the contractor shall take all the necessary precautions to ensure that these are preserved. It shall be liable for any destruction of, or damage to, such materials or articles caused by it or its agents.

27.3. Irrespective of the use to which the contracting authority intends to put the materials or articles, in respect of which it reserves the right of ownership, all costs incurred in transporting and storing them and all warehouse charges at the place indicated by the supervisor shall be borne by the contractor for any carriage not exceeding 1000 meters.

27.4. Save where the special conditions provide otherwise, the contractor shall, at its expense, progressively remove rubble and other demolition materials, rubbish and debris from the site.

Article 28 - Discoveries

- 28.1. Discoveries of any interest whatsoever made during excavation or demolition work shall be brought immediately to the attention of the supervisor. The supervisor shall decide how such discoveries are to be dealt with, taking due account of the law of the country in which the works are executed.
- 28.2. The contracting authority reserves the right of ownership of materials found during the excavation and demolition work carried out on land belonging to it, subject to compensating the contractor for any special efforts.
- 28.3. Artefacts, antiquities and natural, numismatic, or other objects which are of scientific interest, and also rare objects or objects made of precious metals found during excavation or demolition work shall be the property of the contracting authority.
- 28.4. In the event of disagreements, the contracting authority shall have sole authority to decide as to the qualifications set out in Articles 28.1 and 28.3.

Article 29 - Temporary works

- 29.1. The contractor shall carry out at its expense all the temporary works to enable the works to be carried out. The contractor shall submit to the supervisor the drawings for temporary works which the contractor intends to use, such as cofferdams, scaffolding, trusses and shuttering. The contractor shall take into account any observations made by the supervisor while assuming responsibility for these drawings.
- 29.2. Where the design of particular temporary works is specified in the special conditions to be the responsibility of the contracting authority, the supervisor shall provide the contractor with all drawings necessary in reasonable time to enable the contractor to undertake the temporary works in accordance with its programme. In such cases, the contracting authority shall be solely responsible for the safety and adequacy of the design. However, the contractor shall be responsible for the proper construction.

Article 30 - Soil studies

- 30.1. Subject to the special conditions and to the technical specifications, the contractor shall make available to the supervisor, the personnel and equipment necessary for carrying out any soil survey which the supervisor considers reasonably necessary. The contractor shall be compensated for the actual cost of the manpower and equipment used or made available in such work, plus a reasonable profit, if not already provided for in the contract.

Article 31 - Overlapping contracts

- 31.1. The contractor shall, in accordance with the requirements of the supervisor, afford all reasonable opportunities for carrying out their work to any other contractors employed by the contracting authority and their workmen, to the workmen of the contracting authority and of any other public authorities who may be employed on or near the site in the

execution of any work not included in the contract, or of any contract which the contracting authority may enter into in connection with, or ancillary to, the works.

- 31.2. If, however, the contractor, on the written request of the supervisor, makes available to any such contractor, or public authority, or to the contracting authority, any roads or ways for the maintenance of which the contractor is responsible, or permits the use by any such other persons of the contractor's temporary works, scaffolding or other equipment on the site; or provides any other service of whatsoever nature, which was not provided for in the contract, the contracting authority shall pay to the contractor in respect of such use or service, such sums and/or grant such extension of time, as shall, in the opinion of the supervisor, be reasonable.
- 31.3. The contractor shall not by reason of Article 31 be relieved of any of its obligations under the contract nor shall it be entitled to any claims other than those provided for in Article 31.2.
- 31.4. In no circumstances may difficulties arising with regard to one contract entitle the contractor to modify or delay implementation of other contracts. Similarly, the contracting authority may not take advantage of such difficulties to suspend payments due under another contract.

Article 32 - Patents and licenses

- 32.1. Save where otherwise provided in the special conditions, the contractor shall indemnify and hold the contracting authority and the supervisor harmless for all damages and cost incurred due to any claim brought by any third party including creators and intermediaries for any alleged or actual violations of intellectual, industrial or other property rights of any kind whatsoever based on the contracting authority's use as specified in the contract of patents, licenses, drawings, designs, models, or brand or trademarks, except where such infringement results from compliance with the design or specification provided by the contracting authority and/or the supervisor.
- 32.2. All industrial, intellectual and other property rights (including but not limited to patent rights and copyright) developed in connection with the tasks by or on behalf of the contractor, including but not limited to any rights in any documents prepared for the purpose of the contract or the tasks, shall remain vested in the contractor but the contracting authority shall have an irrevocable, royalty-free, non-exclusive licence of the above-mentioned rights for the purpose of the contract.

Such licence shall carry the right to grant sub-licences and shall be transferable by the contracting authority to third parties without the consent of the contractor being required.

All industrial, intellectual and other property rights (including but not limited to patent rights and copyright) developed in connection with the tasks by or on behalf of the contracting authority, including but not limited to any rights in any documents prepared for the purpose of the contract or the tasks, shall remain vested in the contracting authority but the contractor shall have the right at its cost to copy, use and obtain communication of these documents for the purpose of the contract.

Upon and notwithstanding any termination of the contract howsoever arising, as well as after completion of the tasks, the contracting authority shall continue to have the benefit of the licence referred to in Article 32.2, first paragraph.

IMPLEMENTATION OF THE TASKS AND DELAYS

Article 33 - Commencement orders

- 33.1. The supervisor issues an administrative order notifying the contractor of the date on which the period of implementation of tasks must start.
- 33.2. Save where the parties agree otherwise, the period of implementation of tasks shall not start before:
- a) in conformity with Article 9, the site, or part of the site has been placed at the disposal of the contractor according to the progress of the work set out in the programme of implementation of tasks approved by the supervisor;
 - b) the documents mentioned under Article 8.1 have been provided to the contractor.
- 33.3. Save where the parties agree otherwise, the period of implementation of tasks shall start no later than 180 days following notification of award of the contract.

Article 34 - Period of implementation of tasks

- 34.1. The period of implementation of tasks shall be as laid down in the special conditions, without prejudice to extensions of the period which may be granted under Article 35.
- 34.2. If provision is made for distinct periods of implementation of tasks for separate lots, in cases where one contractor is awarded more than one lot per contract, the periods of implementation of tasks for the separate lots will not be accumulated.

Article 35 - Extension of the period of implementation of tasks

- 35.1. The contractor may request an extension to the period of implementation of tasks if it is or will be delayed in completing the contract by any of the following reasons:
- a) exceptional weather conditions in the country in which the works are executed which may affect the implementation of the tasks;
 - b) artificial obstructions or physical conditions which could not reasonably have been foreseen by an experienced contractor;
 - c) administrative orders affecting the date of completion other than those arising from the contractor's default;
 - d) failure of the contracting authority to fulfil its obligations under the contract;

- e) any suspension of the works which is not due to the contractor's default;
- f) force majeure;
- g) any other causes referred to in these general conditions which are not due to the contractor's default.

35.2. If the contractor considers itself to be entitled to any extension of the period of implementation under the contract, the contractor shall:

- a) give notice to the supervisor of its intention to make such a request no later than 15 days after the contractor became aware, or should have become aware of the event or circumstance giving rise to the request.

If the contractor fails to give notice of a request for extension of the period of implementation within such period of 15 days, the period of implementation shall not be extended and the contracting authority shall be discharged from all liability in connection with the request; and

- b) submit to the supervisor full and detailed particulars of the request, within 30 days from the above notification unless otherwise agreed between the contractor and the supervisor, in order that such request may be investigated.

35.3. Within 30 days from receipt of the contractor's detailed particulars of the request, the supervisor shall, by notice to the contractor after due consultation with the contracting authority and, where appropriate, the contractor, grant such extension of the period of implementation as may be justified, either prospectively or retrospectively, or inform the contractor that it is not entitled to an extension.

Article 36 - Delays in implementation of the tasks

36.1. If the contractor fails to complete the works within the time period(s) specified in the contract, the contracting authority shall, without formal notice and without prejudice to its other remedies under the contract be entitled to liquidated damages for every day or part thereof which shall elapse between the end of the period specified for implementation of tasks or extended period of implementation of tasks under Article 35 and the actual date of completion, at the rate and up to the maximum amount specified in the special conditions.

If the works have been the subject of partial acceptance in accordance with Article 59, the liquidated damages specified in the special conditions may be reduced in the proportion which the value of the accepted part bears to the value of the whole of the works.

36.2. If the contracting authority has become entitled to the maximum claim under Article 36.1 it may, after giving notice to the contractor:

- a) seize the performance guarantee; and/or
- b) terminate the contract; and/or

- c) enter into a contract with a third party at the contractor's cost for the provision of the balance of the works.

Article 37 - Amendments

- 37.1. Contract amendments must be formalised by a contract addendum signed by both parties or by an administrative order issued by the supervisor except if the amendments result from the application of the contract.
- 37.2. The supervisor shall have the power to order any amendment to any part of the works necessary for the proper completion and/or functioning of the works. Such amendments by administrative order may include additions, omissions, substitutions, changes in quality, quantity, form, character, kind, position, dimension, level or line and changes in the specified sequence, method or timing of execution of the works. No administrative order shall have the effect of invalidating the contract, but the financial effect, if any, of all such amendments shall be valued in accordance with Articles 37.5 and 37.7.
- 37.3. All administrative orders shall be issued in writing, it being understood that:
 - a) if, for any reason, the supervisor finds it necessary to give an order orally, it shall as soon as possible thereafter confirm the order by an administrative order;
 - b) if the contractor confirms in writing an oral order given for the purpose of Article 37.3 (a) and the confirmation is not contradicted in writing forthwith by the supervisor, the supervisor shall be deemed to have issued an administrative order;
 - c) no administrative order is required to increase or decrease the quantity of any work where such increase or decrease is the result of the quantity exceeding or being less than that stated in the bill of quantities or price schedule, as the result of measurement laid down in Article 49.
- 37.4. Save as provided by Article 37.3 prior to issuing an administrative order, the supervisor shall notify the contractor of the nature and form of such amendment. The contractor shall then, without delay, submit to the supervisor a written proposal containing:
 - a) a description of the tasks to be implemented or the measures to be taken and a programme for execution;
 - b) any necessary amendments to the programme of implementation of tasks or to any of the contractor's obligations resulting from this contract; and
 - c) any adjustment to the contract price in accordance with the rules set out in Article 37.
- 37.5. Following the receipt of the contractor's submission referred to in Article 37.4, the supervisor shall, after due consultation with the contracting authority and, where appropriate, the contractor, decide without delay whether or not to accept the amendment. If the supervisor accepts the amendment, it shall notify the contractor through an administrative order stating that the contractor shall carry out the amendment at the prices

and under the conditions given in the contractor's submission referred to in Article 37.4 or as modified by the supervisor in accordance with Article 37.6.

37.6. The supervisor shall, for all amendments ordered by it in accordance with Article 37.3 and 37.5, ascertain the prices in accordance with the following principles:

- a) where work is of similar character and executed under similar conditions as work priced in the bill of quantities or price schedule, it shall be valued at such rates and prices contained therein;
- b) where work is not of a similar character or is not executed under similar conditions, the rates and prices in the contract shall be used as the basis for valuation as far as is reasonable, failing which the supervisor shall make a fair valuation;
- c) if the nature or amount of any amendment relative to the nature or amount of the whole contract or to any part thereof is such that, in the opinion of the supervisor, any rate or price contained in the contract for any item of work is, by reason of such amendment, rendered unreasonable, the supervisor shall fix such rate or price as he thinks reasonable and proper in the circumstances;
- d) where an amendment is required by a default or breach of contract by the contractor, any additional cost attributable to such amendment shall be borne by the contractor.

37.7. On receipt of the administrative order, the contractor shall carry out the requested amendment according to the following principles:

- a) The contractor will be bound by these general conditions as if the amendment requested by administrative order were stated in the contract.
- b) The contractor shall not delay the execution of the administrative order pending the granting of any extension of time for completion or adjustment to the contract price.
- c) Where the administrative order precedes the adjustment to the contract price, the contractor shall keep records of the costs of undertaking the amendment and of the time expended thereon. Such records shall be open to inspection by the supervisor at all reasonable times.

37.8. Where on provisional acceptance an increase or reduction in the total value of the works resulting from an administrative order, or from some other circumstance which is not caused by the contractor's default, exceeds 15% of the initial contract price (or as amended by addendum), the supervisor shall, after consulting the contracting authority and the contractor, determine any addition to or reduction from the contract price as a consequence of applying Article 37.6. The sum so determined shall be based on the amount by which the increase or decrease in value of the works exceeds 15%. The supervisor shall notify the sum to the contracting authority and the contractor, and adjust the contract price accordingly.

- 37.9. The contractor shall notify the contracting authority of any change of bank account, using the form in Annex V. The contracting authority shall have the right to oppose the contractor's change of bank account.

Article 38 - Suspension

- 38.1. Suspension by administrative order of the supervisor:

The contractor shall, on the order of the supervisor, suspend the progress of the works or any part thereof for such time or times and in such manner as the supervisor may consider necessary. The suspension shall take effect on the day the contractor receives the order or at a later date when the order so provides. The supervisor shall, as soon as possible, instruct the contractor to resume the contract suspended.

- 38.2. Suspension by notice of the contractor:

Any default in payment of more than 30 days under any certificate issued by the supervisor from the expiry of the time-limit referred to in Article 44.3(b) entitles the contractor, after giving not less than 30 days' notice to the contracting authority, to suspend the work, or reduce the rate of the work, unless and until the contractor has received reasonable evidence of payment or payment.

The contractor's action shall not prejudice its entitlements to interest for delayed payment under Article 53.1 and to termination under Article 65.1.

If the contractor subsequently receives such evidence or payment before giving notice of termination, the contractor shall resume normal working as soon as reasonably practicable and, unless the parties agree otherwise, no later than 30 days after receiving the evidence or the payment.

- 38.3. Suspension in the event of presumed breach of obligations, irregularities or fraud:

The contract may be suspended in order to verify whether presumed breach of obligations or irregularities or fraud occurred during the award procedure or the performance of the contract. If these are not confirmed, performance of the contract shall resume as soon as possible.

- 38.4. During the period of suspension, the contractor shall take such protective measures as may be necessary to safeguard the works, plant, equipment and site against any deterioration, loss or damage. Additional expenses incurred in connection with such protective measures may be added to the contract price, unless:

- a) otherwise provided for in the contract; or
- b) such suspension is necessary by reason of some breach or default of the contractor; or
- c) such suspension is necessary by reason of normal climatic conditions on site; or

- d) such suspension is necessary for the safety or the proper execution of the works or any part thereof insofar as such necessity does not arise from any act, breach or default by the supervisor or the contracting authority or from any of the exceptional risks referred to in Article 21, or
 - e) the presumed breach of obligations or irregularities or fraud mentioned in Article 38.3 are confirmed and attributable to the contractor.
- 38.5. The contractor shall introduce claims for additional payment or extension of the period of implementation in accordance with Articles 35 and 55.
- 38.6. If the period of suspension exceeds 180 days and the suspension is not due to the contractor's breach or default, the contractor may, by notice to the supervisor, request to proceed with the contract within 30 days, or terminate the contract.
- 38.7. The contracting authority shall, as soon as possible, order the contractor to resume the contract suspended or inform the contractor that it terminates the contract.

MATERIALS AND WORKMANSHIP

Article 39 - Work register

- 39.1. A work register shall, unless otherwise provided by the special conditions, be kept on the site by the supervisor, who shall enter in it at least the following information:
- a) the weather conditions, interruptions of work owing to inclement weather, hours of work, number and type of workmen employed on the site, materials supplied, equipment in use, equipment not in working order, tests carried out in situ, samples dispatched, unforeseen circumstances, as well as orders given to the contractor;
 - b) detailed statements of all the quantitative and qualitative elements of the work done and the supplies delivered and used, capable of being checked on the site and relevant in calculating payments to be made to the contractor.
- 39.2. The statements shall form an integral part of the work register but may, where appropriate, be recorded in separate documents. The technical rules for drawing up the statements shall be as set out in the special conditions.
- 39.3. The contractor shall ensure that statements are drawn up, in good time and in accordance with the special conditions, in respect of work, services and supplies which cannot be measured or verified subsequently; failing this, it shall accept the decisions of the supervisor, unless, at its own expense, it provides evidence to the contrary.
- 39.4. Entries made in the work register as work progresses shall be signed by the supervisor and countersigned by the contractor or its representative. If the contractor objects, it shall communicate its views to the supervisor within 15 days following the date on which the entry or the statements objected to are recorded. Should it fail to countersign or to submit

its views within the period allowed, the contractor shall be deemed to agree with the notes shown in the register. The contractor may examine the work register at any time and may, without removing the document, make or receive a copy of entries which it considers necessary for its own information.

- 39.5. The contractor shall, on request, provide the supervisor with the information needed to keep the work register in good order.

Article 40 - Origin and quality of works and materials

- 40.1. Under the Multiannual Financial Framework 2021-2027, with the exception of the INSC Regulation 2021/948 of 27 May 2021: All goods purchased can originate in any country.
- 40.2. Under the Multiannual Financial Framework 2014-2020 and for contracts financed by the INSC Regulation 2021/948 of 27 May 2021 under the Multiannual Financial Framework 2021-2027: Save where otherwise provided for in the special conditions, all goods purchased under the contract shall have their origin in any eligible source country as defined in the invitation to tender. The contractor must certify that the goods tendered comply with this requirement, specifying their countries of origin. It may be required to provide more detailed information in this respect. Failure to comply with this condition may result in the termination of the contract and/or suspension of payment.
- 40.3. The works, components and materials shall conform to the specifications, drawings, surveys, models, samples, patterns and other requirements in the contract which shall be held at the disposal of the contracting authority or the supervisor for the purposes of identification throughout the period of performance.
- 40.4. Any preliminary technical acceptance stipulated in the special conditions shall be the subject of a request sent by the contractor to the supervisor. The request shall indicate the reference to the contract, the lot number and the place where such acceptance is to take place, as appropriate. The components and materials specified in the request must be certified by the supervisor as meeting the requirements for such acceptance prior to their incorporation in the works.
- 40.5. Even if materials or items to be incorporated in the works or in the manufacture of components have been technically accepted in this way, they may still be rejected if a further examination reveals defects or faults, in which case they must immediately be replaced by the contractor. The contractor may be given the opportunity to repair and make good materials and items which have been rejected, but such materials and items will be accepted for incorporation in the works only if they have been repaired and made good to the satisfaction of the supervisor.

Article 41 - Inspection and testing

- 41.1. The contractor shall ensure that the components and materials are delivered to the site in time to allow the supervisor to proceed with acceptance of the components and materials. The contractor is deemed to have fully appreciated the difficulties which it might encounter in this respect, and it shall not be permitted to advance any grounds for delay in fulfilling its obligations.

- 41.2. The supervisor shall be entitled to inspect, examine, measure and test the components, materials and workmanship, and check the progress of preparation, fabrication or manufacture of anything being prepared, fabricated or manufactured for delivery under the contract in order to establish whether the components, materials and workmanship are of the requisite quality and quantity. This shall take place at the place of manufacture, fabrication, preparation or on the site or at such other places as may be specified in the special conditions.
- 41.3. For the purposes of such tests and inspections, the contractor shall:
- a) provide to the supervisor, temporarily and free of charge, such assistance, test samples or parts, machines, equipment, tools, labour, materials, drawings and production data as are normally required for inspection and testing;
 - b) agree, with the supervisor, on the time and place for tests;
 - c) provide access for the supervisor at all reasonable times to the place where the tests are to be carried out.
- 41.4. If the supervisor is not present on the date agreed for tests, the contractor may, unless otherwise instructed by the supervisor, proceed with the tests, which shall be deemed to have been made in the supervisor's presence. The contractor shall immediately send duly certified copies of the test results to the supervisor, who shall, if he has not attended the test, be bound by the test results.
- 41.5. When components and materials have passed the above-mentioned tests, the supervisor shall notify the contractor or endorse the procedure's certificate to that effect.
- 41.6. If the supervisor and the contractor disagree on the test results, each shall give a statement of its views to the other within 15 days after such disagreement arises. The supervisor or the contractor may require such tests to be repeated on the same terms and conditions or, if either party so requests, by an expert to be selected by common consent. All test reports shall be submitted to the supervisor who shall communicate the results of these tests without delay to the contractor. The results of the re-testing shall be conclusive. The cost of re-testing shall be borne by the party whose views are proved wrong by the re-testing.
- 41.7. In the performance of its duties, the supervisor and any persons authorised by him shall not disclose to unauthorised persons information concerning the undertaking's methods of manufacture and operation obtained through inspection and testing.

Article 42 - Rejection

- 42.1. Components and materials which are not of the specified quality shall be rejected. A special mark may be applied to the rejected components or materials. This shall not be such as to alter them or affect their commercial value. Rejected components and materials shall be removed by the contractor from the site within a period which the supervisor shall specify, failing which they shall be removed by the supervisor as of right at the expense and risk of the contractor. Any work incorporating rejected components or materials shall be rejected.

- 42.2. The supervisor shall, during the progress of the works and before the works are taken over, have the power to order or decide:
- a) the removal from the site, within such time limits as may be specified in the order, of any components or materials which, in the opinion of the supervisor, are not in accordance with the contract;
 - b) the substitution of proper and suitable components or materials; or
 - c) the demolition and proper re-execution, or satisfactory repair, notwithstanding any previous test thereof or interim payment therefore, of any work which, in respect of components, materials, workmanship or design by the contractor for which it is responsible, is not, in the opinion of the supervisor, in accordance with the contract.
- 42.3. The supervisor shall, as soon as reasonably practicable, give to the contractor notice of its decision specifying particulars of the alleged defects.
- 42.4. The contractor shall with all speed and at its expense make good the defects so specified. If the contractor does not comply with such order, the contracting authority shall be entitled to employ other persons to carry out the same and all expenses consequent thereon or incidental thereto may be deducted by the contracting authority from any monies due or which may become due to the contractor.
- 42.5. The provisions of Article 42 shall not affect the right of the contracting authority to claim under Articles 36 and 63.

Article 43 - Ownership of plant and materials

- 43.1. All equipment, temporary works, plant and materials provided by the contractor shall, when brought on the site, be deemed to be exclusively intended for the execution of the works and the contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the site to another, without the consent of the supervisor. Such consent shall, however, not be required for vehicles engaged in transporting any personnel, labour, equipment, temporary works, plant or materials to or from the site.
- 43.2. The special conditions may provide that all equipment, temporary works, plant and materials on site owned by the contractor or by any company in which the contractor has a controlling interest shall, for the duration of the execution of the works, be:
- a) vested in the contracting authority; or
 - b) made subject to a lien in favour of the contracting authority; or
 - c) made subject to any other arrangement regarding priority interest or security.
- 43.3. In the event of termination of the contract in accordance with Article 63 due to the contractor's breach of contract, the contracting authority shall be entitled to use the equipment, temporary works, plant and materials on site in order to complete the works.

- 43.4. Any agreement for the hire by the contractor of equipment, temporary works, plant and materials brought onto the site, shall contain a provision that on request in writing made by the contracting authority within 7 days after the date on which the termination under Article 64 becomes effective, and on the contracting authority undertaking to pay all hire charges in respect thereof from such date, the owner thereof will hire such equipment, temporary works, plant or materials to the contracting authority on the same terms as they were hired by the contractor, save that the contracting authority shall be entitled to permit the use thereof by any other contractor employed by it for completing the works under the provisions of Article 64.3.
- 43.5. Upon termination of the contract before completion of the works, the contractor shall deliver to the contracting authority any plant, temporary works, equipment or materials the property in which has vested in the contracting authority or been made subject to a lien by virtue of Article 43.2. If it fails to do so, the contracting authority may take such appropriate action as it deems fit in order to obtain possession of such plant, temporary works, equipment and materials and recover the cost of so doing from the contractor.

PAYMENTS

Article 44 - General principles

- 44.1. Payments shall be made in euro or national currency as specified in the special conditions. The special conditions shall lay down the administrative or technical conditions governing payments of pre-financing, interim and/or final payments made in accordance with the general conditions.
- 44.2. Payments due by the contracting authority shall be made to the bank account mentioned on the financial identification form completed by the contractor. The same form, annexed to the payment request must be used to report changes of bank account.
- 44.3. Payment to the contractor shall be done as follows:
- a) Pre-financing payments shall be made within 90 days of receipt by the contracting authority of the contractor's invoice and the documents referred to in Article 46.3. The date of payment shall be the date on which the paying account is debited.
 - b) Payments to the contractor of the amounts due under each of the interim payment certificates and the final statement of account issued by the supervisor shall be made within 90 days of such certificate of statement accompanied by the contractor's invoice being delivered to the contracting authority. The date of payment shall be the date on which the paying account is debited.
- 44.4. The period referred to in 44.3 may be suspended by notifying the contractor that the invoice cannot be paid because the sum is not due, because appropriate substantiating documents have not been provided or because there is evidence that the expenditure might not be eligible. In the latter case, an inspection may be carried out on the spot for the purpose of further checks. The contractor shall provide clarifications, modifications or

further information within 30 days of being asked to do so. Within 30 days of receipt of the clarification, the supervisor shall decide and issue if need be a revised payment certificate or a final statement of account and the payment period shall continue to run from this date.

- 44.5. The contractor undertakes to repay to the contracting authority any amounts paid in excess of the final amount due, before the deadline indicated in the debit note which is 45 days from the issuing of that note.

Should the contractor fail to make repayment within the above deadline, the contracting authority may (unless the contractor is a government department or public body of a Member State of the European Union) increase the amounts due by adding interest:

- at the rediscount rate applied by the central bank of the country of the contracting authority if payments are in the currency of that country;
- at the rate applied by the European Central Bank to its main refinancing transactions in euro, as published in the Official Journal of the European Union, C series, where payments are in euro,

on the first day of the month in which the time-limit expired, plus three and a half percentage points. The default interest shall be incurred over the time which elapses between the date of the payment deadline and the date on which payment is actually made. Any partial payments shall first cover the interest thus established.

Amounts to be repaid to the contracting authority may be offset against amounts of any kind due to the contractor. This shall not affect the parties' right to agree on payment in instalments. Bank charges arising from the repayment of amounts due to the contracting authority shall be borne entirely by the contractor.

Without prejudice to the prerogative of the contracting authority, if necessary, the European Union may as donor proceed itself to the recovery by any means.

- 44.6. Prior to, or instead of, terminating the contract as provided for in Article 64, the contracting authority may suspend payments as a precautionary measure without prior notice.
- 44.7. Where the award procedure or the performance of the contract proves to have been subject to breach of obligations, irregularities or fraud attributable to the contractor, the contracting authority may in addition to the possibility to suspend the performance of the contract in accordance with Article 38.3 and terminate the contract as provided for in Article 64, suspend payments and/or recover amounts already paid, in proportion to the seriousness of the breach of obligations irregularities or fraud. In addition to measures referred above, the contracting authority may reduce the contract value in proportion to the seriousness of the irregularities, fraud or of the breach of obligations, including where the activities concerned were not implemented or were implemented poorly, partially or late. The measures described in this paragraph may equally be adopted by the European Commission in pursuance of its administrative powers under the Financial Regulation (Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018, OJ-L 193/30.07.2018, p.1).

Article 45 - Provisional price contracts

- 45.1. In exceptional cases, where a provisional price contract has been awarded, the amount payable under the contract shall be calculated as follows:
- a) as for cost-plus contracts in Article 49.1 (c); or
 - b) initially on the basis of provisional prices and, after the conditions for performing the contract are known, as for lump-sum contracts or unit price contracts in Article 49.1 (a) and (b) respectively, or as in a hybrid contract.
- 45.2. The contractor shall supply such information as the contracting authority or the supervisor may reasonably require in respect of any matter relating to the contract for the purpose of the calculation. Where agreement cannot be reached on the valuation of the works, the amounts payable shall be determined by the supervisor.

Article 46 - Pre-financing

- 46.1. If the special conditions so provide, pre-financing may be granted to the contractor, at its request and before the first interim payment takes place, for operations connected with the implementation of the tasks, in the cases listed hereinafter:
- a) as a lump-sum advance enabling it to meet expenditure resulting from the commencement of the contract;
 - b) as pre-financing for the purchase or order of : materials, plant, equipment, machines, tools and of any other substantial prior expenses such as the acquisition of patents or study costs, necessary for the execution of the contract. A proof of the conclusion of such purchase or order shall be provided by the contractor to obtain the pre-financing.
- 46.2. The special conditions shall state the amount of the pre-financing which shall not exceed 10% of the original contract price for the lump-sum referred to in Article 46.1 (a) and 20 % of the original contract price for all other pre-financing referred to in Article 46.1 (b).
- 46.3. No pre-financing shall be granted until:
- a) the signature of the contract;
 - b) provision of the performance guarantee in accordance with Article 15;
 - c) provision, for the full amount of the pre-financing, of a financial guarantee issued in accordance with Article 15.3 and 15.6 which shall remain effective until the pre-financing has been completely repaid by the contractor out of interim payments under the contract unless otherwise provided for in the special conditions;
 - d) fulfilment of the contractor's obligation under Article 16;

e) approval of the programme of implementation of tasks by the supervisor.

- 46.4. The contractor shall use the pre-financing exclusively for operations connected with the implementation of the tasks. Should the contractor misuse any portion of the pre-financing, it shall become due and repayable immediately and no further pre-financing payments will be made.
- 46.5. Should the pre-financing guarantee cease to be valid and the contractor fail to re-validate it, either a deduction equal to the amount of the pre-financing may be made by the contracting authority from future payments due to the contractor under the contract, or the contracting authority may apply the provisions of Article 15.6.
- 46.6. If the contract is terminated for any reason whatsoever or the Contractor has not repaid the pre-financing on request, the guarantees securing the pre-financing may be invoked forthwith in order to repay the balance of the pre-financing still owed by the contractor, and the guarantor shall not delay payment or raise objection for any reason whatever.
- 46.7. The pre-financing guarantee provided for in Article 46 shall be released as and when pre-financing is repaid.
- 46.8. Further conditions and procedures for granting and repaying pre-financing shall be as laid down in the special conditions.

Article 47 - Retention monies

- 47.1. The sum which shall be retained from interim payments by way of guarantee to meet the contractor's obligations during the defects liability period, and the detailed rules governing that guarantee, shall be stipulated in the special conditions, provided that it shall, in no case, exceed 10% of the contract price.
- 47.2. Subject to the approval of the contracting authority, the contractor may, if it so wishes, substitute, not later than the date fixed for the commencement of the works, these retention sums by a retention guarantee, respecting the provisions of Articles 15.3 and 15.6.
- 47.3. The sum retained or the retention guarantee shall be released within 60 days of the issuing of the signed final statement of account referred to in Article 51, for its total amount except for amounts which are the subject of amicable settlement, conciliation, arbitration or litigation.

Article 48 - Revision of prices

- 48.1. Unless otherwise stipulated in the special conditions, and except as provided in Article 48.4 the contract shall be at fixed prices which shall not be revised.
- 48.2. Where prices may be revised under the contract, such revision shall take into account variations in the prices of significant local or external elements which serve as a basis for the calculation of the tender price, such as manpower, services, materials and supplies, as well as charges laid down by law or regulation. The detailed rules for the revision shall be as laid down in the special conditions.

48.3. Prices contained in the contractor's tender shall be deemed:

- a) to have been arrived at on the basis of the conditions in force 30 days prior to the latest date fixed for submission of tenders; or in the case of direct agreement contracts, on the date of the contract;
- b) to have taken account of the legislation and the relevant tax arrangements applicable at the reference date fixed in Article 48.3 (a).

48.4. In the event of changes to, or introduction of, any national or State statute, ordinance, decree or other law, or any regulation or by-law of any local or other public authority, after the date stated in Article 48.3 which causes a change in the contractual relationship between the parties to the contract, the contracting authority and the contractor shall consult on how best to proceed further under the contract, and may as a result of such consultation decide:

- a) to amend the contract; or
- b) on payment of compensation for the resulting imbalance by one party to the other; or
- c) to terminate the contract by mutual agreement.

48.5. In the event of a delay in the implementation of the tasks for which the contractor is responsible, the indices to be considered for the revision of prices during the period of delay shall be the most advantageous to the contracting authority between those applied to the last interim certificate issued for tasks implemented during the period of implementation of tasks and those revised up to the provisional acceptance of the tasks.

Article 49 - Measurement

49.1. The following methods shall apply to the valuation of works contracts:

- a) For lump-sum contracts, the amount due under the contract shall be determined on the basis of the breakdown of the overall contract price, or on the basis of a breakdown expressed as a percentage of the contract price corresponding to completed stages of the works. Where items are accompanied by quantities, these shall be firm quantities for which the contractor has submitted its all-in price, and shall be paid for irrespective of the quantities of work actually carried out.
- b) For unit price contracts:
 - i. the amount due under the contract shall be calculated by applying the unit rates to the quantities actually executed for the respective items, in accordance with the contract;
 - ii. the quantities set out in the bill of quantities shall be the estimated quantities of the works, which shall not be taken as the actual and correct quantities of the works to be executed by the contractor in fulfilment of its obligations under the contract;

- iii. the supervisor shall determine by measurement the actual quantities of the works executed by the contractor, and these shall be paid for in accordance with Article 50. Unless otherwise provided in the special conditions no additions shall be made to the items in the bill of quantities except as a result of an amendment in accordance with Article 37 or another provision of the contract entitling the contractor to additional payment;
 - iv. the supervisor shall, when he requires any parts of the works to be measured, give reasonable notice to the contractor to attend, or to send a qualified agent to represent him. The contractor or its agent shall assist the supervisor in making such measurements and shall furnish all particulars required by the supervisor. Should the contractor not attend, or omit to send such agent, the measurement made by the supervisor or approved by him shall be binding on the contractor;
 - v. the works shall be measured net, notwithstanding any general or local custom, except where otherwise provided for in the contract.
- c) For cost-plus contracts, the amount due under the contract shall be determined on the basis of actual costs with an agreed addition for overheads and profit. The special conditions shall stipulate the information which the contractor is required to submit to the supervisor for the purpose of Article 49.1 (c) and the manner in which it should be submitted.
- 49.2. Where an item in the contract is indicated as 'provisional' the provisional sum set aside for it shall not be taken into account in calculating the percentages referred to in Article 37.

Article 50 - Interim payments

- 50.1. The contractor shall submit an invoice for interim payment to the supervisor at the end of each period referred to in Article 50.7 in a form approved by the supervisor. The invoice shall include the following items, as applicable:
- a) the estimated contract value of the permanent works implemented up to the end of the period in question;
 - b) an amount reflecting any revision of prices pursuant to Article 48;
 - c) an amount to be withheld as retention sum under Article 47;
 - d) any credit and/or debit for the period in question in respect of plant and materials on site intended for, but not yet incorporated in, the permanent works in the amount and under the conditions set out in Article 50.2;
 - e) an amount to be deducted on account of the pre-financing repayment under the provisions of Article 46; and
 - f) any other sum to which the contractor may be entitled under the contract.

- 50.2. The contractor shall be entitled to such sums as the supervisor may consider proper in respect of plant and materials intended for, but not yet incorporated in, the permanent works provided that:
- a) the plant and materials conform with the specifications for the permanent works and are set out in batches in a way that they may be recognized by the supervisor;
 - b) such plant and materials have been delivered to the site, and are properly stored and protected against loss or damage or deterioration to the satisfaction of the supervisor;
 - c) the contractor's record of requirements, orders, receipts and use of plant and materials under the contract are kept in a form approved by the supervisor and such records are available for inspection by the supervisor;
 - d) the contractor submits with its statement, the estimated value of the plant and materials on site together with such documents as may be required by the supervisor for the purpose of valuation of the plant and materials and providing evidence of ownership and payment therefor; and
 - e) where the special conditions so provide, ownership of the plant and materials referred to in Article 43 shall be deemed to be vested in the contracting authority.
- 50.3. Approval by the supervisor of any interim invoice certified by him in respect of plant and materials pursuant to Article 50 shall be without prejudice to the exercise of any power of the supervisor under the contract to reject any plant or materials which are not in accordance with the provisions of the contract.
- 50.4. The contractor shall be responsible for any loss or damage to, and for the cost of storing and handling of, such plant and materials on site and shall effect such additional insurance as may be necessary to cover the risk of such loss or damage from any cause.
- 50.5. Within 30 days of receipt of the said invoice for interim payment, the supervisor shall:
- a) verify that, in the supervisor's opinion, the invoice for interim payment reflects the amount due to the contractor in accordance with the contract. In cases where there is a difference of opinion as to the value of an item, the supervisor's view shall prevail.
 - b) on determination of the amount due to the contractor, issue and transmit to the contracting authority for payment and to the contractor for information, an interim payment certificate for the amount due to the contractor and shall inform the contractor of the works for which payment is being made.
- 50.6. The supervisor may, by an interim payment certificate, make any corrections or modifications to any previous certificate issued by him, and has power to modify the valuation in or withhold the issue of, any interim payment certificate if the works or any part thereof is not being carried out to its satisfaction.
- 50.7. Unless the special conditions provide otherwise, the frequency shall be one interim payment per month.

Article 51 - Final statement of account

- 51.1. Unless otherwise agreed in the special conditions, the contractor shall submit to the supervisor a draft final statement of account no later than 90 days after the issue of the final acceptance certificate referred to in Article 62. In order to enable the supervisor to prepare the final statement of account, the draft final statement of account is submitted with supporting documents showing in detail the value of the work done in accordance with the contract and all further sums which the contractor considers to be due to it under the contract.
- 51.2. Within 90 days after receipt of the draft final statement of account and of all information reasonably required for its verification, the supervisor shall prepare and sign the final statement of account, which determines:
- a) the amount which in its opinion is finally due under the contract; and
 - b) after establishing the amounts previously paid by the contracting authority and all sums to which the contracting authority is entitled under the contract, the balance, if any, due from the contracting authority to the contractor, or from the contractor to the contracting authority, as the case may be.
- 51.3. The supervisor shall issue to the contracting authority or to its duly authorized representative, and to the contractor, the final statement of account showing the final amount to which the contractor is entitled under the contract. The contracting authority or its duly authorized representative and the contractor shall sign the final statement of account as an acknowledgement of the full and final value of the work implemented under the contract and shall promptly submit a signed copy to the supervisor together with the invoice for the payment of the agreed balance, if any, due to the contractor. However, the final statement of account and the invoice for the payment of the balance shall not include amounts in dispute which are the subject of negotiations, conciliation, arbitration or litigation.
- 51.4. The final statement of account signed by the contractor constitutes a written discharge of the contracting authority confirming that the total in the final statement of account represents full and final settlement of all monies due to the contractor under the contract, other than those amounts which are the subject of amicable settlement, arbitration or litigation. However, such discharge becomes effective only after any payment due in accordance with the final statement of account has been made and the performance guarantee referred to in Article 15 has been returned to the contractor.
- 51.5. The contracting authority is not liable to the contractor for any matter or thing whatsoever arising out of, or in accordance with, the contract or execution of the works, unless the contractor has included a claim in respect thereof in its draft final statement of account.

Article 52 - Direct payments to sub-contractors

- 52.1. When the supervisor receives a claim from a sub-contractor duly approved under Article 7 to the effect that the contractor has not met its financial obligations so far as the sub-contractor is concerned, the supervisor gives notice to the contractor either to pay the sub-

contractor or to inform it of the reasons why payment should not be made. Should such payment not be made, or reasons not be given within the period of notice, the supervisor may, after satisfying itself that the work has been carried out, certify, and the contracting authority pays the debt claimed by the sub-contractor out of the sums remaining due to the contractor. The contractor remains entirely responsible for the work in respect of which direct payment has been made.

- 52.2. If the contractor gives adequate reasons for refusing to settle all or part of the debt claimed by the sub-contractor, the contracting authority only pays to the sub-contractor only the amounts not in dispute. Sums claimed by the sub-contractor in respect of which the contractor has given adequate reasons for its refusal to pay shall be paid by the contracting authority only after the parties have come to an amicable settlement, or after the decision of an arbitrating authority or after a judgment of a court has been duly notified to the supervisor.
- 52.3. Direct payments to sub-contractors shall not exceed the value at contract prices of the services performed by the sub-contractors for which they request payment; the value at contract prices is calculated or assessed on the basis of the bill of quantities, the price schedule or the breakdown of the lump sum price.
- 52.4. Direct payments to sub-contractors are made entirely in the national currency of the country in which the works are executed, or partly in such national currency and partly in foreign currency, in accordance with the contract.
- 52.5. Where direct payments to sub-contractors are made in foreign currency, they are calculated in accordance with Article 56. They shall not result in any increase in the total amount payable in foreign currency, as stipulated in the contract.
- 52.6. The provisions of Article 52 apply subject to the requirements of the law applicable by virtue of Article 54 concerning the right to payment of creditors who are beneficiaries of an assignment of credit or of a collateral security.

Article 53 - Delayed payments

- 53.1. Once the time-limit referred to in Article 44.3 of the general conditions has expired, the contractor will, upon demand, submitted within two months of receiving late payment, be entitled to late-payment interest:
- at the rediscount rate applied by the central bank by the law of the country in which the works are executed if payments are in the currency of that country;
 - at the rate applied by the European Central Bank to its main refinancing transactions in euro, as published in the Official Journal of the European Union, C series, if payments are in euro,

on the first day of the month in which the time-limit expired, plus three and a half percentage points. The interest shall be payable for the time elapsed between the expiry of the payment deadline and the date on which the contracting authority's account is debited.

- 53.2. Any default in payment of more than 30 days after the expiry of the time-limit stated in Article 44.3(b) shall entitle the contractor to suspend the work in accordance with the procedure laid down in Article 38.2.
- 53.3. Any default in payment of more than 120 days after the expiry of the time-limit stated in Article 44.3(b) shall entitle the contractor to terminate the contract in accordance with the procedure laid down in Article 65.

Article 54 - Payments to third parties

- 54.1. Orders for payments to third parties may be carried out only after an assignment made in accordance with Article 6. The assignment is notified to the contracting authority.
- 54.2. Notification of beneficiaries of the assignment is the sole responsibility of the contractor.
- 54.3. In the event of a legally binding attachment of the property of the contractor affecting payments due to it under the contract, and without prejudice to the time limit laid down in Article 53, the contracting authority has 30 days, starting from the day when it receives notification of the definitive lifting of the obstacle to payment, to resume payments to the contractor.

Article 55 - Claims for additional payment

- 55.1. If the contractor considers itself being entitled to additional payment under the contract, the contractor shall:

- a) if it intends to make any claim for additional payment, give to the supervisor notice of its intention or make such claim no later than 15 days after the contractor became aware, or should have become aware of the event or circumstances giving rise of such claim, stating the reason for its claim;

If the contractor fails to give notice of a claim for additional payment within such period of 15 days, the contractor shall not be entitled to additional payment, and the contracting authority shall be discharged from all liability in connection with the request; and

- b) submit full and detailed particulars of its claim as soon as it is reasonably practicable, but no later than 60 days after the date of such notice, unless otherwise agreed by the supervisor. In case the supervisor agrees to another deadline than the said 60 days, the agreed upon deadline will, in any event, require that such particulars shall be submitted no later than the date of submission of the draft final statement of account. The contractor shall thereafter promptly submit such further particulars as the supervisor may reasonably require assessing the validity of the claim.

- 55.2. When the supervisor has received the full and detailed particulars of the contractor's claim that it requires, he shall, without prejudice to Article 21.4, after due consultation with the contracting authority and, where appropriate, the contractor, determine whether the contractor is entitled to additional payment and notify the parties accordingly.

- 55.3. The supervisor may reject any claim for additional payment which does not comply with the requirements of Article 55.

Article 56 - End date

- 56.1. The payment obligations of the EC under this contract shall cease at most 18 months after the end of the period of implementation of tasks, unless the contract is terminated in accordance with these general conditions. In the event of co-financing, this date shall be laid down in the special conditions.

ACCEPTANCE AND DEFECTS LIABILITY

Article 57 - General principles

- 57.1. Verification of the works by the supervisor with a view to provisional or final acceptance shall take place in the presence of the contractor. The absence of the contractor shall not be a bar to verification on condition that the contractor has been summoned in due form at least 30 days prior to the date of verification.
- 57.2. Should exceptional circumstances make it impossible to ascertain the state of the works or otherwise proceed with their acceptance during the period fixed for provisional or final acceptance, a statement certifying such impossibility shall be drawn up by the supervisor after consultation, where possible, with the contractor. The verification shall take place and a statement of acceptance or rejection shall be drawn up by the supervisor within 30 days following the date on which such impossibility ceases to exist. The contractor shall not invoke these circumstances in order to avoid its obligation of presenting the works in a state suitable for acceptance.

Article 58 - Tests on completion

- 58.1. The works shall not be accepted until the prescribed verifications and tests have been carried out at the expense of the contractor. The contractor shall notify the supervisor of the date on which such verification and tests may commence.
- 58.2. Works which do not satisfy the terms and conditions of the contract, or in the absence of such terms and conditions, which are not carried out in accordance with trade practices in the country in which the works are executed, shall, if required, be demolished and rebuilt by the contractor or repaired to the satisfaction of the supervisor, otherwise this shall be done as of right after due notice at the expense of the contractor, by order of the supervisor. The supervisor may also require the demolition and reconstruction by the contractor, or repair to the satisfaction of the supervisor, under the same conditions, of any work in which unacceptable materials have been used, or carried out in the periods of suspension provided for in Article 38.

Article 59 - Partial acceptance

- 59.1. The contracting authority may make use of the various structures, parts of structures or sections of the works forming part of the contract as and when they are completed. Any taking over of the structures, parts of structures or sections of the works by the contracting authority shall be preceded by their partial provisional acceptance. However, works may in cases of urgency be taken over prior to acceptance provided an inventory of outstanding work is drawn up by the supervisor and agreed to by the contractor and the supervisor beforehand. Once the contracting authority has taken possession of a structure, a part thereof or section of the works, the contractor shall no longer be required to make good any damage resulting otherwise than from faulty construction or workmanship.
- 59.2. The supervisor may, at the request of the contractor and if the nature of the works so permits, proceed with partial provisional acceptance, provided that the structures, parts of structures or sections of the works are completed and suited to the use as described in the contract.
- 59.3. In the cases of partial provisional acceptance referred to in Article 59.1 and 59.2 the defects liability period provided for in Article 62 shall, unless the special conditions provide otherwise, run as from the date of such partial provisional acceptance.

Article 60 - Provisional acceptance

- 60.1. The works shall be taken over by the contracting authority when they have satisfactorily passed the tests on completion and a certificate of provisional acceptance has been issued or is deemed to have been issued.
- 60.2. The contractor may apply, by notice to the supervisor, for a certificate of provisional acceptance not earlier than 15 days before the works, in the contractor's opinion, are complete and ready for provisional acceptance. The supervisor shall within 30 days after the receipt of the contractor's application either:
- a) issue the certificate of provisional acceptance to the contractor with a copy to the contracting authority stating, where appropriate, its reservations, and, inter alia, the date on which, in its opinion, the works were completed in accordance with the contract and ready for provisional acceptance; or
 - b) reject the application giving its reasons and specifying the action which, in its opinion, is required of the contractor for the certificate to be issued.
- 60.3. If the supervisor fails either to issue the certificate of provisional acceptance or to reject the contractor's application within the period of 30 days, he shall be deemed to have issued the certificate on the last day of that period. The certificate of provisional acceptance shall not be deemed to be an admission that the works have been completed in every respect. If the works are divided by the contract into sections, the contractor shall be entitled to apply for separate certificates for each of the sections.
- 60.4. Upon provisional acceptance of the works, the contractor shall dismantle and remove temporary structures as well as materials no longer required for use in connection with

the implementation of the contract. It shall also remove any litter or obstruction and redress any change in the condition of the site as required by the contract.

60.5. Immediately after provisional acceptance, the contracting authority may make use of all the works as completed.

Article 61 - Defects liability

61.1. The contractor shall be responsible for making good any defect in, or damage to, any part of the works which may appear or occur during the defects liability period and which:

- a) results from the use of defective plant or materials or faulty workmanship or design of the contractor; and/or
- b) results from any act or omission of the contractor during the defects liability period; and/or;
- c) appears in the course of an inspection made by, or on behalf of the contracting authority.

61.2. The contractor shall at its own cost make good the defect or damage as soon as practicable. The defects liability period for all items replaced or renewed shall recommence from the date when the replacement or renewal was made to the satisfaction of the supervisor. If the contract provides for partial acceptance, the defects liability period shall be extended only for the part of the works affected by the replacement or renewal.

61.3. If any such defect appears or such damage occurs, during the defects liability period, the contracting authority or the supervisor shall notify the contractor. If the contractor fails to remedy a defect or damage within the time limit stipulated in the notification, the contracting authority may:

- a) carry out the works itself, or employ someone else to carry out the works at the contractor's risk and cost, in which case the costs incurred by the contracting authority shall be deducted from monies due to or from guarantees held against the contractor or from both; or
- b) terminate the contract.

61.4. If the defect or damage is such that the contracting authority has been deprived substantially of the whole or a part of the benefit of the works, the contracting authority shall, without prejudice to any other remedy, be entitled to recover all sums paid in respect of the parts of the works concerned together with the cost of dismantling such parts and clearing the site.

61.5. In case of emergency, where the contractor is not immediately available or, having been reached, is unable to take the measures required, the contracting authority or the supervisor may have the work carried out at the expense of the contractor. The contracting authority or the supervisor shall as soon as practicable inform the contractor of the action taken.

- 61.6. Where the special conditions stipulate that the maintenance work, necessitated by normal wear and tear, shall be carried out by the contractor, such work shall be paid for from a provisional sum. Deterioration resulting from the circumstances provided for in Article 21 or from abnormal use shall be excluded from this obligation unless it reveals a fault or defect justifying the request for repair or replacement under Article 61.
- 61.7. The defects liability period shall be stipulated in the special conditions and technical specifications. If the duration of the defects liability period is not specified, it shall be 365 days. The defects liability period shall commence on the date of provisional acceptance and may recommence in accordance with Article 61.2.
- 61.8. After provisional acceptance and without prejudice to the defects liability referred to in Article 61, the contractor shall no longer be responsible for risks which may affect the works and which result from causes not attributable to it. However, the contractor shall be responsible as from the date of provisional acceptance for the soundness of the construction, as laid down in the law of the country in which the works are executed.

Article 62 - Final acceptance

- 62.1. Upon the expiry of the defects liability period, or where there is more than one such period, upon the expiry of the latest period, and when all defects or damage have been rectified, the supervisor shall issue to the contractor a final acceptance certificate and a copy thereof to the contracting authority stating the date on which the contractor completed its obligations under the contract to the supervisor's satisfaction. The final acceptance certificate shall be given by the supervisor within 30 days after the expiration of the defects liability period, or as soon as any works ordered under Article 61 have been completed to the satisfaction of the supervisor.
- 62.2. The works shall not be considered as completed until the final acceptance certificate has been signed by the supervisor and delivered to the contracting authority, with a copy to the contractor.
- 62.3. Notwithstanding the issuance of the final acceptance certificate, the contractor and the contracting authority shall remain liable for the fulfilment of any obligation incurred under the contract prior to the issue of the final acceptance certificate, which remains unperformed at the time such final acceptance certificate is issued. The nature and extent of any such obligation shall be determined by reference to the provisions of the contract.

BREACH OF CONTRACT AND TERMINATION

Article 63 - Breach of contract

- 63.1. Either party commits a breach of contract where it fails to perform its obligations in accordance with the provisions of the contract.
- 63.2. Where a breach of contract occurs, the party injured by the breach is entitled to the following remedies:

- a) damages; and/or
- b) termination of the contract.

63.3. Damages may be either:

- a) general damages; or
- b) liquidated damages.

63.4. Should the contractor fail to perform any of its obligations in accordance with the provisions of the contract, the contracting authority is without prejudice to its right under Article 63.2, also entitled to the following remedies:

- a) suspension of payments; and/or
- b) reduction or recovery of payments in proportion to the failure's extent.

63.5. Where the contracting authority is entitled to damages, it may deduct such damages from any sums due to the contractor or call on the appropriate guarantee.

Article 64 - Termination by the contracting authority

64.1. The contracting authority may, at any time and with immediate effect, subject to Article 64.9, terminate the contract, except as provided for under Article 64.2.

64.2. Subject to any other provision of these general conditions the contracting authority may, by giving seven days' notice to the contractor, terminate the contract and expel the contractor from the site in any of the following cases where:

- a) the contractor is in serious breach of contract for failure to perform its contractual obligations;
- b) the contractor fails to comply within a reasonable time with the notice given by the supervisor requiring it to make good the neglect or failure to perform its obligations under the contract which seriously affects the proper and timely performance of the works;
- c) the contractor refuses or neglects to carry out any administrative orders given by the supervisor;
- d) the contractor assigns the contract or sub-contracts without the authorisation of the contracting authority;
- e) the contractor is bankrupt, subject to insolvency or winding up procedures, is having its assets administered by a liquidator or by the courts, has entered into an arrangement with creditors, has suspended business activities, or is in any analogous situation arising from a similar procedure provided for under any national law or regulation relevant to that contractor;

- f) any organisational modification occurs involving a change in the legal personality, nature or control of the contractor, unless such modification is recorded in an addendum to the contract;
- g) any other legal disability hindering performance of the contract occurs;
- h) the contractor fails to provide the required guarantees or insurance, or the person providing the earlier guarantee or insurance is not able to abide by its commitments;
- i) the contractor has been guilty of grave professional misconduct proven by any means which the contracting authority can justify;
- j) it has been established by a final judgment or a final administrative decision or by proof in possession of the contracting authority that the contractor has been guilty of fraud, corruption, involvement in a criminal organisation, money laundering or terrorist financing, terrorist related offences, child labour or other forms of trafficking in human beings or circumventing fiscal, social or any other applicable legal obligations, including through the creation of an entity for this purpose;
- k) the contractor, in the performance of another contract financed by the EU budget/EDF funds, has been declared to be in serious breach of contract, which has led to its early termination or the application of liquidated damages or other contractual penalties or which has been discovered following checks, audits or investigations by the European Commission, the contracting authority, OLAF or the Court of Auditors;
- l) after the award of the contract, the award procedure or the performance of the contract proves to have been subject to breach of obligations, irregularities or fraud;
- m) the award procedure or the performance of another contract financed by the EU budget/EDF funds proves to have been subject to breach of obligations, irregularities or fraud which are likely to affect the performance of the present contract;
- n) the contractor fails to perform its obligation in accordance with Article 12.8, Article 12a or Article 12b;
- o) the contracting authority has become entitled to the maximum claim under Article 36.1;
- p) the contractor fails to perform its obligation in accordance with Article 61.3;
- q) the contractor is in breach of the data protection obligations resulting from Article 72 of these general conditions.

The cases of termination under points (e), (i), (j), (l), (m) and (n) may refer also to persons who are members of the administrative, management or supervisory body of the

contractor and/or to persons having powers of representation, decision or control with regard to the contractor.

The cases of termination under points (a), (e), (f), (g), (i), (j), (k), (l), (m) and (n) may refer also to persons jointly and severally liable for the performance of the contract.

The cases under points (e), (i), (j), (k), (l), (m), (n) and (q) may refer also to subcontractors.

- 64.3. Termination shall be without prejudice to any other rights or powers under the contract of the contracting authority and the contractor. The contracting authority may, thereafter, complete the works itself or conclude any other contract with a third party, at the contractor's own expense. The contractor's liability for delay in completion shall immediately cease when the contracting authority terminates the contract without prejudice to any liability thereunder that may already have arisen.
- 64.4. Upon termination of the contract or when it has received notice thereof, the contractor shall take immediate steps to bring the works to a close in a prompt and orderly manner and to reduce expenditure to a minimum.
- 64.5. The supervisor shall, as soon as possible after termination, certify the value of the works and all sums due to the contractor as at the date of termination.
- 64.6. In the event of termination:
- a) a report of work performed by the contractor shall be drawn up by the supervisor as soon as possible after inspection of the works, and inventory taken of temporary structures, materials, plant and equipment. The contractor shall be summoned to be present during the inspection and the taking of the inventory. The supervisor shall also draw up statements of emoluments still owed by the contractor to workers employed by him in relation to the contract and of sums owed by the contractor to the contracting authority;
 - b) the contracting authority shall have the option of acquiring in whole or in part temporary structures which have been approved by the supervisor, equipment, plant and materials specifically supplied or manufactured in connection with the execution of work under the contract;
 - c) the purchase price of the temporary structures, equipment, plant and materials referred to above shall not exceed the unpaid portion of the expenditure incurred by the contractor, such expenditure being limited to that required for the performance of the contract under normal conditions;
 - d) the contracting authority may purchase, at market prices, the materials and items supplied or ordered by the contractor and not already paid for by the contracting authority on such conditions as the supervisor considers appropriate.
- 64.7. The contracting authority shall not be obliged to make any further payments to the contractor until the works are completed. After the works are completed, the contracting

authority shall recover from the contractor the extra costs, if any, of completing the works, or shall pay any balance still due to the contractor.

64.8. If the contracting authority terminates the contract pursuant to Article 64.2, it shall, in addition to the extra costs for completion of the works and without prejudice to its other remedies under the contract, be entitled to recover from the contractor any loss it has suffered up to 10% of the contract price.

64.9. Where the termination is not due to an act or omission of the contractor, force majeure or other circumstances beyond the control of the contracting authority, the contractor shall be entitled to claim in addition to sums owed to it for work already performed, an indemnity for loss suffered.

64.10. This contract shall be automatically terminated if it has not given rise to any payment in the two years following its signing by both parties.

Article 65 - Termination by the contractor

65.1. The contractor may, by giving 14 days' notice to the contracting authority, terminate the contract if the contracting authority:

- a) fails for more than 120 days to pay the contractor the amounts due under any certificate issued by the supervisor after the expiry of the time limit stated in Article 44.3; or
- b) consistently fails to meet its obligations after repeated reminders; or
- c) suspends the progress of the works or any part thereof for more than 180 days for reasons not specified in the contract, or not attributable to the contractor's breach or default.

65.2. Such termination shall be without prejudice to any other rights of the contracting authority or the contractor acquired under the contract. Upon such termination, the contractor shall, subject to the law of the country in which the works are executed, be entitled to immediately remove its equipment from the site.

65.3. In the event of such termination, the contracting authority shall pay the contractor for any loss or damage the contractor may have suffered. The maximum amount shall be 10% of the contract price.

Article 66 - Force majeure

66.1. Neither party shall be considered to be in default or in breach of its obligations under the contract if the performance of such obligations is prevented by any circumstances of force majeure which arises after the date of notification of award or the date when the contract becomes effective.

66.2. The term force majeure, as used herein covers any unforeseeable events, not within the control of either party and which by the exercise of due diligence neither party is able to overcome such as acts of God, strikes, lock-outs or other industrial disturbances, acts of

the public enemy, wars whether declared or not, blockades, insurrection, riots, epidemics, landslides, earthquakes, storms, lightning, floods, washouts, civil disturbances, explosions. A decision of the European Union to suspend the cooperation with the partner country is considered to be a case of force majeure when it implies suspension of funding this contract.

- 66.3. Notwithstanding the provisions of Articles 36 and 64, the contractor shall not be liable to forfeiture of its performance guarantee, liquidated damages or termination for default if, and to the extent that, its delay in performance or other failure to perform its obligations under the contract is the result of an event of force majeure. The contracting authority shall similarly not be liable, notwithstanding the provisions of Articles 53 and 65, for payment of interest on delayed payments, for non-performance or for termination by the contractor for default, if, and to the extent that, the contracting authority's delay or other failure to perform its obligations is the result of force majeure.
- 66.4. If either party considers that any circumstances of force majeure have occurred which may affect performance of its obligations, it shall promptly notify the other party and the supervisor, giving details of the nature, the probable duration and the likely effect of the circumstances. Unless otherwise directed by the supervisor in writing, the contractor shall continue to perform its obligations under the contract as far as is reasonably practicable, and shall seek all reasonable alternative means for performance of its obligations which are not prevented by the force majeure event. The contractor shall not put into effect such alternative means unless directed so to do by the supervisor.
- 66.5. If the contractor incurs additional costs in complying with the supervisor's directions or using alternative means under Article 66.4, the amount thereof shall be certified by the supervisor.
- 66.6. If circumstances of force majeure have occurred and continue for a period of 180 days then, notwithstanding any extension of time for completion of the works that the contractor may by reason thereof have been granted, either party shall be entitled to serve upon the other 30 days' notice to terminate the contract. If, at the expiry of the period of 30 days, force majeure persists, the contract shall terminate and, in consequence thereof under the law governing the contract, the parties shall be released from further performance of the contract.

Article 67 - Decease

- 67.1. Where the contractor is a natural person, the contract shall be automatically terminated if that person dies. However, the contracting authority shall examine any proposal made by the heirs or beneficiaries if they have notified their wish to continue the contract.
- 67.2. Where the contractor consists of a number of persons and one or more of them die, a report shall be agreed between the parties on the progress of the works, and the contracting authority shall decide whether to terminate or continue the contract in accordance with the undertaking given by the survivors and by the heirs or beneficiaries, as the case may be. The decision of the contracting authority shall be notified to those concerned within 30 days of receipt of such proposal.

- 67.3. In the cases provided for in Article 67.1 and 67.2, persons offering to continue to perform the contract shall notify the contracting authority thereof within 15 days of the date of decease.
- 67.4. Such persons shall be jointly and severally liable for the proper performance of the contract to the same extent as the deceased contractor. Continuation of the contract shall be subject to the rules relating to establishment of any guarantee provided for in the contract.

SETTLEMENT OF DISPUTES AND APPLICABLE LAW

Article 68 - Settlement of disputes

- 68.1. The parties shall make every effort to settle amicably any dispute relating to the contract which may arise between them, or between the supervisor and the contractor.
- 68.2. Once a dispute has arisen, a party shall notify the other party of the dispute, stating its position on the dispute and requesting an amicable settlement. The other party shall respond to this request for amicable settlement within 30 days, stating its position on the dispute. Unless the parties agree otherwise, the maximum time period laid down for reaching an amicable settlement shall be 120 days from the date of the notification requesting such a procedure. Should a party not agree to the other party's request for amicable settlement, should a party not respond in time to that request or should no amicable settlement be reached within the maximum time period, the amicable settlement procedure is considered to have failed.
- 68.3. In the absence of an amicable settlement, a party may notify the other party requesting a settlement through conciliation by a third person. If the European Commission is not a party to the contract, it may accept to intervene as conciliator. The other party shall respond to the request for conciliation within 30 days. Unless the parties agree otherwise, the maximum time period laid down for reaching a settlement through conciliation shall be 120 days from the notification requesting such a procedure. Should a party not agree to the other party's request for conciliation, should a party not respond in time to that request or should no settlement be reached within the maximum time period, the conciliation procedure is considered to have failed.
- 68.4. If the amicable settlement procedure and, if so requested, the conciliation procedure fails, each party may refer the dispute to either the decision of a national jurisdiction or arbitration, as specified in the special conditions.

Article 69 - Applicable Law

- 69.1. This contract shall be governed by the law of the country of the contracting authority or, where the contracting authority is the European Commission, by the applicable European Union law complemented where necessary by the law of Belgium.

FINAL PROVISIONS

Article 70 -

Administrative sanctions

- 70.1. Without prejudice to the application of other remedies laid down in the contract, a sanction of exclusion from all contracts and grants financed by the EU, may be imposed, after an adversarial procedure in line with the applicable Financial Regulation, upon the contractor who, in particular,
- a) is guilty of grave professional misconduct, has committed irregularities or has shown significant deficiencies in complying with the main obligations in the performance of the contract or has been circumventing fiscal, social or any other applicable legal obligations, including through the creation of an entity for this purpose. The duration of the exclusion shall not exceed the duration set by final judgement or final administrative decision or, in the absence thereof, three years;
 - b) is guilty of fraud, corruption, participation in a criminal organisation, money laundering, terrorist-related offences, child labour or trafficking in human beings. The duration of the exclusion shall not exceed the duration set by final judgement or final administrative decision or, in the absence thereof, five years.
- 70.2. In the situations mentioned in Article 70.1, in addition or in alternative to the sanction of exclusion, the contractor may also be subject to financial penalties representing 2-10% of the contract price.
- 70.3. Where the contracting authority is entitled to impose financial penalties, it may deduct such financial penalties from any sums due to the contractor or call on the appropriate guarantee.
- 70.4. The decision to impose administrative sanctions may be published on a dedicated internet-site, explicitly naming the contractor.

Article 71 -

Verifications, checks and audits by European Union bodies

- 71.1. The contractor will allow the European Commission, the European Anti-Fraud Office, the European Public Prosecutor's Office and the European Court of Auditors to verify, by examining the documents and to make copies thereof or by means of on-the-spot checks, including checks of documents (original or copies), the implementation of the contract. In order to carry out these verifications and audits, the EU bodies mentioned above shall be allowed to conduct a full audit, if necessary, on the basis of supporting documents for the accounts, accounting documents and any other document relevant to the financing of the project. The contractor shall ensure that on-the-spot accesses is available at all reasonable times, notably at the contractor's offices, to its computer data, to its accounting data and to all the information needed to carry out the audits, including information on individual salaries of persons involved in the project. The contractor shall ensure that the information is readily available at the moment of the audit and, if so requested, that data be handed over in an appropriate form. These inspections may take place up to 7 years after the final payment.

- 71.2. Furthermore, the contractor will allow the European Anti-Fraud Office to carry out checks and verification on the spot in accordance with the procedures set out in the European Union legislation for the protection of the financial interests of the European Union against fraud and other irregularities.
- 71.3. To this end, the contractor undertakes to give appropriate access to personnel or agents of the European Commission, of the European Anti-Fraud Office, of the European Public Prosecutor's Office and of the European Court of Auditors to the sites and locations at which the contract is carried out, including its information systems, as well as all documents and databases concerning the technical and financial management of the project and to take all steps to facilitate their work. Access given to agents of the European Commission, European Anti-Fraud Office, the European Public Prosecutor's Office and the European Court of Auditors shall be on the basis of confidentiality with respect to third parties, without prejudice to the obligations of public law to which they are subject. Documents must be easily accessible and filed so as to facilitate their examination and the contractor must inform the contracting authority of their precise location.
- 71.4. The contractor guarantees that the rights of the European Commission, of the European Anti-Fraud Office, of the European Public Prosecutor's Office and of the European Court of Auditors to carry out audits, checks and verification will be equally applicable, under the same conditions and according to the same rules as those set out in this Article, to any sub-contractor or any other party benefiting from EU budget/EDF funds.
- 71.5. Failure to comply with the obligations set forth in Article 71.1 to 71.4 constitutes a case of serious breach of contract.

Article 72 - Data protection

72.1. Processing of personal data by the contracting authority

Any personal data included in or relating to the contract, including its implementation, shall be processed in accordance with Regulation (EU) 2018/1725. Such data shall be processed solely for the purposes of the implementation, management and monitoring of the contract by the data controller.

The contractor or any other person whose personal data is processed by the data controller in relation to this contract has specific rights as a data subject under Chapter III (Articles 14-25) of Regulation (EU) 2018/1725, in particular the right to access, rectify or erase their personal data and the right to restrict the processing of their personal data or, where applicable, the right to object to processing or the right to data portability.

Should the contractor or any other person whose personal data is processed in relation to this contract have any queries concerning the processing of its personal data, it shall address itself to the data controller. They may also address themselves to the Data Protection Officer of the data controller. They have the right to lodge a complaint at any time to the European Data Protection Supervisor.

Details concerning the processing of personal data are available in the data protection notice referred to in the special conditions.

72.2 Processing of personal data by the contractor

The processing of personal data by the contractor shall meet the requirements of the general conditions and be processed solely for the purposes set out by the controller.

The contractor shall assist the controller for the fulfilment of the controller's obligation to respond to requests for exercising rights of person whose personal data is processed in relation to this contract as laid down in Chapter III (Articles 14-25) of Regulation (EU) 2018/1725. The contractor shall inform without delay the controller about such requests.

The contractor may act only on documented written instructions and under the supervision of the controller, in particular with regard to the purposes of the processing, the categories of data that may be processed, the recipients of the data and the means by which the data subject may exercise its rights.

The contractor shall grant personnel access to the data to the extent strictly necessary for the implementation, management and monitoring of the contract. The contractor must ensure that personnel authorised to process personal data has committed itself to confidentiality or is under appropriate statutory obligation of confidentiality in accordance with the provisions of Article 12.7 of these general conditions.

The contractor shall adopt appropriate technical and organisational security measures, giving due regard to the risks inherent in the processing and to the nature, scope, context and purposes of processing, in order to ensure, in particular, as appropriate:

- (a) the pseudonymisation and encryption of personal data;
- (b) the ability to ensure the ongoing confidentiality, integrity, availability and resilience of processing systems and services;
- (c) the ability to restore the availability and access to personal data in a timely manner in the event of a physical or technical incident;
- (d) a process for regularly testing, assessing and evaluating the effectiveness of technical and organisational measures for ensuring the security of the processing;
- (e) measures to protect personal data from accidental or unlawful destruction, loss, alteration, unauthorised disclosure of or access to personal data transmitted, stored or otherwise processed.

The contractor shall notify relevant personal data breaches to the controller without undue delay and at the latest within 48 hours after the contractor becomes aware of the breach. In such cases, the contractor shall provide the controller with at least the following information:

- (a) nature of the personal data breach including where possible, the categories and approximate number of data subjects concerned and the categories and approximate number of personal data records concerned;
- (b) likely consequences of the breach;
- (c) measures taken or proposed to be taken to address the breach, including, where appropriate, measures to mitigate its possible adverse effects.

The contractor shall immediately inform the data controller if, in its opinion, an instruction infringes Regulation (EU) 2018/1725, Regulation (EU) 2016/679, or other Union or Member State or third country applicable data protection provisions as referred to in the tender specifications.

The contractor shall assist the controller for the fulfilment of its obligations pursuant to Article 33 to 41 under Regulation (EU) 2018/1725 to:

- (a) ensure compliance with its data protection obligations regarding the security of the processing, and the confidentiality of electronic communications and directories of users;
- (b) notify a personal data breach to the European Data Protection Supervisor;
- (c) communicate a personal data breach without undue delay to the data subject, where applicable;
- (d) carry out data protection impact assessments and prior consultations as necessary.

The contractor shall maintain a record of all data processing operations carried on behalf of the controller, transfers of personal data, security breaches, responses to requests for exercising rights of people whose personal data is processed and requests for access to personal data by third parties.

The contracting authority is subject to Protocol 7 of the Treaty on the Functioning of the European Union on the privileges and immunities of the European Union, particularly as regards the inviolability of archives (including the physical location of data and services) and data security, which includes personal data held on behalf of the contracting authority in the premises of the contractor or subcontractor.

The contractor shall notify the contracting authority without delay of any legally binding request for disclosure of the personal data processed on behalf of the contracting authority made by any national public authority, including an authority from a third country. The contractor may not give such access without the prior written authorisation of the contracting authority.

The duration of processing of personal data by the contractor will not exceed the period referred to in Article 12.10 of these general conditions. Upon expiry of this period, the contractor shall, at the choice of the controller, return, without any undue delay in a commonly agreed format, all personal data processed on behalf of the controller and the copies thereof or shall effectively delete all personal data unless Union or national law requires a longer storage of personal data.

For the purpose of Article 7 of these general conditions, if part or all of the processing of personal data is subcontracted to a third party, the contractor shall pass on the obligations referred to in the present article in writing to those parties, including subcontractors. At the request of the contracting authority, the contractor shall provide a document providing evidence of this commitment.

* * *

[VOLUME 4.2

FINANCIAL OFFER TEMPLATES

LUMP SUM CONTRACTS

Content

4.2.1 — Introduction

4.2.2 — Summary

4.2.3 — Breakdown of the lump-sum price

4.2.4 — Detailed breakdown of prices

VOLUME 4.2.1 — INTRODUCTION

1. General

- 1.1 The breakdown of the lump-sum price (Volume 4.2.3) is the itemised list of prices showing the build-up of the price in a lump-sum contract. This breakdown of the lump-sum price does not derogate in any way to the clause stating that, in a lump-sum contract, the total contract price remains fixed irrespective of the quantity of work actually carried out.

The amounts due will be calculated:

through the measurement of the percentage of works carried out in relation to the firm quantities of each item of the breakdown of the lump-sum price and by applying that percentage to the lump-sum price of the related item.

- 1.2 The detailed breakdown of prices (Volume 4.2.5) is the list which contains the basic costs, net costs and mark-ups, from which each price on the breakdown of the lump-sum price and on the daywork schedule results. The detailed breakdown of prices does not derogate in any way to the clause according to which, in a lump-sum contract, the total contract price remains fixed irrespective of the quantities of work actually carried out.

The detailed breakdown of prices provides the coefficients for applying the price revision formula referred to in Article 48.2 of the special conditions and can provide the basis for valuation of additional work ordered referred to in Article 37.5 of the general conditions.

- 1.3 Provisional sums for use when works are to be executed on a daywork basis (Volume 4.2.4) can only be executed by administrative order of the supervisor, in accordance with the terms of the contract.

2. Specific to Volumes 4.2.2, 4.2.3 and 4.2.4

- 2.1 The item description given in the breakdown of the lump-sum price in no way limits the contractor's obligations under the contract to provide all the works described elsewhere.
- 2.2 The prices of the breakdown of the lump-sum price include all incidental and contingent expenses and all risks necessary to construct, complete and maintain all works in accordance with the contract. Unless separate items are provided in the breakdown of the lump-sum price, prices include all costs involved in the various items of the breakdown.
- 2.3 The lump-sum price and the prices of the breakdown of the lump-sum price and of the daywork schedule are all-inclusive and include any non-exonerated tax or fiscal duty.
- 2.4 The unit prices in Volumes 4.2.3 and 4.2.4 are obtained by multiplying the net cost of Volume 4.2.5 - Table D, on the one hand, with the coefficient K, on the other hand.

The coefficient K represents the proportions between the Site costs (Fc) of Volume 4.2.5 - Table E and the Total net costs (Ps) and between the General costs (Fg) of Volume 4.2.5 - Table F and the Contract price (Pv): $K = (1+A)/(1-B)$ whereby

$$A = Fc/Ps$$

$$B = Fg/Pv$$

ORIGINAL

VOLUME 4.2.2 — SUMMARY

Description	Amount [EUR] [local currency]
Total of lump-sum price	748.518
TOTAL PRICE	748.518



ORIGINAL

VOLUME 4.2.3 — BREAKDOWN OF THE LUMP-SUM PRICE

Item	Description	Unit	Unit price	Firm quantities	Lump-sum price [EUR] [local currency]
1	Highly efficient, reversible heat pump	pcs	56.400	8	451.200
2	Mechanical installations for connection of heat pump with consumers	Cpl	153.518	1	153.518
3	Circulation pumps	Cpl	36.200	1	36.200
4	Plate heat exchangers	Cpl	16.500	1	16.500
5	Foundation building construction works	Cpl	33.330	1	33.330
6	Electrical installations for heat pumps el. Supply	Cpl	46.640	1	46.640
7	Heat pump inverter split system with direct expansion of the operating fluid	cpl	1.160	8	9.280
8	Electrical installations for heat pumps split systems el. supply	cpl	1.850	1	1.850
	Total lump-sum price				748.518



B) Breakdown of basic supply prices for materials and consumables
(in local currency or €/unit)

NO	Description	Unit	Origin (1)	Unit price origin (2)	Transport to site (3)	Tax, duties and other charges (4)	Losses		Total (6)
							%	Value (5)	
1	Heat pumps air to water	pcs	Italy	56.400					56.400
2	Heat pumps split system	pcs	Czech Republic	1.160					1.160

This list is not exhaustive.

- (1) Geographical location of the supplier or quarry.
- (2) Supply or cost price at the quarry or on delivery in the country.
- (3) Cost price of transport from the quarry or delivery in the country to the site.
- (4) To be borne by the firm.
- (5) Any losses or breakages to be determined by the tenderer.
- (6) Basic prices for supply of materials: (6) = (2) + (3) + (4) + (5).

Done at
The tenderer (signature):



C) Breakdown of basic hourly prices for equipment
(in local currency or €/hour)

NOT APPLICABLE

No	Description	Purchase date of equipment t	Replacement value (RV) (1)	Duties Taxes (2)	RV + taxes (3)	nb days useful life (4)	Depreciation /day (5)	Fuel cost/day (6)	Lubricant cost/day (7)	Spare parts (SP) cost /day (8)	Lubricant & SP taxes/day (9)	Labour cost/day (10)	Total /day (11)	Average daily working time (12)	Total /hour (13)
B1	D8N bulldozer														
B2	14G grader														
B3	CAT-type crawler excavator														
B4	CAT wheeled excavator														
B5	Trencher type ...														
B5	Pump														
B6	Concrete vibrating poker														
B7	...														

- (1) Estimated purchase price (excl. tax) of a piece of equipment of same kind, but new, purchased in the country's capital at the end of machine life span.
- (2) Duties and taxes charged to the contractor at the purchase date.
- (3) $= (1) + (2)$
- (4) Number of depreciation years by number of days worked per year.
- (5) Daily depreciation $= (3) / (4)$.
- (6) Average daily fuel consumption; the cost of the fuel is given with tax.
- (7) Daily cost of lubricants (excl. tax).
- (8) Daily cost of spare parts (excl. tax).
- (9) Duties and taxes charged to the contractor on lubricants and spare parts
- (10) Manpower price (man/day).
- (11) Daily basic prices of piece of equipment $= (5) + (6) + (7) + (8) + (9) + (10)$.
- (12) Hours of operations (average)
- (13) Hourly operational price of piece of equipment $= (11) / (12)$

ORIGINAL

Done at
The tenderer (signature) 

D) Breakdown of unit prices in the price schedule
(in local currency or €)

NOT APPLICABLE

No of the unit price:
 Designation of the unit price:
 Quantities estimated:

Output per day: m³/day

COMPONENTS OF THE PRICE EQUIPMENT, SUPPLIES AND SUBCONTRACTED WORKS DESIGNATION	Quantity or time using h/day (Q)	U	EQUIPMENT				LABOUR		TOTALS €/day
			DEPRECIATION €/h (1)	MAINTENANCE €/h (2)	FUEL- LUBRICANTS €/h (3)	TOTAL €/day Qx(1+2+3)	Unit price	TOTAL €/day	
EQUIPMENT		h							
		h							
MATERIALS									
		h							
LABOUR		h							
		h							
				TOTAL €/day					
				Net cost €/m ³					



E) Detailed breakdown of site costs (Fc)
(in local currency or €)

Means deployed	Number (1)	Basic price (2)	Total net cost (3)=(1)+(2)
Labour			
A1 Site supervisor	1	100	100
A2 Engineer	2	60	120
A3 Clerk of works	8	50	400
A4 Secretary	1	60	60
A5 Drivers	1	30	30
A6 Orderlies	1	60	60
A7			
Subtotal labour			770
Equipment			
B1 4x4 vehicle	1	30	30
B2 Saloon car	1	25	25
B3 Van-type people carrier	1	30	30
B4...			
Subtotal equipment			85
Materials			
C1 Gasoil	226	5	1.130
C2...			
Subtotal materials			1.130
Other			
D1 Rentals			
D2 Telephone	5	20	100
D3...			
Subtotal other			100
GENERAL TOTAL			2.085

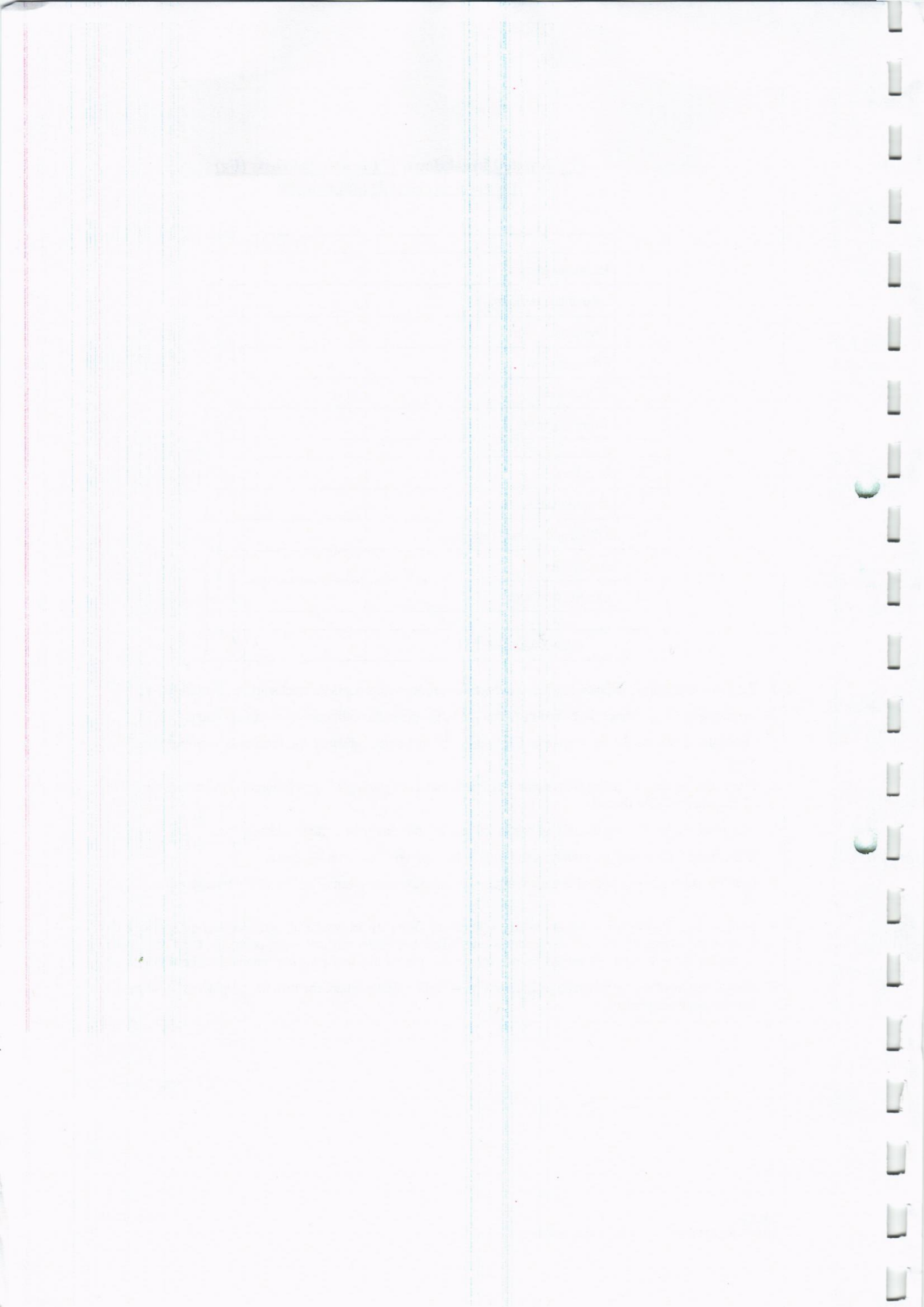


F) Detailed breakdown of the general costs (Fg)
(general overheads and profits)

No		% of the bid
1	Financial charges	1
2	Insurance premiums	0,03
3	Guarantee costs	0,03
4	Price revision	0,01
5	Direct taxes	18
6	Other expenses	0,001
7	Penalties	1
8	Contingencies	1
9	Office and agency expenses	3
10	Net profits	7
11	Corporation taxes	10
GENERAL TOTAL		22.97%

1. Financial charges are expenses incurred outside the production process (project start-up, overdrafts, etc.).
2. Insurance is the insurance described in Article 14 of the general conditions for works contracts.
3. Guarantee costs are the bank charges for issuing the guarantee (advance, performance, retention guarantee, etc.).
4. Firms may or may not make provision under this heading, depending on their judgment concerning the quality of the price revision formula.
5. This involves VAT in the country of works, customs duties on the imported materials, etc.
7. If firms think there may be a delay in the works, they can take out cover against it.
8. Contingencies here are related to uncertainties concerning tender documents, lack of knowledge of the country, etc.
9. General and administrative expenses are made up of firms' fixed overheads such as accounts and quality control, management, various departments and office buildings and are common to all the firm's works contracts. Agency expenses are expenses common to all the works in the agency's area of responsibility.
11. These are taxes paid in the country of the works or in the country where the firm has its place of business (for international companies).





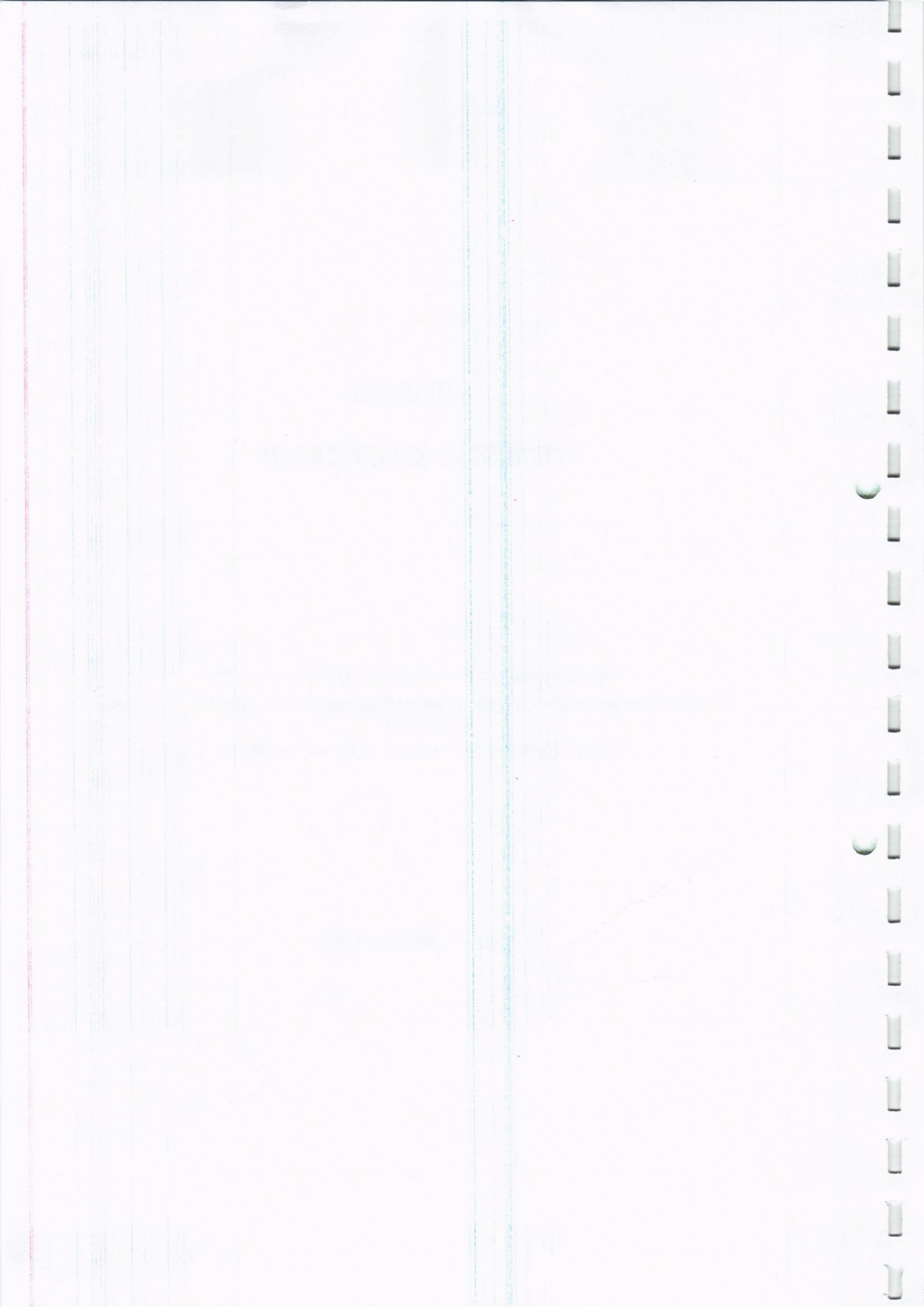
ORIGINAL

VOLUME 3
TECHNICAL SPECIFICATION

PROVISION OF WORKS/BILL OF QUANTITIES
FOR THE INSTALLATION OF HIGH-EFFICIENT ALTERNATIVE CENTRAL HEATING
SYSTEM
(HEAT PUMPS) IN THE MUNICIPALITY OF RADOVISH

LIST OF EQUIPMENT





RADOVISH MUNICIPALITY-ADMINISTRATIVE BUILDING

Ser.	Description	Unit	Qty																											
RADOVISH MUNICIPALITY-ADMINISTRATIVE BUILDING																														
1 MECHANICAL INSTALLATIONS																														
PROCUREMENT AND INSTALLATION OF:																														
1	<p>Highly efficient, reversible heat pump, air-water, with two compressor circuits, which in heating mode has a starting water temperature of 65°C and the possibility of working up to an external air temperature of -20°C, intended for heating an existing hot water radiator installation. Electrical characteristics, water flow, operating temperatures, energy consumption, thermal capacity, pressure drop on the water side controlled according to procedures specified as per the ISO 9001 standard</p> <p>Model ZETA REV HP XT 18.4</p> <p>Manufacturer: SWEGON Operations Srl</p> <p>Origin: Italy</p> <p>Manufacturers Software CH Design selection included</p> <p>The heat pump has the following characteristics:</p> <table><tr><td>-minimum heat capacity</td><td>205 kW.</td><td>205 kW</td></tr><tr><td>- minimum COP</td><td>3</td><td>3.36 W/W</td></tr><tr><td>- starting water temperature in heating mode</td><td>65°C.</td><td>65°C</td></tr><tr><td>- minimum water flow towards consumers</td><td>30 m³/h.</td><td>31.27 m³/h</td></tr><tr><td>- minimum pressure drop towards consumers</td><td>30 kPa.</td><td>58.7 kPa</td></tr><tr><td>- number of compressors</td><td>4</td><td>4</td></tr><tr><td>- number of compressor circuits</td><td>2</td><td>2</td></tr><tr><td>-maximum noise level</td><td>78 dB(A).</td><td>55 dB(A)</td></tr><tr><td>- working medium</td><td>R410A.</td><td>R410A</td></tr></table> <p>Complete kit with:</p> <ul style="list-style-type: none">- controller. ✓- complete alarm management. ✓- built-in buffer with proper insulation. ✓- electronic device for gradually starting the compressors and reducing the initial voltage by 40% compared to the nominal value. ✓- wrong phase protection from over or under voltage. ✓- possibility of automatic management of two or more heat pumps. ✓- remote on/off terminals. ✓	-minimum heat capacity	205 kW.	205 kW	- minimum COP	3	3.36 W/W	- starting water temperature in heating mode	65°C.	65°C	- minimum water flow towards consumers	30 m³/h.	31.27 m³/h	- minimum pressure drop towards consumers	30 kPa.	58.7 kPa	- number of compressors	4	4	- number of compressor circuits	2	2	-maximum noise level	78 dB(A).	55 dB(A)	- working medium	R410A.	R410A	kit	2
-minimum heat capacity	205 kW.	205 kW																												
- minimum COP	3	3.36 W/W																												
- starting water temperature in heating mode	65°C.	65°C																												
- minimum water flow towards consumers	30 m³/h.	31.27 m³/h																												
- minimum pressure drop towards consumers	30 kPa.	58.7 kPa																												
- number of compressors	4	4																												
- number of compressor circuits	2	2																												
-maximum noise level	78 dB(A).	55 dB(A)																												
- working medium	R410A.	R410A																												
2	Stand for the heat pump made of steel profiles finished with two layers of anti-corrosive paint. The exact measurements and dimensions of the stand are taken on site	kg	460																											
3	Rubber anti-vibration device for installation under the heat pump in order to prevent transmission of vibrations towards the foundation	piece	12																											
4	Drain and supply coupling, for connecting the heat pump to the pipeline DN100 PN16	piece	4																											
5	Rubber flanged compensator for installation on the inlet and outlet connection on the water side of the heat pump in order to prevent the transmission of vibrations to the pipeline, complete with necessary mounting material, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16	piece	4																											

6	<p>Flow switch, for monitoring the flow of water and providing a signal in case of lack of flow</p> <ul style="list-style-type: none"> - socket dimension 1/2" - minimum flow 10 m³/h - ambient working temperature -20 +80°C - operating medium temperature -20 +110°C 	piece	2
7	<p>Circulation pump with electronic regulation for the primary side of the heat exchanger with necessary material for connection and installation (flanges, seals, nuts, screws, etc.) with the following properties:</p> <ul style="list-style-type: none"> - water flow 43 m³/h - at pressure drop 16 m - maximum operating pressure 10 bar - operating temperature -20 +110°C 	piece	2
8	<p>Circulation pump with electronic regulation for the primary side of the heat exchanger with necessary material for connection and installation (flanges, seals, nuts, screws, etc.) with the following properties:</p> <ul style="list-style-type: none"> - water flow 86 m³/h - at pressure drop 10 m - maximum operating pressure 10 bar - operating temperature -20 +110°C 	piece	1
9	<p>Ball valve with flange joints complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN125 PN16</p>	piece	4
	DN100 PN16	piece	8
10	<p>Non-return valve with flanged joints complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16</p>	piece	3
11	<p>Filter with flanged joints for catching dirt in the hydraulic circuit, with 0.9mm mesh that can be replaced or cleaned without disassembling the filter body, complete with all connecting and mounting material, such as flanges, seals, nuts, bolts, washers, etc. DN100 PN16</p>	piece	3
12	<p>Balancing valve with flanged joints and connections for flow measurement, complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN80 PN16</p>	piece	3
13	<p>Membrane expansion tank, complete with safety valve and necessary material for connection and installation</p> <ul style="list-style-type: none"> - layout vertical - capacity 100 litres - working pressure 4 bar - maximum pressure 6 bar - safety valve 3 bar 	piece	2

14	Plate heat exchanger, with all necessary material for connection and installation - water flow 101.78/33.79 m ³ /h - thermal power 581 kW - pressure drop 47.27/5.87 kPa - connections DN 100	piece	1
15	Hydraulic separator, complete with automatic de-aeration vessel and discharge valve with all of the necessary connection and mounting material - body dimension DN 500 - automatic vessel for de-aeration 3/4" - discharge valve 1" - connections DN 125	piece	1
16	Vessels for de-aeration, with an external diameter of 114.3 mm, with a tap and connecting pipe of 1/2" and the required mounting hardware	piece	4
17	Manometers with a working range of 0-10 bar, with a connecting tap 1/2", with the necessary material for mounting	piece	12
18	Thermometers with a working range of 0-100°C, with a connecting tap 1/2", with the necessary material for mounting	piece	14
19	Tap for emptying and de-aeration of the 1/2" installation and the required mounting hardware	piece	16
20	Pre-insulated steel pipes for external installation in a trench, black edgeless pipe thermally insulated with a layer of 10cm thick polyurethane foam, externally protected with a layer of high-density polyurethane, complete with necessary fittings, welding material and other joint and auxiliary material. Calculation per required meter of installed and tested pipeline network - DN 100	m	65
21	Marking the route of an external pipe installation	m	65
22	Excavation of earth of third and fourth category for a trench with width of 100 cm and an average height of 100 cm by laying the earth next to the trench	m ³	65
23	Fine trench planning	m ³	65
24	Procurement and placement of a layer of fine sand with a thickness of 10 cm at the bottom of the trench, before installation of the pipes	m ³	5
25	Backfilling the trench by manually placing a layer in the trench of selected excavated soil without sharp stones or large lumps, with a thickness of 30 cm above the layer of fine sand, without using heavy equipment	m ³	19
26	Procurement and installation of PVC tape for warning	m	65
27	Backfilling the trench with 60 cm thick excavated soil using machinery compaction over the layer with fine sand	m ³	65
28	Removal of excess material to a landfill at a distance of 25 km	m ³	31

29	Construction of a concrete foundation for mounting the heat pump with dimensions 7 x 6 x 0.2 m.	m ³	14
*	Laying and compacting the aggregate until reaching the necessary compaction with a thickness of 30cm Rebar mesh Q196 in two rows	kg	160
*	Concrete MB30	m ³	9
		kit	1
30	Penetrating concrete fabric by making holes with dimension 250x250mm and rehabilitation of the holes after installing the pipes	kit	2
31	Correction of an existing distributor and collector of water from the heating installation by making an opening for a pipe with dimension of DN100 and suitable flanges, complete with all the necessary material	kit	2
32	Black edge pipes DN125 PN16	m	16
	DN100	m	77
	DN80	m	10
	DN50	m	8
33	Black elbows, reducers, flanges (35% of the pipe value)	%	35
34	Material for welding, joining and routing of the pipeline network (25% of the value of pipes, elbows and reducers)	%	25
35	Cleaning and coating the black pipes with two layers of anti-corrosive paint (5% of the value of pipes, elbows and reducers)	m ³	2
36	Flushing of the entire installation and removal of impurities (5% of the value of pipes, elbows and reducers)	m ³	2
37	Examination of the pipe installation with cold hydraulic test, final filling with water and commissioning of the system	kit	1
38	Procurement and incorporation of ethylene-glycol for the outer tube circuit, heat pump and heat exchanger	liters	1800
2 ELECTRICAL INSTALLATIONS			
1	Supply, transport and installation of cable clamps, partly in mortar, partly in hose, in cable duct of a type NYY 5x95 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready to use.	m	20
2	Supply, transport and installation of cable clamps, partly in mortar, partly in hose, in cable duct of a type NAYY 4x240 mm ² + NAVY 1x185 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	60
3	Procurement, transportation and installation of a RT switchboard - mechanical engineering, made of twice Decap sheet metal painted with antistatic non-flammable paint, incl. the following equipment installed therein: - Blade fuse NVO 160 A 3p, x 3 pcs - Blade fuse NVO 200 A 3p, x 1 pcs - Small auxiliary joining, bearing and connecting material. Schematic according to a single pole diagram, complete with markings, ready to be powered Contractor should provide 30% spare space for future expansion.	piece	1

KINDERGARTEN "ACO KARAMANOV"

Ser.	Description	Unit	Qty																											
KINDERGARTEN "ACO KARAMANOV"																														
PROCUREMENT AND INSTALLATION OF:																														
1 MECHANICAL INSTALLATIONS																														
1	<p>Highly efficient, reversible heat pump, air-water, with two compressor circuits, which in heating mode has a starting water temperature of 65°C and the possibility of working up to an external air temperature of -20°C, intended for heating an existing hot water radiator installation. Electrical characteristics, water flow, operating temperatures, energy consumption, thermal capacity, pressure drop on the water side controlled according to procedures specified as per the ISO 9001 standard</p> <p>Model ZETA REV HP XT 18.4</p> <p>Manufacturer: SWEGON Operations Srl</p> <p>Origin: Italy</p> <p>Manufacturers Software CH Design selection included</p> <p>The heat pump has the following characteristics:</p> <table><tr><td>-minimum heat capacity</td><td>205 kW.</td><td>205 kW</td></tr><tr><td>- minimum COP</td><td>3</td><td>3.36 W/W</td></tr><tr><td>- starting water temperature in heating mode</td><td>65°C.</td><td>65°C</td></tr><tr><td>- minimum water flow towards consumers</td><td>30 m³/h.</td><td>31.27 m³/h</td></tr><tr><td>- minimum pressure drop towards consumers</td><td>30 kPa.</td><td>58.7 kPa</td></tr><tr><td>- number of compressors</td><td>4</td><td>4</td></tr><tr><td>- number of compressor circuits</td><td>2</td><td>2</td></tr><tr><td>-maximum noise level</td><td>78 dB(A).</td><td>55 dB(A)</td></tr><tr><td>- working medium</td><td>R410A.</td><td>R410A</td></tr></table> <p>Complete kit with:</p> <ul style="list-style-type: none">- controller. ✓- complete alarm management. ✓- built-in buffer with proper insulation. ✓- electronic device for gradually starting the compressors and reducing the initial voltage by 40% compared to the nominal value. ✓- wrong phase protection from over or under voltage. ✓- possibility of automatic management of two or more heat pumps. ✓- remote on/off terminals. ✓	-minimum heat capacity	205 kW.	205 kW	- minimum COP	3	3.36 W/W	- starting water temperature in heating mode	65°C.	65°C	- minimum water flow towards consumers	30 m³/h.	31.27 m³/h	- minimum pressure drop towards consumers	30 kPa.	58.7 kPa	- number of compressors	4	4	- number of compressor circuits	2	2	-maximum noise level	78 dB(A).	55 dB(A)	- working medium	R410A.	R410A	Kit	1
-minimum heat capacity	205 kW.	205 kW																												
- minimum COP	3	3.36 W/W																												
- starting water temperature in heating mode	65°C.	65°C																												
- minimum water flow towards consumers	30 m³/h.	31.27 m³/h																												
- minimum pressure drop towards consumers	30 kPa.	58.7 kPa																												
- number of compressors	4	4																												
- number of compressor circuits	2	2																												
-maximum noise level	78 dB(A).	55 dB(A)																												
- working medium	R410A.	R410A																												
2	Stand for the heat pump made of steel profiles finished with two layers of anti-corrosive paint. The exact measurements and dimensions of the stand are taken on site.	kg	230																											
3	Rubber anti-vibration device for installation under the heat pump in order to prevent transmission of vibrations towards the foundation	piece	6																											
4	Drain and supply coupling, for connecting the heat pump to the pipeline DN100 PN16	piece	2																											

5	Rubber flanged compensator for installation on the inlet and outlet connection on the water side of the heat pump in order to prevent the transmission of vibrations to the pipeline, complete with necessary mounting material, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16	piece	2
6	Flow switch, for monitoring the flow of water and providing a signal in case of lack of flow - socket dimension 1/2" - minimum flow 10 m ³ /h - ambient working temperature -20 +80°C - operating medium temperature -20 +110°C	piece	1
7	Circulation pump with electronic regulation for the primary side of the heat exchanger with necessary material for connection and installation (flanges, seals, nuts, screws, etc.) with the following properties: - water flow 43 m ³ /h - at pressure drop 16 m - maximum operating pressure 10 bar - operating temperature -20 +110°C	piece	1
8	Circulation pump with electronic regulation for the primary side of the heat exchanger with necessary material for connection and installation (flanges, seals, nuts, screws, etc.) with the following properties: - water flow 43 m ³ /h - at pressure drop 10 m - maximum operating pressure 10 bar - operating temperature -20 +110°C	piece	1
9	Ball valve with flange joints complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16	piece	14
10	Non-return valve with flanged joints complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16	piece	2
11	Filter with flanged joints for catching dirt in the hydraulic circuit, with 0.9mm mesh that can be replaced or cleaned without disassembling the filter body, complete with all connecting and mounting material, such as flanges, seals, nuts, bolts, washers, etc. DN100 PN16	piece	2
12	Balancing valve with flanged joints and connections for flow measurement, complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN80 PN16	piece	2

13	Membrane expansion tank, complete with safety valve and necessary material for connection and installation - layout vertical - capacity 100 litres - working pressure 4 bar - maximum pressure 6 bar - safety valve 3 bar	piece	1
14	Plate heat exchanger, with all necessary material for connection and installation - water flow 59.91/19.89 m ³ /h - thermal power 342 kW - pressure drop 48.54/5.63 kPa - connections DN 65	piece	1
15	Hydraulic separator, complete with automatic de-aeration vessel and discharge valve with all of the necessary connection and mounting material - body dimension DN 300 - automatic vessel for de-aeration 3/4 " - discharge valve 1" - 4 connections DN 100	piece	1
16	De-aeration vessels, with an external diameter of 114.3 mm, with a tap and connecting pipe of 1/2" and the required mounting hardware	piece	2
17	Manometers with a working range of 0-10 bar, with a connecting tap 1/2", with the necessary material for mounting	piece	8
18	Thermometers with a working range of 0-100°C, with a connecting tap 1/2", with the necessary material for mounting	piece	10
19	Tap for emptying and de-aeration of the 1/2" installation and the required mounting hardware	piece	8
20	Pre-insulated steel pipes for external installation in a trench, black edgeless pipe thermally insulated with a layer of 10cm thick polyurethane foam, externally protected with a layer of high-density polyurethane, complete with necessary fittings, welding material and other joint and auxiliary material. Calculation per required meter of installed and tested pipeline network - DN 100	m	120
21	Marking the route of an external pipe installation	m	120
22	Excavation of earth of third and fourth category for a trench with width of 100 cm and an average height of 100 cm by laying the earth next to the trench	m ³	120
23	Fine trench planning	m ³	120
24	Procurement and placement of a layer of fine sand with a thickness of 10 cm at the bottom of the trench, before installation of the pipes	m ³	12
25	Backfilling the trench by manually placing a layer in the trench of selected excavated soil without sharp stones or large lumps, with a thickness of 30 cm above the layer of fine sand, without using heavy equipment	m ³	38
26	Procurement and installation of PVC tape for warning	m	120
27	Backfilling the trench with 60 cm thick excavated soil using machinery compaction over the layer with fine sand	m ³	58

28	Removal of excess material to a landfill at a distance of 25 km	m ³	24
29	Construction of a concrete foundation for mounting the heat pump with dimensions 7 x 6 x 0.2 m.	m ³	14
	* Laying and compacting the aggregate until reaching the necessary compaction with a thickness of 30cm Rebar mesh Q196 in	kg	160
	* two rows	m ³	9
	* Concrete MB30	kit	1
30	Penetrating concrete fabric by making holes with dimension 250x250mm and rehabilitation of the holes after installing the pipes	kit	2
31	Correction of an existing distributor and collector of water from the heating installation by making an opening for a pipe with dimension of DN100 and suitable flanges, complete with all the necessary material	kit	2
32	Black edge pipes DN100	m	84
	DN80	m	5
	DN50	m	3
33	Black elbows, reducers, flanges (35% of the pipe value)	%	35
34	Material for welding, joining and routing of the pipeline network (25% of the value of pipes, elbows and reducers)	%	25
35	Cleaning and coating of the black pipes with two layers of anti-corrosive paint (5% of the value of pipes, elbows and reducers)	m ³	2
36	Flushing of the entire installation and removal of impurities (5% of the value of pipes, elbows and reducers)	m ³	2
37	Examination of the pipe installation with cold hydraulic test, final filling with water and commissioning of the system	kit	1
38	Procurement and incorporation of ethylene-glycol for the outer tube circuit, heat pump and heat exchanger	liters	800
2 ELECTRICAL INSTALLATIONS			
1	Supply, transport and installation of cable trays, partly in mortar, partly in hose, in cable duct of type NYY 5x95 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	25
2	Supply, transport and installation of cable clamps, partly in mortar, partly in hose, in cable duct of a type NAYY 4x240 mm ² + NAVY 1x185 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	60
3	Procurement, transportation and installation of a RT switchboard - mechanical engineering, made of twice Decap sheet metal painted with antistatic non-flammable paint, incl. the following equipment installed therein: - Blade fuse NVO 160 A 3p, x 3 pcs - Blade fuse NVO 200 A 3p, x 1 pcs - Small auxiliary jointed, worn and bound material. Schematic according to a single pole diagram, complete with markings, ready to be powered Contractor should provide 30% spare space for future expansion.	piece	1

OU "KRSTE PETKOV MISIRKOV"

Ser.	Description	Unit	Quantity																											
OU "KRSTE PETKOV MISIRKOV"																														
PROCUREMENT AND INSTALLATION OF:																														
1 MECHANICAL INSTALLATIONS																														
1	<p>Highly efficient, reversible heat pump, air-water, with two compressor circuits, which in heating mode has a starting water temperature of 65°C and the possibility of working up to an external air temperature of -20°C, intended for heating an existing hot water radiator installation. Electrical characteristics, water flow, operating temperatures, energy consumption, thermal capacity, pressure drop on the water side controlled according to procedures specified as per the ISO 9001 standard</p> <p>Model ZETA REV HP XT 18.4</p> <p>Manufacturer: SWEGON Operations Srl</p> <p>Origin: Italy</p> <p>Manufacturers Software CH Design selection included</p> <p>The heat pump has the following characteristics:</p> <table><tr><td>-minimum heat capacity</td><td>205 kW.</td><td>205 kW</td></tr><tr><td>- minimum COP</td><td>3</td><td>3.36 W/W</td></tr><tr><td>- starting water temperature in heating mode</td><td>65°C.</td><td>65°C</td></tr><tr><td>- minimum water flow towards consumers</td><td>30 m³/h.</td><td>31.27 m³/h</td></tr><tr><td>- minimum pressure drop towards consumers</td><td>30 kPa.</td><td>58.7 kPa</td></tr><tr><td>- number of compressors</td><td>4</td><td>4</td></tr><tr><td>- number of compressor circuits</td><td>2</td><td>2</td></tr><tr><td>-maximum noise level</td><td>78 dB(A).</td><td>55 dB(A)</td></tr><tr><td>- working medium</td><td>R410A.</td><td>R410A</td></tr></table> <p>Complete kit with:</p> <ul style="list-style-type: none">- controller. ✓- complete alarm management. ✓- built-in buffer with proper insulation. ✓- electronic device for gradually starting the compressors and reducing the initial voltage by 40% compared to the nominal value. ✓- wrong phase protection from over or under voltage. ✓- possibility of automatic management of two or more heat pumps. ✓- remote on/off terminals. ✓	-minimum heat capacity	205 kW.	205 kW	- minimum COP	3	3.36 W/W	- starting water temperature in heating mode	65°C.	65°C	- minimum water flow towards consumers	30 m³/h.	31.27 m³/h	- minimum pressure drop towards consumers	30 kPa.	58.7 kPa	- number of compressors	4	4	- number of compressor circuits	2	2	-maximum noise level	78 dB(A).	55 dB(A)	- working medium	R410A.	R410A	kit	2
-minimum heat capacity	205 kW.	205 kW																												
- minimum COP	3	3.36 W/W																												
- starting water temperature in heating mode	65°C.	65°C																												
- minimum water flow towards consumers	30 m³/h.	31.27 m³/h																												
- minimum pressure drop towards consumers	30 kPa.	58.7 kPa																												
- number of compressors	4	4																												
- number of compressor circuits	2	2																												
-maximum noise level	78 dB(A).	55 dB(A)																												
- working medium	R410A.	R410A																												
2	Stand for the heat pump made of steel profiles finished with two layers of anti-corrosive paint. The exact measurements and dimensions of the stand are taken on site	kg	460																											
3	Rubber anti-vibration device for installation under the heat pump in order to prevent transmission of vibrations towards the foundation	piece	12																											
4	Drain and supply coupling, for connecting the heat pump to the pipeline DN100 PN16	piece	4																											
5	Rubber flanged compensator for installation on the inlet and outlet connection on the water side of the heat pump in order to prevent the transmission of vibrations to the pipeline, complete with necessary mounting material, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16	piece	4																											

6	<p>Flow switch, for monitoring the flow of water and providing a signal in case of lack of flow</p> <ul style="list-style-type: none"> - socket dimension 1/2" - minimum flow 10 m³/h - ambient working temperature -20 +80°C - operating medium temperature -20 +110°C 	piece	2
7	<p>Circulation pump with electronic regulation for the primary side of the heat exchanger with necessary material for connection and installation (flanges, seals, nuts, screws, etc.) with the following properties:</p> <ul style="list-style-type: none"> - water flow 43 m³/h - at pressure drop 16 m - maximum operating pressure 10 bar - operating temperature -20 +110°C 	piece	2
8	<p>Circulation pump with electronic regulation for the primary side of the heat exchanger with necessary material for connection and installation (flanges, seals, nuts, screws, etc.) with the following properties:</p> <ul style="list-style-type: none"> - water flow 86 m³/h - at pressure drop 10 m - maximum operating pressure 10 bar - operating temperature -20 +110°C 	piece	1
9	<p>Ball valve with flange joints complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN125 PN16</p>	piece	4
	DN100 PN16	piece	10
10	<p>Non-return valve with flanged joints complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16</p>	piece	2
11	<p>Filter with flanged joints for catching dirt in the hydraulic circuit, with 0.9mm mesh that can be replaced or cleaned without disassembling the filter body, complete with all connecting and mounting material, such as flanges, seals, nuts, bolts, washers, etc. DN125 PN16</p>	piece	1
	DN100 PN16	piece	2
12	<p>Balancing valve with flanged joints and connections for flow measurement, complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16</p>	piece	2

13	<p>Membrane expansion tank, complete with safety valve and necessary material for connection and installation</p> <ul style="list-style-type: none"> - layout vertical - capacity 100 litres - operating pressure 4 bar - maximum pressure 6 bar - safety valve 3 bar 	piece	2
14	<p>Plate heat exchanger, with all necessary material for connection and installation</p> <ul style="list-style-type: none"> - water flow 101.78/33.79 m³/h - thermal power 581 kW - pressure drop 47.27/5.87 kPa - connections DN 100 	piece	1
15	<p>Hydraulic separator, complete with automatic de-aeration vessel and discharge valve with all of the necessary connection and mounting material</p> <ul style="list-style-type: none"> - body dimension DN 500 - automatic vessel for de-aeration 3/4 " - discharge valve 1" - 4 connections DN 125 	piece	1
16	De-aeration vessels, with an outer diameter of 114.3mm, a tap and a 1/2" connection pipe, incl. the necessary material for installation	piece	4
17	Manometers with an operating range of 0-10 bar, a 1/2" connecting tap, incl. the necessary material for installation	piece	12
18	Thermometers with an operating range of 0-100°C, a 1/2" connecting tap, incl. the necessary material for installation	piece	14
19	1/2" tap for emptying and de-aeration of the installation, incl. the necessary material for installation	piece	16
20	<p>Pre-insulated steel pipes for external installation in a trench, black edgeless pipe thermally insulated with a layer of 10cm thick polyurethane foam, externally protected with a layer of high-density polyurethane, complete with necessary fittings, welding material and other joint and auxiliary material.</p> <p>Calculation per required meter of installed and tested pipeline network</p> <ul style="list-style-type: none"> - DN 100 	m	260
21	Marking the route of an external pipeline installation	m	260
22	Excavation of earth of third and fourth category for a trench with width of 100 cm and an average height of 100 cm, laying down the excavated earth next to the trench	m ³	120
23	Fine trench flattening	m ³	120
24	Procurement and placement of a layer of fine sand with a thickness of 10 cm at the bottom of the trench, before installation of the pipes	m ³	12

25	Backfilling the trench by manually placing a layer in the trench of selected excavated soil without sharp stones or large lumps, with a thickness of 30 cm above the layer of fine sand, without using heavy equipment	m ³	38
26	Procurement and installation of PVC tape for warning	m	120
27	Backfilling the trench with 60 cm thick excavated soil using machinery compaction over the layer with fine sand	m ³	110
28	Removal of excess material to a landfill at a distance of 25 km	m ³	52
29	Construction of a concrete foundation for mounting the heat pump with dimensions 7 x 6 x 0.2 m.	m ³	14
*	Laying and compacting the aggregate up to the required density with a thickness of 30 cm	kg	160
*	Rebar mesh Q196 in two rows	m ³	9
*	Concrete MB30	kit	2
30	Making openings in concrete fabric with dimension 250x250mm and rehabilitation of the opening upon pipe installation	kit	4
31	Correction of an existing distributor and collector of water from the heating installation by making an opening for a pipe with dimension of DN100 and suitable flanges, complete with all the necessary material	kit	4
32	Black edge pipes		
	DN125	m	12
	DN100	m	56
	DN80	m	12
	DN50	m	5
33	Black elbows, reducers, flanges (35% of the value of the pipes)	%	35
34	Material for welding, joining and routing of the pipeline network (25% of the value of pipes, elbows and reducers)	%	25
35	Cleaning and coating of the black pipes with two layers of anti-corrosive paint (5% of the value of pipes, elbows and reducers)	m ³	2
36	Flushing of the entire installation and removal of impurities (5% of the value of pipes, elbows and reducers)	m ³	2
37	Testing the pipe installation by a cold hydraulic test, final filling with water and commissioning the system	kit	1
38	Supply and installation of ethylene-glycol for the external pipe circuit, heat pump and heat exchanger	liters	1750
2 ELECTRICAL INSTALLATIONS			
1	Supply, transport and installation of cable clamps, partly in mortar, partly in hose, in cable duct of a type NYY 5x95 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	40

2	Supply, transport and installation of cable clamps, partly in mortar, partly in hose, in cable duct of a type NAYY 4x240 mm ² + NAVY 1x185 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	60
3	<p>Procurement, transportation and installation of a RT switchboard - mechanical engineering, made of twice Decap sheet metal painted with antistatic non-flammable paint, incl. the following equipment installed therein:</p> <ul style="list-style-type: none"> - Blade fuse NV0 160 A 3p, x 3 pcs - Blade fuse NV0 200 A 3p, x 1 pcs - Small auxiliary joining, bearing and connecting material. <p>Schematic according to a single pole diagram, complete with markings, ready to be powered</p> <p>Contractor should provide 30% spare space for future expansion.</p>	piece	1

SECONDARY SCHOOL "KOSTA SUSINOV"

Ser.	Description	Unit	Qty																											
SECONDARY SCHOOL "KOSTA SUSINOV"																														
1 MECHANICAL INSTALLATIONS																														
PROCUREMENT AND INSTALLATION OF:																														
1	<p>Highly efficient, reversible heat pump, air-water, with two compressor circuits, which in heating mode has a starting water temperature of 65°C and the possibility of working up to an external air temperature of -20°C, intended for heating an existing hot water radiator installation. Electrical characteristics, water flow, operating temperatures, energy consumption, thermal capacity, pressure drop on the water side controlled according to procedures specified as per the ISO 9001 standard</p> <p>Model ZETA REV HP XT 18.4</p> <p>Manufacturer: SWEGON Operations Srl</p> <p>Origin: Italy</p> <p>Manufacturers Software CH Design selection included</p> <p>The heat pump has the following characteristics:</p> <table><tr><td>-minimum heat capacity</td><td>205 kW.</td><td>205 kW</td></tr><tr><td>- minimum COP</td><td>3</td><td>3.36 W/W</td></tr><tr><td>- starting water temperature in heating mode</td><td>65°C.</td><td>65°C</td></tr><tr><td>- minimum water flow towards consumers</td><td>30 m³/h.</td><td>31.27 m³/h</td></tr><tr><td>- minimum pressure drop towards consumers</td><td>30 kPa.</td><td>58.7 kPa</td></tr><tr><td>- number of compressors</td><td>4</td><td>4</td></tr><tr><td>- number of compressor circuits</td><td>2</td><td>2</td></tr><tr><td>-maximum noise level</td><td>78 dB(A).</td><td>55 dB(A)</td></tr><tr><td>- working medium</td><td>R410A.</td><td></td></tr></table> <p>R410A</p> <p>Complete kit with:</p> <ul style="list-style-type: none">- controller. ✓- complete alarm management. ✓- built-in buffer with proper insulation. ✓- electronic device for gradually starting the compressors and reducing the initial voltage by 40% compared to the nominal value. ✓- wrong phase protection from over or under voltage. ✓- possibility of automatic management of two or more heat pumps. ✓- remote on/off terminals. ✓	-minimum heat capacity	205 kW.	205 kW	- minimum COP	3	3.36 W/W	- starting water temperature in heating mode	65°C.	65°C	- minimum water flow towards consumers	30 m³/h.	31.27 m³/h	- minimum pressure drop towards consumers	30 kPa.	58.7 kPa	- number of compressors	4	4	- number of compressor circuits	2	2	-maximum noise level	78 dB(A).	55 dB(A)	- working medium	R410A.		kit	3
-minimum heat capacity	205 kW.	205 kW																												
- minimum COP	3	3.36 W/W																												
- starting water temperature in heating mode	65°C.	65°C																												
- minimum water flow towards consumers	30 m³/h.	31.27 m³/h																												
- minimum pressure drop towards consumers	30 kPa.	58.7 kPa																												
- number of compressors	4	4																												
- number of compressor circuits	2	2																												
-maximum noise level	78 dB(A).	55 dB(A)																												
- working medium	R410A.																													
2	Stand for the heat pump made of steel profiles finished with two layers of anti-corrosive paint. The exact measurements and dimensions of the stand are taken on site	kg	690																											
3	Rubber anti-vibration device for installation under the heat pump in order to prevent transmission of vibrations towards the foundation	piece	18																											
4	Drain and supply coupling, for connecting the heat pump to the pipeline DN100 PN16	piece	6																											

5	Rubber flanged compensator for installation on the inlet and outlet connection on the water side of the heat pump in order to prevent the transmission of vibrations to the pipeline, complete with necessary mounting material, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16	piece	6
6	Flow switch, for monitoring the flow of water and providing a signal in case of lack of flow - socket dimension 1/2" - minimum flow 10 m³/h - ambient working temperature -20 +80°C - operating medium temperature -20 +110°C	piece	3
7	Circulation pump with electronic regulation for the primary side of the heat exchanger with necessary material for connection and installation (flanges, seals, nuts, screws, etc.) with the following properties: - water flow 43 m³/h - at pressure drop 16 m - maximum operating pressure 10 bar - operating temperature -20 +110°C	piece	3
8	Circulation pump with electronic regulation for the primary side of the heat exchanger with necessary material for connection and installation (flanges, seals, nuts, screws, etc.) with the following properties: - water flow 130 m³/h - at pressure drop 10 m - maximum operating pressure 10 bar - operating temperature -20 +110°C	piece	1
9	Ball valve with flange joints complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN200 PN16	piece	4
	DN100 PN16	piece	14
10	Non-return valve with flanged joints complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16	piece	4
11	Filter with flanged joints for catching dirt in the hydraulic circuit, with 0.9mm mesh that can be replaced or cleaned without disassembling the filter body, complete with all connecting and mounting material, such as flanges, seals, nuts, bolts, washers, etc. DN200 PN16	piece	1
	DN100 PN16	piece	3
12	Balancing valve with flanged joints and connections for flow measurement, complete with all material for connection and installation, such as flanges, seals, nuts, screws, washers, etc. DN100 PN16	piece	3

13	Membrane expansion tank, complete with safety valve and necessary material for connection and installation - layout vertical - capacity 300 litres - operating pressure 4 bar - maximum pressure 6 bar - safety valve 3 bar	piece	1
14	Plate heat exchanger, with all necessary material for connection and installation - water flow 137.69/45.71 m ³ /h - thermal power 786 kW - pressure drop 49.43/6.08 kPa - connections DN 100	piece	1
15	Hydraulic separator, complete with automatic de-aeration vessel and discharge valve with all of the necessary connection and mounting material - body dimension DN 600 - automatic vessel for de-aeration 3/4" - discharge valve 1" - 4 connections DN 125	piece	1
16	De-aeration vessels, with an external diameter of 114.3 mm, with a tap and connecting pipe of 1/2" and the required mounting hardware	piece	5
17	Manometers with an operating range of 0-10 bar, with a connecting tap 1/2", with the necessary material for mounting	piece	14
18	Thermometers with an operating range of 0-100°C, with a connecting tap 1/2", with the necessary material for mounting	piece	16
19	1/2" tap for emptying and de-aeration of the installation and the required mounting hardware	piece	19
20	Pre-insulated steel pipes for external installation in a trench, black edgeless pipe thermally insulated with a layer of 10cm thick polyurethane foam, externally protected with a layer of high-density polyurethane, complete with necessary fittings, welding material and other joint and auxiliary material. Calculation per required meter of installed and tested pipeline network - DN 100	m	140
21	Marking the route of an external pipe installation	m	140
22	Excavation of earth of third and fourth category for a trench with width of 100 cm and an average height of 100 cm, laying down the excavated earth next to the trench	m ³	140
23	Fine trench flattening	m ³	140
24	Procurement and placement of a layer of fine sand with a thickness of 10 cm at the bottom of the trench, before installation of the pipes	m ³	7
25	Backfilling the trench by manually placing a layer in the trench of selected excavated soil without sharp stones or large lumps, with a thickness of 30 cm above the layer of fine sand, without using heavy equipment	m ³	29
26	Procurement and installation of PVC tape for warning	m	140
27	Backfilling the trench with 60 cm thick excavated soil using machinery compaction over the layer with fine sand	m ³	72
28	Removal of excess material to a landfill at a distance of 25 km	m ³	47

29	Construction of a concrete foundation for mounting the heat pump with dimensions 7 x 6 x 0.2 m.	m ³	14
*	Laying and compacting the aggregate up to the required density with a thickness of 30 cm	kg	160
*	Rebar mesh Q196 in two rows	m ³	9
*	Concrete MB30	kit	3
30	Making openings in concrete fabric with dimension 250x250mm and rehabilitation of the opening upon pipe installation	kit	6
31	Correction of an existing distributor and collector of water from the heating installation by making an opening for a pipe with dimension of DN100 and suitable flanges, complete with all the necessary material	kit	2
32	Black edge pipes		
	DN200	m	81
	DN100	m	13
	DN80	m	13
	DN50	m	4
33	Black elbows, reducers, flanges (35% of the value of the pipes)	%	35
34	Material for welding, joining and routing of the pipeline network (25% of the value of pipes, elbows and reducers)	%	25
35	Cleaning and coating of the black pipes with two layers of anti-corrosive paint (5% of the value of pipes, elbows and reducers)	m ³	2
36	Flushing of the entire installation and removal of impurities (5% of the value of pipes, elbows and reducers)	m ³	2
37	Testing the pipe installation by a cold hydraulic test, final filling with water and commissioning the system	kit	1
38	Supply and installation of ethylene-glycol for the external pipe circuit, heat pump and heat exchanger	liters	1100
2 ELECTRICAL INSTALLATIONS			
1	Supply, transport and installation of cable clamps, partly in mortar, partly in hose, in cable duct of a type NYY 5x95 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	35
2	Supply, transport and installation of cable clamps, partly in mortar, partly in hose, in cable duct of a type NAYY 4x240 mm ² + NAVY 1x185 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	100
3	Procurement, transportation and installation of a RT switchboard - mechanical engineering, made of twice Decap sheet metal painted with antistatic non-flammable paint, incl. the following equipment installed therein: - Blade fuse NVO 160 A 3p, x 3 pcs - Blade fuse NVO 315 A 3p, x 1 pcs - Small auxiliary joining, bearing and connecting material. Schematic according to a single pole diagram, complete with markings, ready to be powered Contractor should provide 30% spare space for future expansion.	piece	1

"25th MAY" SPORTING HALL

Ser.	Description	Unit	Qty
	"25th MAY" SPORTING HALL		
1	MECHANICAL INSTALLATIONS		
	PROCUREMENT AND INSTALLATION OF:		
1	<p>Heat pump split system with direct expansion of the operating fluid, complete with the necessary bracket for the outdoor unit, as well as the necessary material for installation and connection</p> <p>Model: RFX50/FTX50</p> <p>Manufacturer: DAIKIN EUROPE NV</p> <p>Origin: Czech Republic</p> <p><u>outdoor compressor unit</u></p> <p>- heating capacity 5.3 kW 6.0kW</p> <p>- cooling capacity 5.1 kW. 7.7kW</p> <p>- electric power 2.8 kW. 1.62kW</p> <p>- electrical characteristics 220 V, 50Hz. 220 V, 50Hz</p> <p>- compressor DC inverter. DC inverter</p> <p><u>indoor unit</u></p> <p>- heating capacity 5.3 kW. 6.0kW</p> <p>- cooling capacity 5.1 kW. 7.7kW</p> <p>- electrical power 300 W. 300W</p> <p>- electrical characteristics 220 V, 50Hz. 220 V, 50Hz</p>	piece	8
2	ELECTRICAL INSTALLATIONS		
1	Supply, transport and installation of cable trays, partly in mortar, partly in hose, in cable duct of type NYY 5x10 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	15
2	Supply, transport and installation of cable trays, partly in mortar, partly in hose, in cable duct of type NYY 3x2,5 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	150
3	Supply, transport and installation of cable clamps, partly in mortar, partly in hose, in cable duct of a type NAPP 4x50 mm ² + NAPP 1x35 mm ² cable, complete with suitable terminals, as well as all of the necessary small joining, bonding material and connection thereof, ready for use.	m	30
4	<p>Procurement, transportation and installation of a RT switchboard - mechanical engineering, made of twice Decap sheet metal painted with antistatic non-flammable paint, incl. the following equipment installed therein:</p> <p>- Fuse 32A 3p, x 1 pcs</p> <p>- Fuse 80A 3p, x 1 pcs</p> <p>- Fuse 16A 1p, x 8 pcs</p> <p>- Small auxiliary jointed, worn and bound material. Schematic according to a single pole diagram, complete with markings, ready to be powered</p> <p>Contractor should provide 30% spare space for future expansion.</p>	piece	1

Zeta Rev HP XT

42÷205 kW



General

Reversible heat pumps. Extreme operating limits. Dedicated configuration options.

Configurations

/LN: low-noise unit

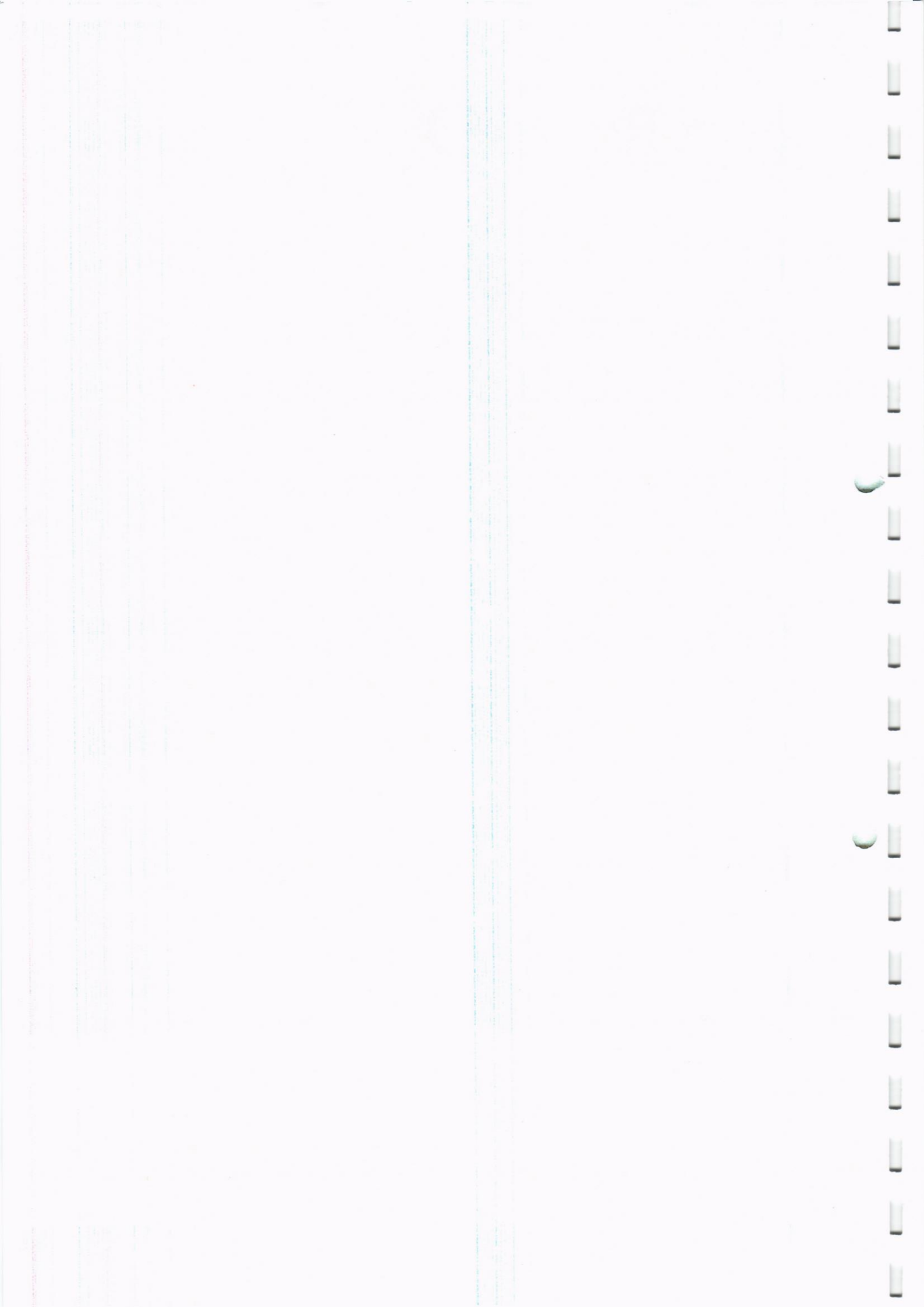
/DS: execution featuring a desuperheater

Strengths

- ▶ High outlet water temperature: up to 65°C
- ▶ Operation down to ambient -20°C with outlet water at +55°C
- ▶ Efficient energy performance: COP up to 3,5
- ▶ BlueThink advanced control with integrated web server. Multilogic function and Blueeye® supervision system. (options)
- ▶ Flowzer: inverter driven pumps (options)



BlueBox 
by Swegon



Liquid Chilling Packages and Hydronic Heat Pumps /
Groupe de production d'eau glacée et pompes à chaleur

Granted on July 24, 2007 - Date 1ère admission 24 juillet 2007

This document is valid at the date of issue - Check the current validity on:
Document valable à la date d'émission - Vérifier la validité en cours sur :
www.eurovent-certification.com

Participant/Titulaire

Swegon Operations Srl
Via Valletta, 5
30010 Cantarana di Cona (VE), Italy

This product performance certificate is issued by Eurovent Certita Certification according to the certification rules:

ECP LCP-HP - « Liquid Chilling Packages and Hydronic Heat Pumps » in force at established date.

Pursuant to the decision notified by Eurovent Certita Certification, the right to use the mark ECP shall be granted to the beneficiary company for all products inside the defined scope according to "certify-all" principle and in the conditions defined by the certification program mentioned.

Unless withdrawn or suspended, this certificate remains valid as long as the requirements for the certification program framework are met. The validity of the certificate is to be verified on www.eurovent-certification.com

THIS CERTIFICATE HAS BEEN ISSUED ON 21/10/2024
THIS CERTIFICATE IS VALID UNTIL 31/01/2025

Ce certificat de performance produit est délivré par Eurovent Certita Certification dans les conditions fixées par le référentiel :

ECP LCP-HP - « Groupe de production d'eau glacée et pompes à chaleur » en vigueur à date d'édition.

En vertu de la décision notifiée par Eurovent Certita Certification, le droit d'usage de la marque ECP, est accordé à la société qui en est bénéficiaire pour les tous les produits entrant dans le champ d'application défini selon le principe "certify-all" et dans les conditions définies par le programme de certification mentionné.

Sauf retrait ou suspension, ce certificat demeure valide tant que les conditions du référentiel du programme de certification sont respectées. La validité du certificat est à vérifier sur le site Internet www.eurovent-certification.com

CE CERTIFICAT A ÉTÉ EMIS LE 21/10/2024
CE CERTIFICAT EST VALIDE JUSQU'AU 31/01/2025

Paris, 21 octobre 2024

MANAGING BOARD MEMBER / MEMBRE DIRECTOIRE



Organisme accrédité n° 5-0517 Certification Produits et Services selon la norme NF EN ISO/CEI 17065:2012
Portée disponible sur www.cofrac.fr

Accreditation #5-0517 Products and Services Certification according to NF EN ISO/CEI 17065:2012 -
Scope available on www.cofrac.fr

COFRAC est signataire des accords MLA d'EA,
COFRAC is signatory of EA MLA,
list of EA members is available on
www.european-accreditation.org/ea-members



Appendix / Annexe

Granted on July 24, 2007 - *Date 1ère admission 24 juillet 2007*

This document is valid at the date of issue - Check the current validity on:

Document valable à la date d'émission - Vérifier la validité en cours sur :

www.eurovent-certification.com

List of certified products and characteristics is displayed on:

La liste des références et caractéristiques certifiées est disponible sur le site :

www.eurovent-certification.com

This product performance certificate is valid for the following trade names:

Ce certificat de performance produit est valide pour les marques commerciales suivantes:

Trade Name / Marque Commerciale

BLUE BOX

This product performance certificate is valid for the following manufacturing places:

Ce certificat de performance produit est valide pour les sites de production suivants:

Manufacturing Place / Site de Production

Cantarana di Cona (VE), Italy

This product performance certificate is valid for the following software:

Ce certificat de performance produit est valide pour les logiciels de sélection suivants:

Software / Logiciel de sélection

CH Design Version 2.7

PRODUCT PERFORMANCE RATING

Document ID 1732455085-2c-7067b7fb

Issued on: 24 November 2024 - Délivré le : 24 novembre 2024

This product is certified by Eurovent Certita Certification as mentioned on:
Ce produit est certifié par Eurovent Certita Certification comme mentionné sur :



Certificate N° 07.07.345

This document is valid at the date of issue - Check the current validity on www.eurovent-certification.com
Ce document est valide à la date d'édition - Vérifiez la date de validité sur www.eurovent-certification.com

Certification programmes / Programmes de certification

Liquid Chilling Packages and Hydronic Heat Pumps (Chillers & pumps)

Product type / Type de produit

Heat pump, air-to-water, packaged, reversible

Model name / Nom du modèle

ZETA REV HP XT 18.4

Range / Gamme

ZETA/BETA REV HP

Participant / Titulaire

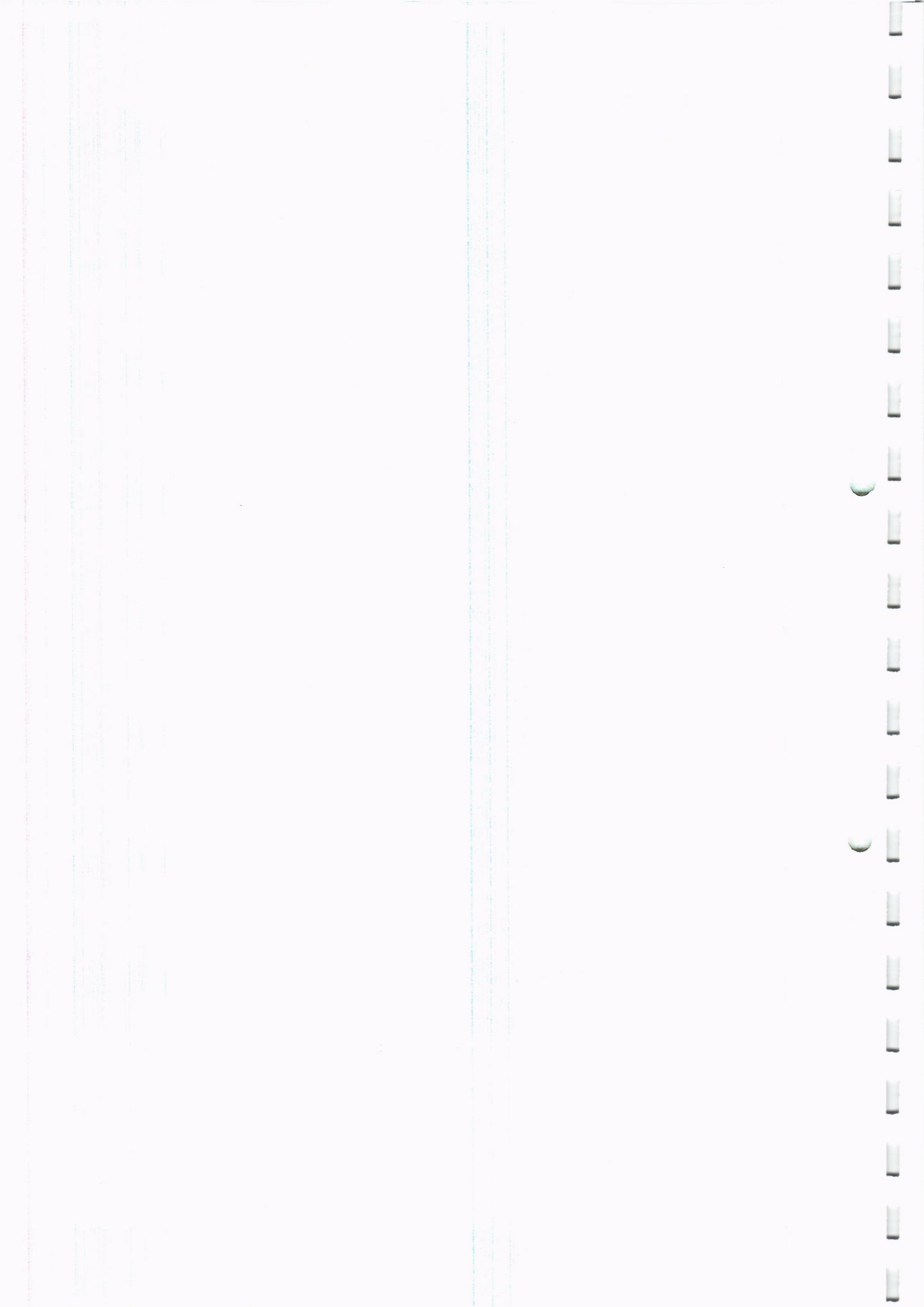
Swegon Operations Srl

Brand / Marque

BLUE BOX

This performance certificate is delivered for the following project

Project Name	Project company	Project location
Nom du projet	Nom de la société	Localisation du projet
Radovis GREEN	AIRKON	North Macedonia



Model: Zeta Rev HP XT 18.4
Option: 1PS



COOLING

Performance data		
Cooling capacity (A2)	kW	184
Spare Capacity	-	0.0%
Total input power (A2)	kW	65.8
Compressor input power	kW	58.4
Input current (E0)	A	114
Power factor (E0)	-	0.83
EER	W/W	2.80
Source		
Altitude	m	0.0
Dry bulb outdoor air	°C	35.0
Outdoor air Relative humidity	%	35.0
Air flow rate	m³/h	74833
Fan input power	kW	7.47
Fan input current	A	13.6
Fans available static pressure	Pa	0

User		
Fluid type		Water
Fouling fact.	m²K/kW	0.01760
In/out fluid temperature	°C	12.0/7.0
Fluid flow rate	m³/h	31.27
Circuit pressure drops	kPa	52.2
Pump available external	kPa	139.6
Max pump available external	kPa	139.6
Sound data		
Calculated sound power	db(A)	87
Sound pressure ^(CO) [10.0 m]	db(A)	55

SOUND DATA-OCTAVE	Hz	63	125	250	500	1000	2000	4000	8000
Unit global sound power	dB	90	80	78	81	81	82	77	74

HEATING

Performance data		
Heating capacity	kW	205
Spare Capacity	-	0.0%
Total input power (A2)	kW	61.0
Compressor input power	kW	52.7
Input current (E0)	A	114
Power factor (E0)	-	0.77
COP	W/W	3.36
Source		
Altitude	m	0.0
Dry bulb outdoor air	°C	7.0
Outdoor air Relative humidity	%	85.0
Air flow rate	m³/h	78691
Fan input power	kW	8.26
Fan input current	A	15.6
Fans available static pressure	Pa	0

User		
Fluid type		Water
Fouling fact.	m²K/kW	0.01760
In/out fluid temperature	°C	40.0/45.0
Fluid flow rate	m³/h	36.02
Circuit pressure drops	kPa	58.7
Pump available external static	kPa	116.0
Max pump available external	kPa	116.0
Sound data		
Calculated sound power	db(A)	87
Sound pressure ^(CO) [10.0 m]	db(A)	55

SOUND DATA-OCTAVE	Hz	63	125	250	500	1000	2000	4000	8000
Unit global sound power	dB	90	80	78	81	81	82	77	74

The certified standard performances and the certified software tool version can be verified in www.eurovent-certification.com

DESIGN AND SIZING DATA

GENERAL DATA

Compressor type		Scroll
Number of compressors		4
Number of circuits		2
Capacity steps		4
Minimum capacity step	%	25.0
Refrigerant type		R410A
GWP		2088
Total refrigerant charge (R1)	kg	70.0
CO2 equivalent charge	kg	146125
Total oil charge	kg	14.0

DIMENSIONS

Length	mm	4200
Width	mm	1100
Height	mm	2380
Shipping weight	kg	338
Net weight	kg	338

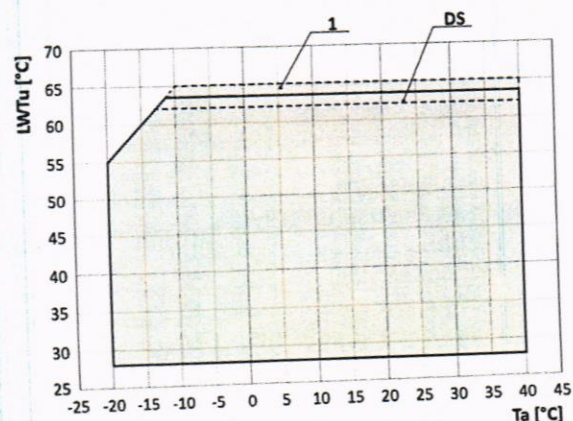
FANS

Fan type		Axial
Fan motor		AC
Number of fans		4
Maximum input power (P1)	kW	8.86
Maximum input current (E0)	A	15.6

ELECTRICAL DATA

Nominal voltage supply	Ph/V/Hz	3/400/50
Maximum voltage supply	V	440
Minimum voltage supply	V	360
Maximum input power (P1)	kW	98.9
Maximum input current (E0)	A	171
Maximum peak current (E0)	A	301
Input power in stand-by mode	kW	0.364
Power factor (E0)		0.83

HEATING



HYDRAULIC CIRCUITS

USER HYDRAULIC CIRCUIT

Buffer tank capacity	lt	700.0
Maximum input power (P1)	kW	2.40
Maximum input current (E0)	A	4.50

(A0) Technical data shown are not binding. The Company shall have the right to introduce at any time whatever modifications necessary to the improvement of the product.

(A1) Dimensional data shown are not binding.

(A2) According to standard: Gross

(B2) Calculated according to Commission Regulation (EU) 2013/813: Average/Outdoor air/Low temperature/Variable outlet/Constant user flow rate/-

(B3) Calculated according to Commission Regulation (EU) 2013/813: Average/Outdoor air/Medium temperature/Variable outlet/Constant user flow rate/-

(C0) Noise pressure is calculated according to the following sound propagation method: Hemispherical ISO EN 3744 source

Values obtained from the sound power level, related to a distance indicated between brackets [] from the unit in free field with directivity factor Q=2.

None of the sound pressure values are binding.

(H1) Sound pressure: values obtained from the sound power level, related to a distance indicated between brackets [] from the unit in free field with directivity factor Q=2.

None of the sound pressure values are binding.

(H1) Sound pressure: values obtained from the sound power level, related to a distance indicated between brackets [] from the unit in free field with directivity factor Q=2.

None of the sound pressure values are binding.

The acoustic data relates to the standard conditions described above, in referable and reproducible operating modes.

All data except "Calculated sound power" are given for the mere purpose of example and can not be used for predictive purposes or for the verification of enforced limits.

With specific reference to the acoustic emissions, the Manufacturer commits to their conformity limited to the declared "Calculated sound power" value.

Any liability of the Manufacturer is excluded concerning the impact of such emissions with reference to the location of the plant and to other conditions related to the installation of the unit.

The environment and the installation's characteristics, besides the operating modes, may alter the acoustic emissions.

The overall acoustic evaluation, with regard to site conditions, remains the responsibility of the installer.

(R1) The indicated refrigerant charge is calculated. The refrigerant charge can vary according to different versions/accessories and product updates.

(P1) Mains power supply to allow unit operation. Sum of components' full power absorption.

(E0) Electrical data may change without notice. It is therefore necessary to always refer to the electrical diagram.

For units with Pdesign ≤ 70 kW, only MT SCOP Data are certified within Eurovent LCP-HP program. For units with Pdesign > 70 kW, no SCOP data certified.

The certified standard performances and the certified software tool version can be verified in www.eurovent-certification.com



CISQ is a member of



The International Certification Network
www.iqnet-certification.com

CERTIFICATO N.
CERTIFICATE No.

ICIM-9001-000201-10

SI CERTIFICA CHE IL SISTEMA DI GESTIONE PER LA QUALITÀ DI
WE HEREBY CERTIFY THAT THE QUALITY MANAGEMENT SYSTEM OPERATED BY

SWEGON OPERATIONS S.R.L.

UNITÀ OPERATIVA / OPERATIVE UNIT

Via Valletta, 5 30010 Cantarana di Cona VE IT - Italia

È CONFORME ALLA NORMA / IS IN COMPLIANCE WITH THE STANDARD

UNI EN ISO 9001:2015

Sistema di Gestione per la Qualità / Quality Management System

PER LE SEGUENTI ATTIVITÀ / FOR THE FOLLOWING ACTIVITIES

EA: 18

Progettazione e produzione, mediante processi di assemblaggio meccanico e manuale di componenti elettriche, idrauliche, meccaniche e frigorifere, di condizionatori d'aria, refrigeratori d'acqua, pompe di calore, roof-top commercializzati con marchio "BLUE BOX" e marchio "SWEGON". Progettazione e produzione, mediante processi di assemblaggio meccanico e manuale di componenti elettriche, idrauliche, meccaniche e frigorifere, di macchine frigorifere per basse temperature. Erogazione di servizi di manutenzione e di assistenza post-vendita per il condizionamento, la refrigerazione, il riscaldamento e commercializzazione della relativa ricambistica.

Design and production, through processes of manual and mechanical assembly, of electrical, hydraulic, mechanical and refrigerant components of air conditioners, water chillers, heat pumps, roof-top sold under brand "BLUE BOX" and brand "SWEGON". Design and production, through processes of manual and mechanical assembly, of electrical, hydraulic, mechanical and refrigerant components of refrigeration machineries for low temperatures. Provision of services of maintenance and after-sales service for chillers for air conditioning, refrigeration, heating and marketing of the spare parts.

Riferirsi alla documentazione del Sistema di Gestione per la Qualità aziendale per l'applicabilità dei requisiti della norma di riferimento.

Refer to the documentation of the Quality Management System for details of application to reference standard requirements.

Il presente certificato è soggetto al rispetto del documento ICIM "Regolamento per la certificazione dei sistemi di gestione" e al relativo Schema specifico.

The use and the validity of this certificate shall satisfy the requirements of the ICIM document "Rules for the certification of company management systems" and specific Scheme.

Per informazioni puntuali e aggiornate circa eventuali variazioni intervenute nello stato della certificazione di cui al presente certificato,

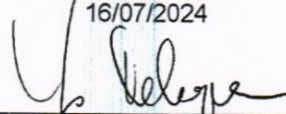
si prega di contattare il n° telefonico +39 02 725341 o indirizzo e-mail info@icim.it.

For timely and updated information about any changes in the certification status referred to in this certificate, please contact the number +39 02 725341 or email address info@icim.it.

DATA EMISSIONE
FIRST ISSUE
20/07/1994

EMISSIONE CORRENTE
CURRENT ISSUE
16/07/2024

DATA DI SCADENZA
EXPIRING DATE
15/07/2027


Vincenzo De Iacqua
Rappresentante Direzione / Management Representative

ICIM S.p.A.

Piazza Don Enrico Mapelli, 75 - 20099 Sesto San Giovanni (MI)
www.icim.it

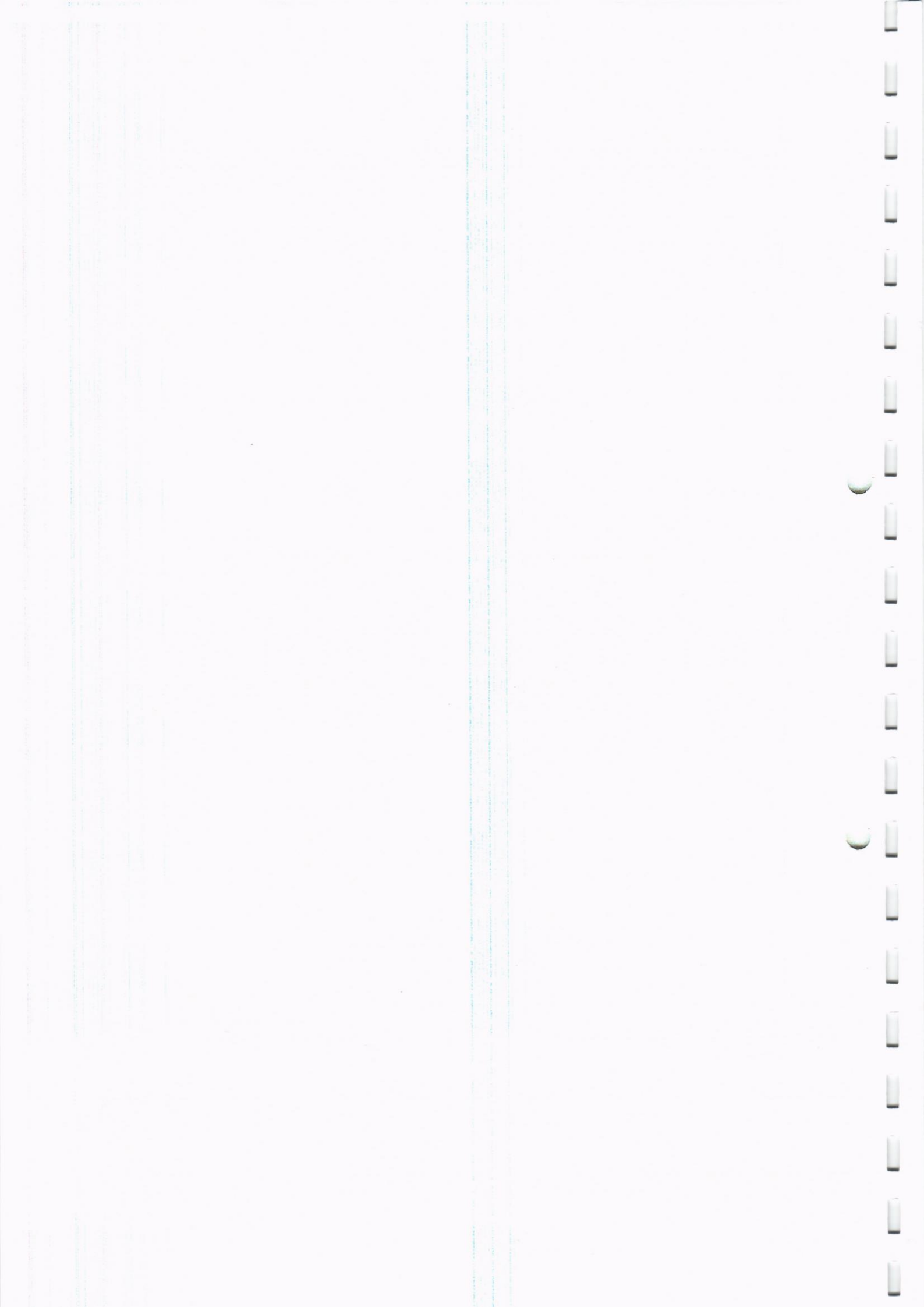


MS N° 0004



www.cisq.com

CISQ è la Federazione Italiana di Organismi di
Certificazione dei sistemi di gestione aziendale. CISQ
is the Italian Federation of management system
Certification Bodies.



APPROVAL OF COMPLIANCE

DELIVERED BY EUROVENT CERTITA CERTIFICATION



Air-cooled units Max approved Capacity 1300 kW

Testing of products in this facility does not confer certification.

SWEGON OPERATIONS S.r.l.

Via Valletta, 5, 30010 Cantarana di Cona (VE), Italy

Testing laboratory: CHIL - Via Valletta, 5, 30010 Cantarana di Cona (VE), Italy

Is compliant with the test facility requirements and approved for conducting ECP certification tests on Liquid Chilling Packages & Heat pumps in accordance with the Technical Certification Rules ECP-3 and the Certification Manual.

Products certified under the Eurovent Certified Performance (ECP) Mark are listed on the ECC website, www.eurovent-certification.com.

From **30/04/2024**

To **31/01/2025**

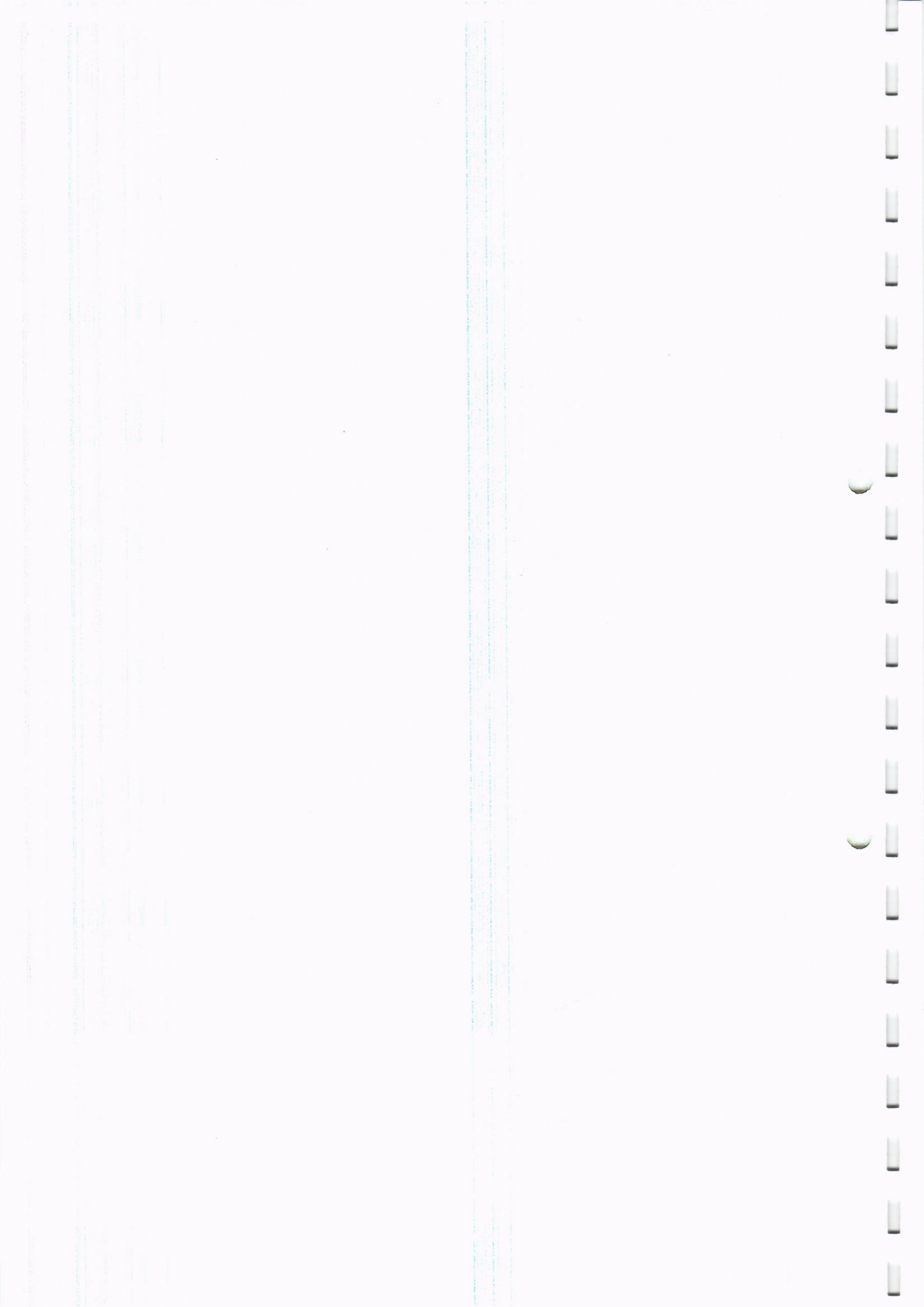
Designed by:

Mustafa Nisan

pp. Morgane LAJUNESSE

Signature





FTXF / RXF



RXF

FTXF



Efficiency data		FTXF + RXF	20D + 20D	25D + 25D	35D + 35D	42D + 42D	50D + 50D	60D + 60D	71D + 71D
Cooling capacity	Min./Nom./Max.	kW	1.3 / 2.00 / 2.4	1.3 / 2.50 / 2.8	1.3 / 3.30 / 3.8	1.4 / 4.20 / 4.3	1.70 / 5.00 / 6.00	1.70 / 6.00 / 7.00	2.30 / 7.10 / 7.30
Heating capacity	Min./Nom./Max.	kW	1.30 / 2.40 / 3.30	1.30 / 2.80 / 3.70	1.30 / 3.50 / 4.40	1.40 / 4.60 / 5.00	1.70 / 6.00 / 7.70	1.70 / 6.40 / 8.00	2.30 / 8.20 / 9.00
Power input	Cooling	Min./Nom./Max.	kW	0.31 / 0.592 / 0.72	0.31 / 0.772 / 1.05	0.31 / 1.00 / 1.40	0.31 / 1.27 / 1.50	-1.50 / -	-1.85 / -
	Heating	Min./Nom./Max.	kW	0.25 / 0.640 / 0.95	0.25 / 0.750 / 1.11	0.25 / 0.940 / 1.50	0.25 / 1.24 / 1.40	-1.62 / -	-1.63 / -
Space cooling	Energy efficiency class		A++						A
	Capacity	Pdesign	kW	2.00	2.50	3.50	4.20	5.00	6.00
	SEER			6.50					
	Annual energy consumption		kWh/a	108	135	188	226	282	342
Space heating (Average climate)	Energy efficiency class		A+						A
	Capacity	Pdesign	kW	2.20	2.40	2.60	3.30	4.60	4.80
	SCOP/A			4.11					
	Annual energy consumption		kWh/a	749	818	885	1,075	1,585	1,654

Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m. Data for high efficiency series, Eurovent certified | Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series | Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m. | Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m. | See separate drawing for operation range

Indoor unit				FTXF	20D	25D	35D	42D	50D	60D	71D
Dimensions	Unit	HeightxWidthxDepth		mm	286 x 770 x 225				295 x 990 x 263		
Weight	Unit			kg	8.00		8.50	9.00	13.5		
Air filter	Type				Removable / washable						
Fan	Air flow rate	Cooling	Silent operation/ Low/Medium/ High	m³/min	4.3 / 6.0 / 8 / 9.8	4.3 / 6.2 / 8 / 10.0	4.4 / 6.4 / 8 / 11.5	4.9 / 6.9 / 9 / 12.6	10.5 / 11.9 / 14.4 / 16.8	10.7 / 12.2 / 14.8 / 17.3	
		Heating	Silent operation/ Low/Medium/ High	m³/min	5.3 / 6.2 / 8.3 / 10.4	5.3 / 6.4 / 8.4 / 10.4	5.3 / 6.5 / 8.6 / 11.9	5.2 / 6.7 / 8.8 / 12.8	10.7 / 12.2 / 14.8 / 17.3	11.3 / 12.8 / 15.8 / 17.9	
Sound power level	Cooling			dBA	53.0	54.0		59.0	59	60	62
	Heating			dBA	55.0		56.0	59.0	61	62	
Sound pressure level	Cooling	Silent operation/Low/High		dBA	20.0 / 25.0 / 39.0	20.0 / 26.0 / 40.0	20.0 / 27.0 / 43.0	22.0 / 30.0 / 45.0	31 / 34 / 43	33 / 36 / 45	34 / 37 / 46
	Heating	Silent operation/Low/High		dBA	21.0 / 28.0 / 39.0	21.0 / 28.0 / 40.0	21.0 / 29.0 / 40.0	22.0 / 28.0 / 44.0	30 / 33 / 42	32 / 35 / 44	33 / 36 / 45
Control systems	Infrared remote control				ARC470A1						
	Wired remote control				BRC073A1						
Piping connections Drain					18						

Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 5m; level difference: 0m | Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 5m (horizontal) | See separate drawing for electrical data

Outdoor unit		RXF	20D	25D	35D	42D	50D	60D	71D
Dimensions	Unit	HeightxWidthxDepth	mm	550 x 658 x 275			734 x 870 x 373		
Weight	Unit		kg	24.0			50.0		
Sound power level	Cooling								
Sound pressure level	Cooling	Low/Nom./High		dBA	- / -46.0	- / -48.0	- / -47	- / -49	- / -52
	Heating	Low/Nom./High		dBA	- / -47.0	- / -48.0	- / -49	- / -49	- / -52
Operation range	Cooling	Ambient Min.~Max.		°CDB	-10 ~48				
	Heating	Ambient Min.~Max.		°CWB	-15 ~18				

Daikin Europe Naamloze Vennootschap · Zandvoordestraat 300 · 8400 Oostende · Belgium · <https://www.daikin.eu> · RPR Oostende (Responsible Editor)



ECPEN22-050

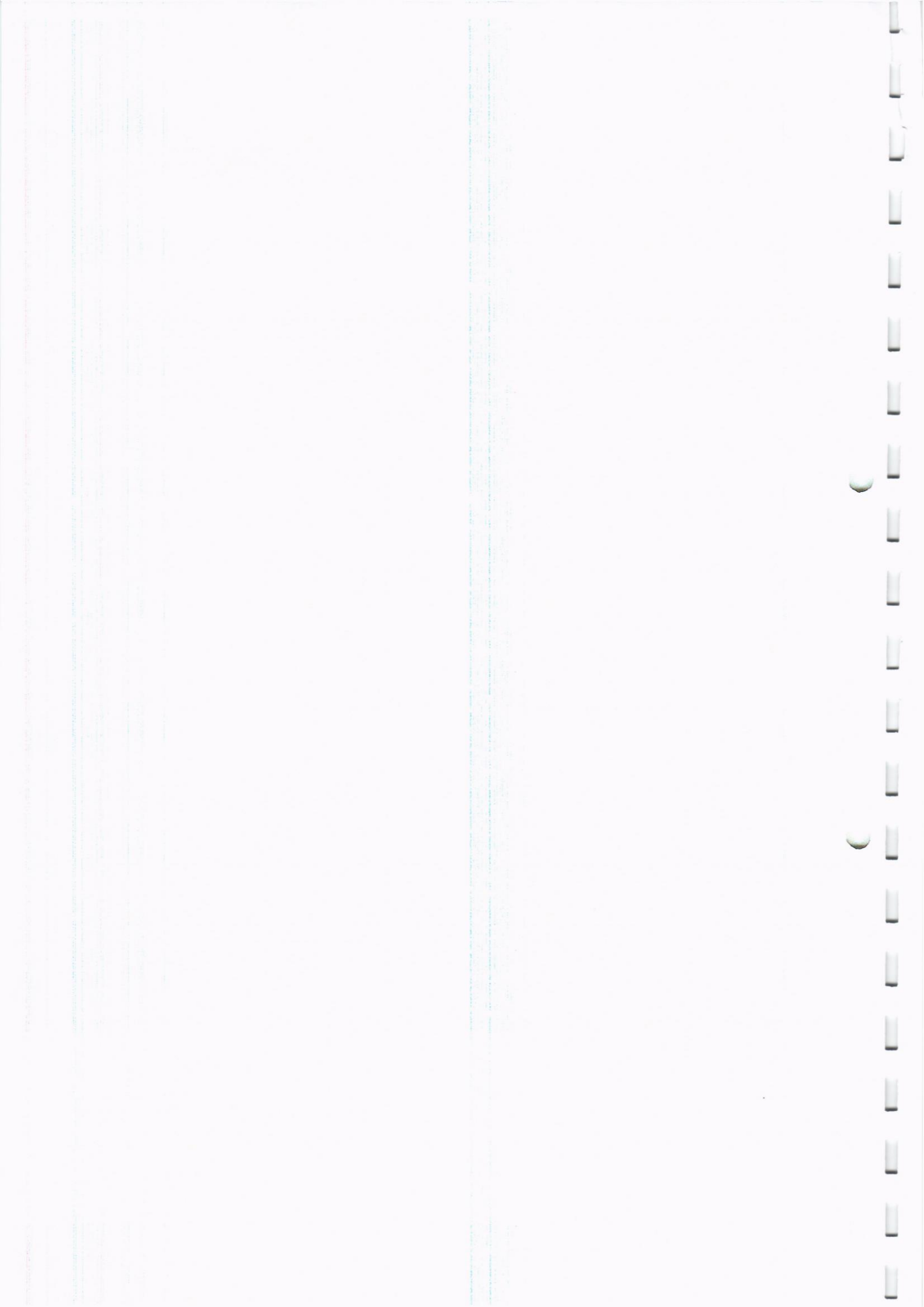
01/2022



Daikin Europe N.V. participates in the ECP programmes for Fan Coil Units and Variable Refrigerant Flow systems. Daikin Applied Europe S.p.A. participates in the ECP programmes for Liquid Chilling Packages and Hydronic Heat Pumps. Check ongoing validity of certificate: www.eurovent-certification.com



The present publication is drawn up by way of information only and does not constitute an offer binding upon Daikin Europe N.V. / Daikin Central Europe Handels GmbH. Daikin Europe N.V. / Daikin Central Europe Handels GmbH have compiled the content of this publication to the best of their knowledge. No express or implied warranty is given for the completeness, accuracy, reliability or fitness for particular purpose of its content and the products and services presented therein. Specifications are subject to change without prior notice. Daikin Europe N.V. / Daikin Central Europe Handels GmbH explicitly rejects any liability for any direct or indirect damage, in the broadest sense, arising from or related to the use and/or interpretation of this publication. All content is copyrighted by Daikin Europe N.V.



Air Conditioners / Climatiseurs

Comfort Air Conditioners below 12kW/ Comfort Air Conditioners below 12kW/
/ Climatiseurs de moins de 12kW

Granted on January 1, 1994 - Date 1ère admission 1 janvier 1994

This document is valid at the date of issue - Check the current validity on:
Document valable à la date d'émission - Vérifier la validité en cours sur :
www.eurovent-certification.com

Participant/Titulaire

DAIKIN EUROPE NV
Zandvoordestraat 300
8400 Oostende, Belgium

This product performance certificate is issued by Eurovent Certita Certification according to the certification rules:

ECP AC - « Air Conditioners » in force at established date.

Pursuant to the decision notified by Eurovent Certita Certification, the right to use the mark ECP shall be granted to the beneficiary company for all products inside the defined scope according to "certify-all" principle and in the conditions defined by the certification program mentioned.

Unless withdrawn or suspended, this certificate remains valid as long as the requirements for the certification program framework are met. The validity of the certificate is to be verified on www.eurovent-certification.com

THIS CERTIFICATE HAS BEEN ISSUED ON 07/10/2024
THIS CERTIFICATE IS VALID UNTIL 30/07/2025

Ce certificat de performance produit est délivré par Eurovent Certita Certification dans les conditions fixées par le référentiel :

ECP AC - « Climatiseurs » en vigueur à date d'édition.

En vertu de la décision notifiée par Eurovent Certita Certification, le droit d'usage de la marque ECP, est accordé à la société qui en est bénéficiaire pour les tous les produits entrant dans le champ d'application défini selon le principe "certify-all" et dans les conditions définies par le programme de certification mentionné.

Sauf retrait ou suspension, ce certificat demeure valide tant que les conditions du référentiel du programme de certification sont respectées. La validité du certificat est à vérifier sur le site Internet www.eurovent-certification.com

CE CERTIFICAT A ÉTÉ EMIS LE 07/10/2024
CE CERTIFICAT EST VALIDE JUSQU'AU 30/07/2025

Paris, 7 octobre 2024

MANAGING BOARD MEMBER / MEMBRE DIRECTOIRE



Organisme accrédité n° 5-0517 Certification Produits et Services selon la norme NF EN ISO/CEI 17065:2012
Portée disponible sur www.cofrac.fr

Accreditation #5-0517 Products and Services Certification according to NF EN ISO/CEI 17065:2012 -
Scope available on www.cofrac.fr

COFRAC est signataire des accords MLA d'EA,
COFRAC is signatory of EA MLA,
list of EA members is available on
www.european-accreditation.org/ea-members





CERTIFICATE
N° 94.01.087



Appendix / Annexe

Granted on January 1, 1994 - Date 1ère admission 1 janvier 1994

This document is valid at the date of issue - Check the current validity on:
Document valable à la date d'émission - Vérifier la validité en cours sur :

www.eurovent-certification.com

List of certified products and characteristics is displayed on:
La liste des références et caractéristiques certifiées est disponible sur le site :

www.eurovent-certification.com

This product performance certificate is valid for the following trade names:
Ce certificat de performance produit est valide pour les marques commerciales suivantes :

Trade Name / Marque Commerciale

DAIKIN

This product performance certificate is valid for the following manufacturing places:
Ce certificat de performance produit est valide pour les sites de production suivants:

Manufacturing Place / Site de Production

Not applicable for this certification programme / Non applicable pour ce programme de certification

This product performance certificate is valid for the following software:
Ce certificat de performance produit est valide pour les logiciels de sélection suivants:

Software / Logiciel de sélection

Not applicable for this certification programme / Non applicable pour ce programme de certification



PRODUCT PERFORMANCE RATING

Page 1/4

Document ID 1732455623-b4-f4d0bdaa

Issued on: 24 November 2024 - Délivré le : 24 novembre 2024

This product is certified by Eurovent Certita Certification as mentioned on:
Ce produit est certifié par Eurovent Certita Certification comme mentionné sur :



Certificate N° 94.01.087

This document is valid at the date of issue - Check the current validity on www.eurovent-certification.com
Ce document est valide à la date d'édition - Vérifiez la date de validité sur www.eurovent-certification.com

Certification programmes / Programmes de certification
Product type / Type de produit

Air conditioners
Air to air, split, reversible (≤ 12 kW)

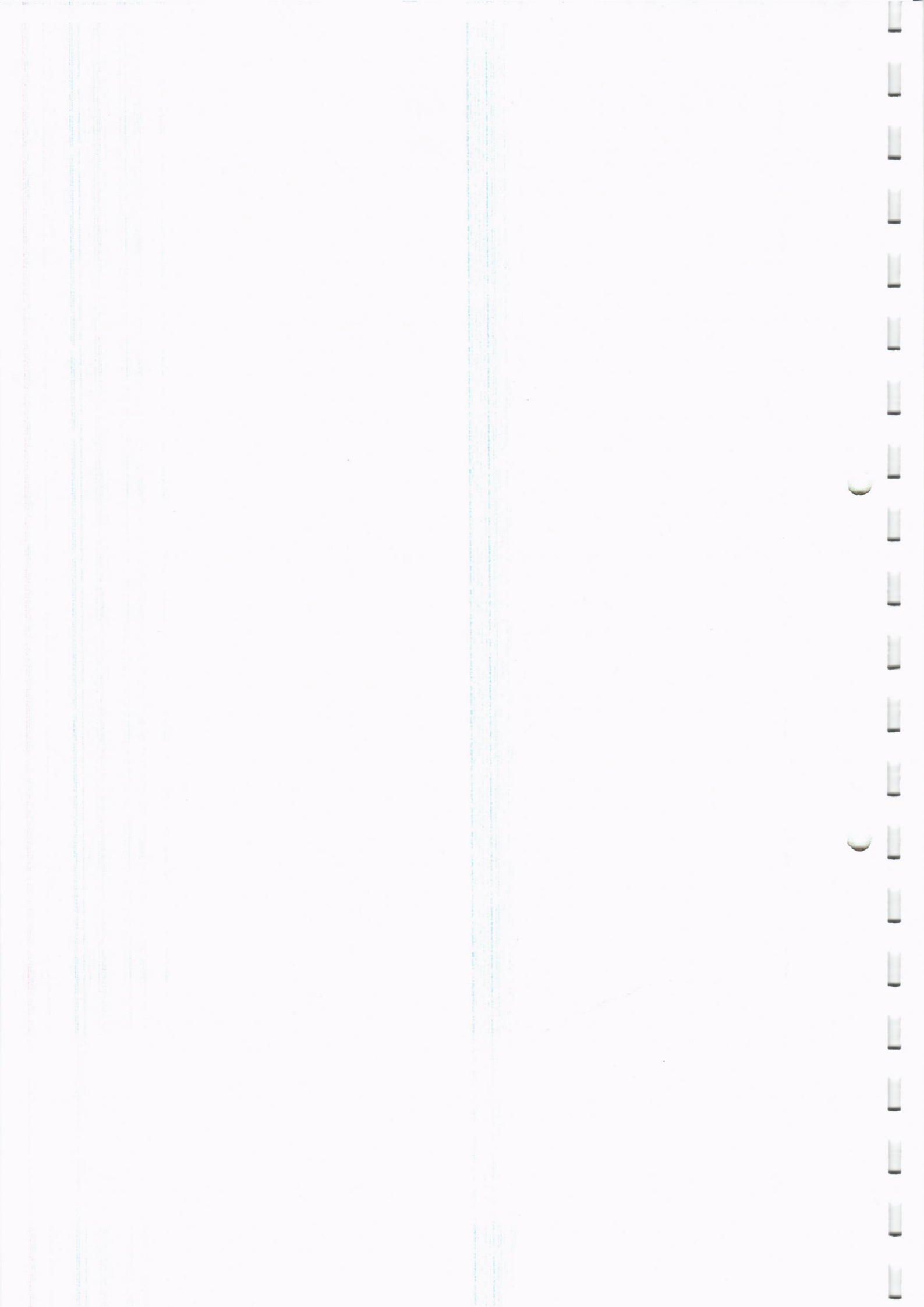
Model name / Nom du modèle
Range / Gamme
Participant / Titulaire
Brand / Marque

RXF50D / FTXF50D
RXF
DAIKIN EUROPE NV
DAIKIN

This performance certificate is delivered for the following project

Project Name	Project company	Project location
Nom du projet	Nom de la société	Localisation du projet
Radovis GREEN	AIRKON	North Macedonia





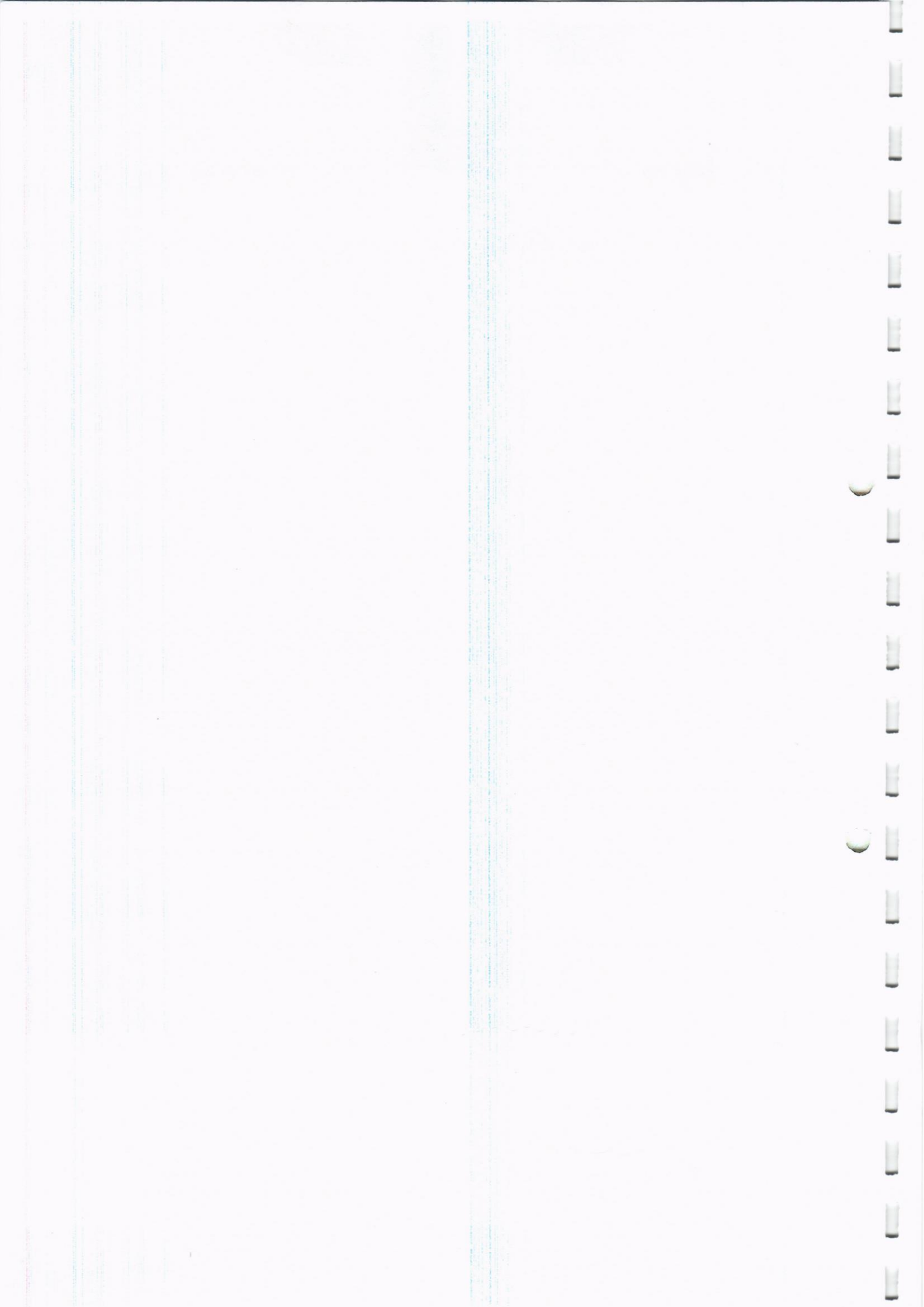
DAIKIN INDUSTRIES CZECH REPUBLIC s.r.o.
 U Nove Hospody 1/155, 301 00 Pízen Skvrnany, Czech Republic

J141757	220-240 V~ / 50 Hz	2021 / 04
20 A	MAX 14.5A	IPX4
PS HIGH/LOW	4.17 / 2.76 MPa	
GWP 675	46 kg	R32 / 0.9 kg
		ICOPeq: 0.61



0026
 Contains fluorinated
 greenhouse gases
 MADE IN CZECH REPUBLIC





ORIGINAL

VOLUME 5

**DESIGN DOCUMENTS,
INCLUDING DRAWINGS**

Section 5.1

List of drawings attached

No	Name	Drawing No	Design No
1.	REVISED Basic Project design for implementation phase Mechanical works phase Kindergarden Aco Karamanov "	...	P.A.33.24.M - 1
2.	REVISED Basic Project phase for implementation Mechanical works phase Secondary School Kosta Susinov	...	P.A.33.24.M - 2
3.	REVISED Basic Project phase for implementation Mechanical works phase Primary School Krste Petkov Misirkov	...	P.A.33.24.M - 3
4.	REVISED Basic Project phase for implementation Mechanical works phase Administrative building of Municipality of Radovich	...	P.A.33.24.M - 4
5.	REVISED Basic Project phase for implementation Mechanical works phase Sports Hall 25May	...	P.A.33.24.M - 5

Section 5.2

List of design documents available

No	Designer	Design No	Design name	Date
1.	INT Global Inzenering AV dooel Bitola	10-07/2022-1	Basic Project design ОСНОВЕН ПРОЕКТ ЗА ИСКОРИСТУВАЊЕ НА ВИСОКОЕФЕКТИВНИ АЛТЕРНАТИВНИ СИСТЕМИ ЗА ЦЕНТРАЛНО ГРЕЕЊЕ КОИ УПОТРЕБУВААТ ИЗВОРИ НА ОБНОВЛИВА ЕНЕРГИЈА ВО ЈАВНИ ОБЈЕКТИ НА ДЕЛ ОД ТЕРИТОРИЈА НА ГРАД РАДОВИШ, ОПШТИНА РАДОВИШ фаза МАШИНСТВО Градника "Ацо Караманов"	July 2022
2.	INT Global Inzenering AV dooel Bitola	10-07/2022-3	Basic Project design ОСНОВЕН ПРОЕКТ ЗА ИСКОРИСТУВАЊЕ НА ВИСОКОЕФЕКТИВНИ АЛТЕРНАТИВНИ СИСТЕМИ ЗА ЦЕНТРАЛНО ГРЕЕЊЕ КОИ УПОТРЕБУВААТ ИЗВОРИ НА ОБНОВЛИВА ЕНЕРГИЈА ВО ЈАВНИ ОБЈЕКТИ НА ДЕЛ ОД ТЕРИТОРИЈА НА ГРАД РАДОВИШ, ОПШТИНА РАДОВИШ фаза МАШИНСТВО Средно училиште "Коста Сусинов"	July 2022
3.	INT Global Inzenering AV dooel Bitola	10-07/2022-2	Basic Project design ОСНОВЕН ПРОЕКТ ЗА ИСКОРИСТУВАЊЕ НА ВИСОКОЕФЕКТИВНИ АЛТЕРНАТИВНИ СИСТЕМИ ЗА ЦЕНТРАЛНО ГРЕЕЊЕ КОИ УПОТРЕБУВААТ ИЗВОРИ НА ОБНОВЛИВА ЕНЕРГИЈА ВО ЈАВНИ ОБЈЕКТИ НА ДЕЛ ОД ТЕРИТОРИЈА НА ГРАД РАДОВИШ, ОПШТИНА РАДОВИШ фаза МАШИНСТВО ОУ "Крсте Петков Мисирков"	July 2022

4	INT Global Inzenering AV dooel Bitola	10-07/2022-4	Basic Project design ОСНОВЕН ПРОЕКТ ЗА ИСКОРИСТУВАЊЕ НА ВИСОКОЕФЕКТИВНИ АЛТЕРНАТИВНИ СИСТЕМИ ЗА ЦЕНТРАЛНО ГРЕЕЊЕ КОИ УПОТРЕБУВААТ ИЗВОРИ НА ОБНОВЛИВА ЕНЕРГИЈА ВО ЈАВНИ ОБЈЕКТИ НА ДЕЛ ОД ТЕРИТОРИЈА НА ГРАД РАДОВИШ, ОПШТИНА РАДОВИШ фаза МАШИНСТВО Општинска зграда - Општина Радовиш	July 2022
5	INT Global Inzenering AV dooel Bitola	10-07/2022-4	Basic Project design ОСНОВЕН ПРОЕКТ ЗА ИСКОРИСТУВАЊЕ НА ВИСОКОЕФЕКТИВНИ АЛТЕРНАТИВНИ СИСТЕМИ ЗА ЦЕНТРАЛНО ГРЕЕЊЕ КОИ УПОТРЕБУВААТ ИЗВОРИ НА ОБНОВЛИВА ЕНЕРГИЈА ВО ЈАВНИ ОБЈЕКТИ НА ДЕЛ ОД ТЕРИТОРИЈА НА ГРАД РАДОВИШ, ОПШТИНА РАДОВИШ фаза МАШИНСТВО Спортска сала - 25 Maj	July 2022

Drawings are available for inspection from 03.03.2025 at the following address:

Consultant: AIRKON

Person in charge: Sonja Kitancheva Petkovska / Aleksandar Popovik

Tel.: +389 2 30 90 500

Fax: +389 2 30 90 501

E-mail: s_kitancheva@aircon.com.mk / design@aircon.com.mk

Signature:

(a person or persons authorised to sign on behalf of the tenderer)

Sonja Kitancheva Petkovska

Aitkon doo Skopje

Date: 22.11.2024

ORIGINAL

VOLUME 1

SECTION 4

FORMS 4.6.1 TO 9 TECHNICAL QUALIFICATIONS



SECTION 4

FORM 4.6.3

WORK PLAN AND PROGRAMME

- 4.6.3.1 State the proposed location of your main office on the site, stations (steel/concrete/asphalt structures), warehouses, laboratories, accommodation, etc. (sketches to be attached as required).

The scope of works for IPA/2021/427/964, i.e. installation of high-efficient alternative central heating (heat pumps) in Primary school "Krste Petkov Misirkov, Secondary School "Kosta Susinov", Kindergarten "Aco Karamanov", Sports Hall "25 May and Administrative Building of Municipality Radovis, Republic of North Macedonia requires primarily :

1. Supply and installation of high-efficient heat pumps
2. Reconstruction of existing mechanical rooms for connection of the new heat pumps to the existing installations

There will be one main office container on site located in the back yard of secondary school Kosta Susinov.

Auxiliary warehouses – rooms will be secured in each of the project sites for small supporting equipment and installations, while main equipment will be brought on site as soon as it is intended for installation.

We AIRCON, hereby give you an extract of all major items of Equipment- tools and instruments, machines, support software and vehicles to be utilised for the Work, conforming to the resource levels in the scheduling and execution resource histogram, necessary to timely achieve the milestones for this project, in the following format:

Offices, warehouse and storage	Address - Skopje	area
Headquarters, training center and logistics	Dicho Petrov 3	360 m2
Service	Mito Hadzivasilev Jasmin 50	100 m2
Main open warehouse	Street 7 Ilinden Industrial zone	14.355 m2
Warehouse	Zil Vern 12b	400 m2
Support warehouse	Mito Hadzivasilev Jasmin 50	300 m2

Vehicles	Model	q-ty
Transport	FORD Transit	1
	Renault Kangoo	1
	Toyota Hilux	1
	Toyota Land Cruiser	1
Service	Toyota Hilux	1
	Honda Civic	1
	Peugeot 206 Affair	1
	Skoda Roomster	1

Traveler	Hyundai Accent	1
	Chevrolet Spark	1
	Kia Soul	1
	Volvo xc90	1
	Audi A8	1
	BMW 430i	1

Tools and instruments	cpl
Heating, ventilation and air conditioning – refrigerant, electrical and hydro installations	9
Measurement of performance, regulation and balancing of HVAC systems	5
Units for Recovery of refrigerants	3
Tools for diagnostics, demonstration and development of applicative software for HVAC	2

Production	cpl
Production of sheet metal ducts	1
Production of pre-insulated Al ducts	2

Technical Software	cpl
TOSHIBA Air Conditioning	Dyna Doctor : Design Airs; Fan of Tohsibel Annual and seasonal power consumption software
Carrier Load and energy efficiency design	HAP, hourly analysis program
American Society for HVAC(R)	Psychometric Analysis
Blue Box water chilled systems	CHDesign
Siemens Control	Synco select, VASP and DASP, Desigo
Wolf Air Handling units	TOP Konfigurator; Data Norm
VBW Air Handling Units	Engineering v. 4.9.294
Systemair Ventilation Equipment	SP 2
Software for support work activities	MS office 365 planner , teams ; MS Project Autocad

As part of this technical offer, we have also prepared HSE Hazards & Effects Management Assessment. This assessment provides: An assessment of the significant HSE hazards associated with the Work/Services, A description of how these hazards will be controlled, mitigated and managed from mobilization through execution, demobilization and site restoration, A description of the manpower that will be applied to manage the HSE hazards identified by the assessment, including names, qualifications and experience.

During the realization of the project the company will have the equipment and personnel insured, according to the State Law.

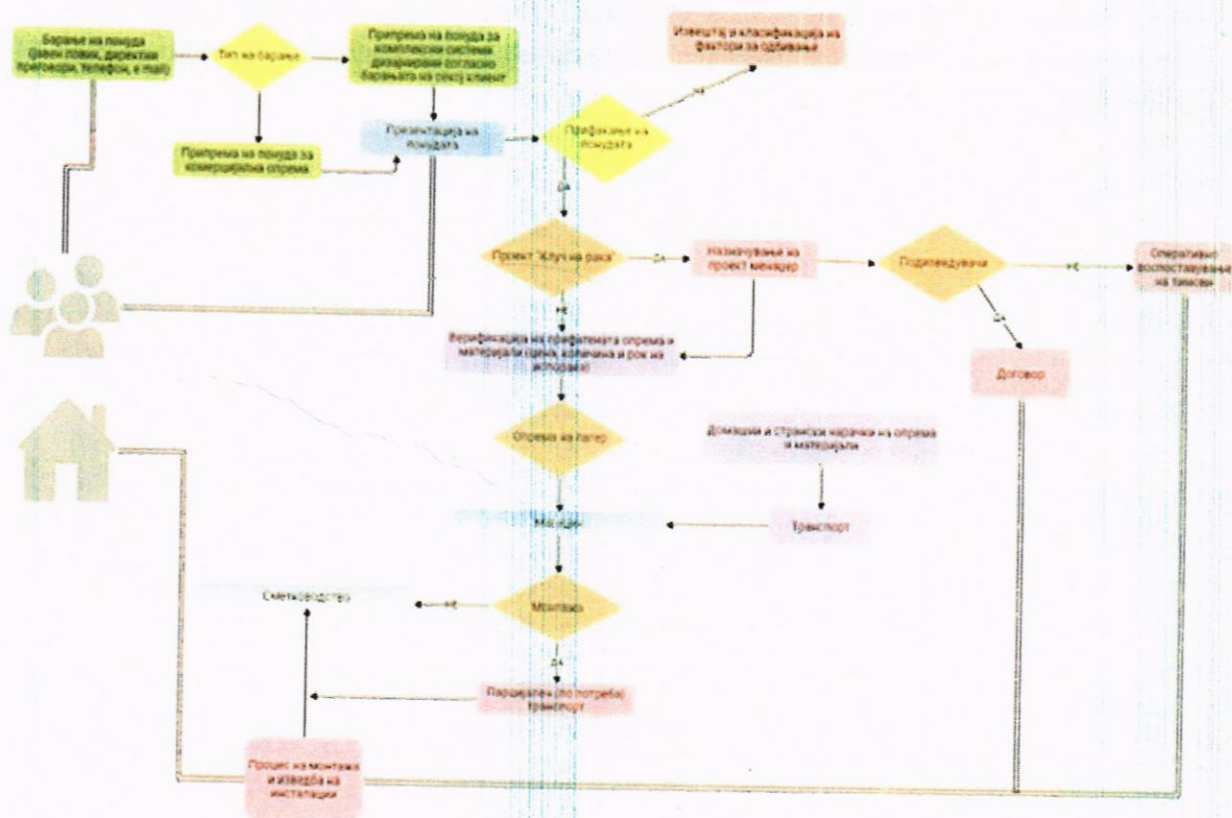
4.6.3.2 Give a brief outline of your programme for completing the works in accordance with the required method of construction and stated time of completion.

In general, The method of works encompasses the following activities:

1. Securing all project sites
2. On site preparatory activities – securing pathways for delivery of the equipment, instruments and tools necessary.
3. Construction of necessary foundation at predefined micro locations for the heat pumps
4. Reconstruction of existing installations
5. New installations and supporting equipment
6. Electrical installations for the new equipment
7. Installation of the heat pumps and their connection to the new installations
8. Commissioning

The flow of the processes of delivery of product or service affects the positioning choice of the company on the market, the decisions about technical and all other resources and working methods. The architecture of processes is an important component of the company's strategy to build an advantage with the competition. Moreover, the structure of the processes differs in several aspects, such as: flexibility, range of services, products, investments, variable costs, number, and structure of employees etc.

Primary determinants for the choice of the optimal process for the engineering company such as AIRKON are the variety of services, products and their capacity, accompanied by the capital that the company is able or willing to invest, as well as the local economy (labor, energy, equipment, transportation). Also, the selection of the process is related with the company's marketing plan and business strategy.



Analyzing the selection of these flows, it can be clearly seen that the company's basic attributes (advantages) are:

- ☐ flexibility
- ☐ quick response to customer requirements
- ☐ orientation towards the client
- ☐ high labor specialization
- ☐ low formalization

with differentiated two basic models (processes): 1. byproject 2. jobshop

Common to both processes is that the adaptation of workload is realized by adding or subtracting labor, using the business forecast of the management team, based on the application of seasonal index.

From a marketing point of view, rather than selling products, the company Airkon often sells its skills, experience, and expertise. While from perspective of competitive advantage, these processes enable the company to lead the strategy of differentiation.

Company's additional advantage is that it provides a complete system solution for evaluation and implementation of HVAC and HPAC systems, and automatic BMS regulation with improved energy efficiency. This is all also made possible with List of carefully selected business Principals, that are top manufacturers in the field of air- conditioning and ventilation, and automation. The Principals in every aspect support the strategic approach of the company - to win the market with quality, new technology and overall supply-production range.

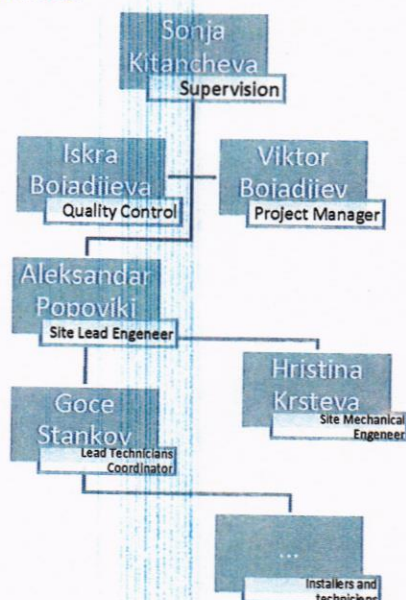
Thus, having in mind the above stated, Airkon has the necessary technical, human and financial capital and is able to organize itself and offer successful realization of "turn key" projects in a given timeline.

4.6.3.3 Attach a critical milestone bar chart (schedule of execution) representing the construction programme and detailing relevant activities, dates, allocation of labour and plant resources, etc.

Key Personnel

We Airkon hereby state that our organization's capacity in terms of qualified manpower resource is adequate to implement the scope of Work/services within the indicated period of time.

Here below is detailed organization chart for the proposed organization structure in terms of realization of the specific Contract:

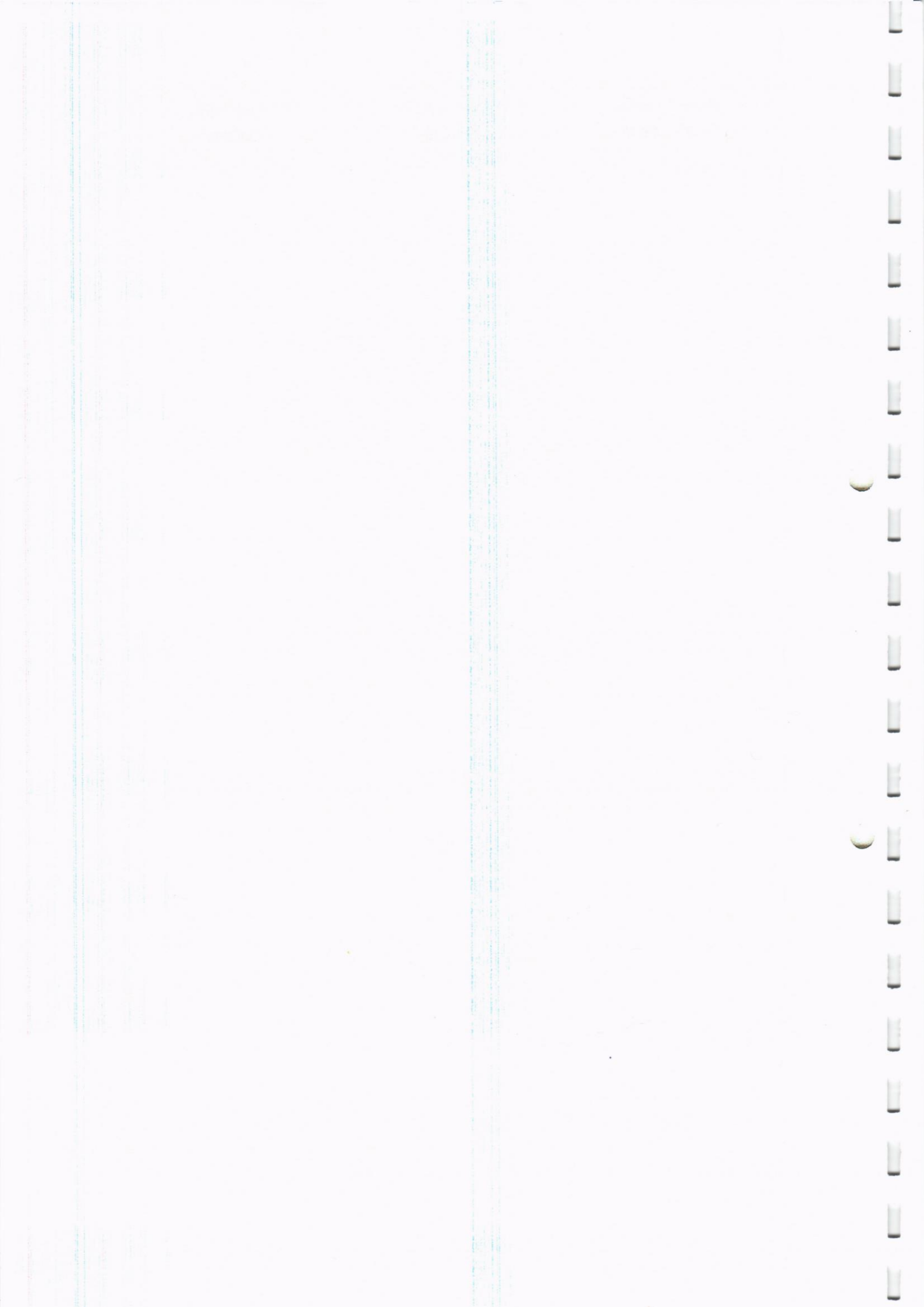


By submitting the proposal we Airkon hereby state none of the specified key personnel is in the notice period and that no other foreseeable reasons exist that he/she would not be able to work on the project.

In the following table, for each member of the key proposed personnel it is specified in % what portion of his working time and how many man-days he/she will devote to the project realization.

Name	Position	Role in the project	Estimated involvement	
			%of work-time	Man-days
Sonja Kitancheva Petkovska	Managing director	Main supervisor and project coordinator	25%	45
Viktor Bojadziev	Sales and marketing	Project manager	30%	54
Iskra Bojadzieva	Quality coordinator	Order handling and quality plan	15%	27
Aleksandar Popovikj	Lead Engineer	on site equipment and installations	60%	108
Goce Stankov	Lead technician	on site equipment and installations	80%	144

The proposed personnel is highly knowledgeable and has experience in the field more than 10 years and possesses accordingly : Manufacturer's Certificates for trainings for installation, start up and commissioning and maintenance for the proposed range of products ; State engineer licences for Design, of equipment and installations in buildings from highest A level ; State engineer licences for Installation of equipment and installations in buildings from highest A level ; State engineer licences for Supervision of equipment and installations in buildings from highest A level ; State technician licences for safe handling of refrigerants.



AIRCON DOO,
3 DICHU PETROV,
SKOPJE, SK, 1000, MACEDONIA

Cantarana di Cona Venezia
April 2, 2024

Subject: Training certificate

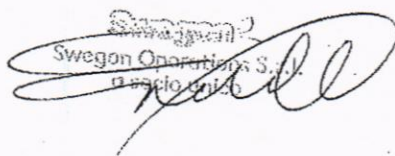
We certify that the following people

Kosta Koleski
Goce Stankov
Aleksandar Popovik
Sonja Kitancheva Petkovska
Viktor Bojadziev
Jovance Simonov
Lazar Iliev
Slavko Novak

from Aircon DOO have participated in training and is certified to install, do service and maintenance on the product range branded Blue Box: Chiller and Heat Pump, Close Control units, roof top units, and handling of refrigerant according to relevant standard.

Best regards

Emanuele Pittarello
Area manager cooling&heating


Swegon Operations S.r.l.
a socio unico

Swegon Operations S.r.l.

Main office
Switchboard

Via Valletta, 5 - 30010

Cantarana di Cona, (VE) Italy

www.swegon.com

P. +39 0426 921111

F. +39 0426 302222

info@swegon.it

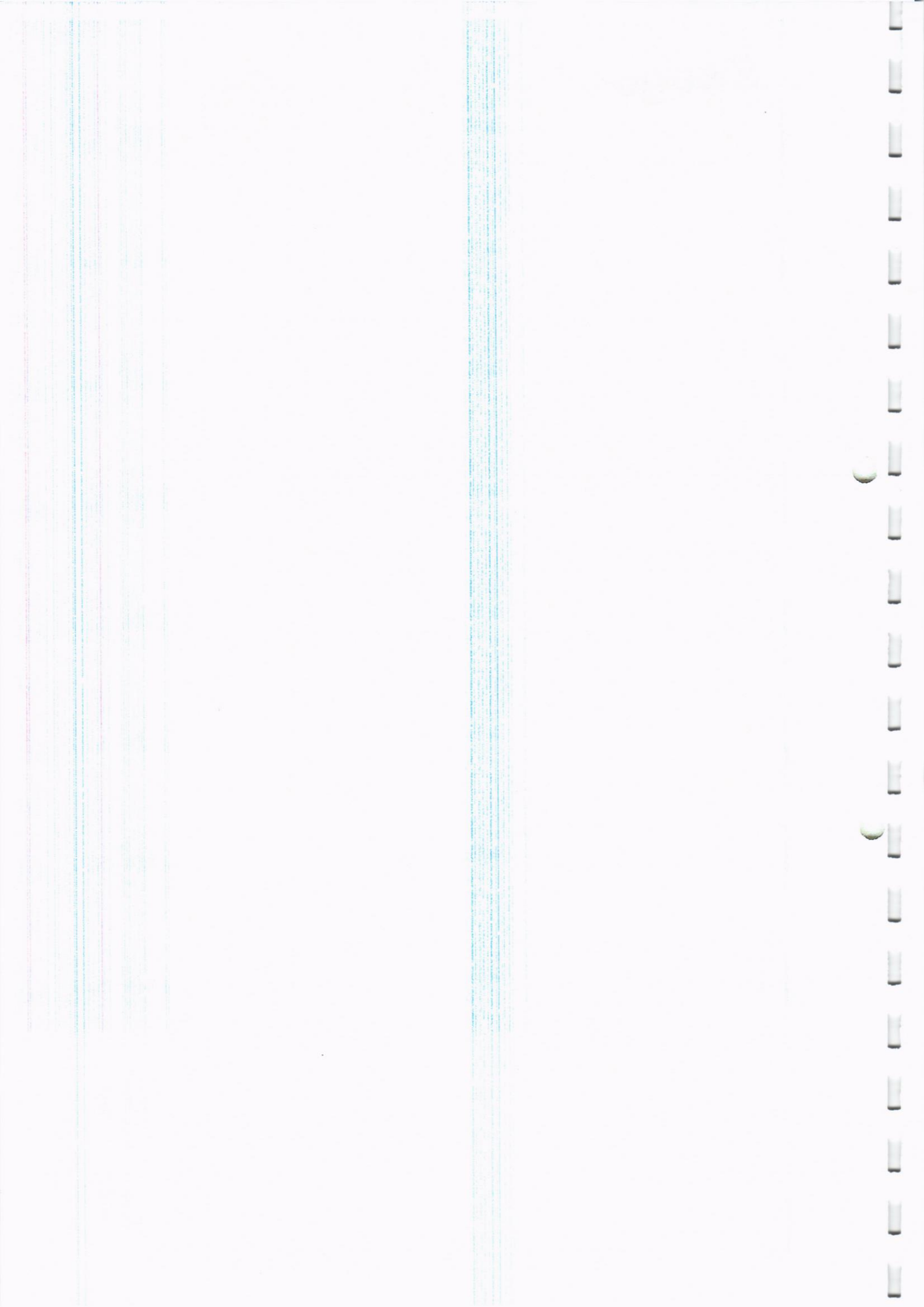
Sales & Service
Italian

subsidiary

P. +39 0426 302511

service.it@swegon.it

Swegon Operations S.r.l. a socio unico - P.IVA 02481290282
Società soggetta all'attività di direzione e coordinamento da
parte della Investment Latour AB Svezia





AIRCON D.O.O.

Dicho Petrov 3, 1000 Skopje

PB168R North Macedonia

Cantarana di Cona Venezia

February 20, 2024

Subject: AIRCON D.O.O. authorized distributor

Hereby Swegon Operations s.r.l. company located in Via Valletta 5 Cantarana di Cona declares that the company AIRCON D.O.O. located in DICH0 PETROV 3,1000 Skopje PB168 R. Macedonia is authorized to sell, install, do service and maintenance on our product range of BlueBox branded chiller and heat pump, close control units, rooftop units in the territory of the Republic of North Macedonia.

Validity: until December 31st 2024

Best regards

Emanuele Pittarello

Area manager cooling&heating


Swegon Operations S.r.l.
a socio unico

Swegon Operations S.r.l.

Main office
Switchboard

Via Valletta, 5 - 30010

Cantarana di Cona, (VE) Italy

www.swegon.com

P. +39 0426 921111

F. +39 0426 302222

info@swegon.it

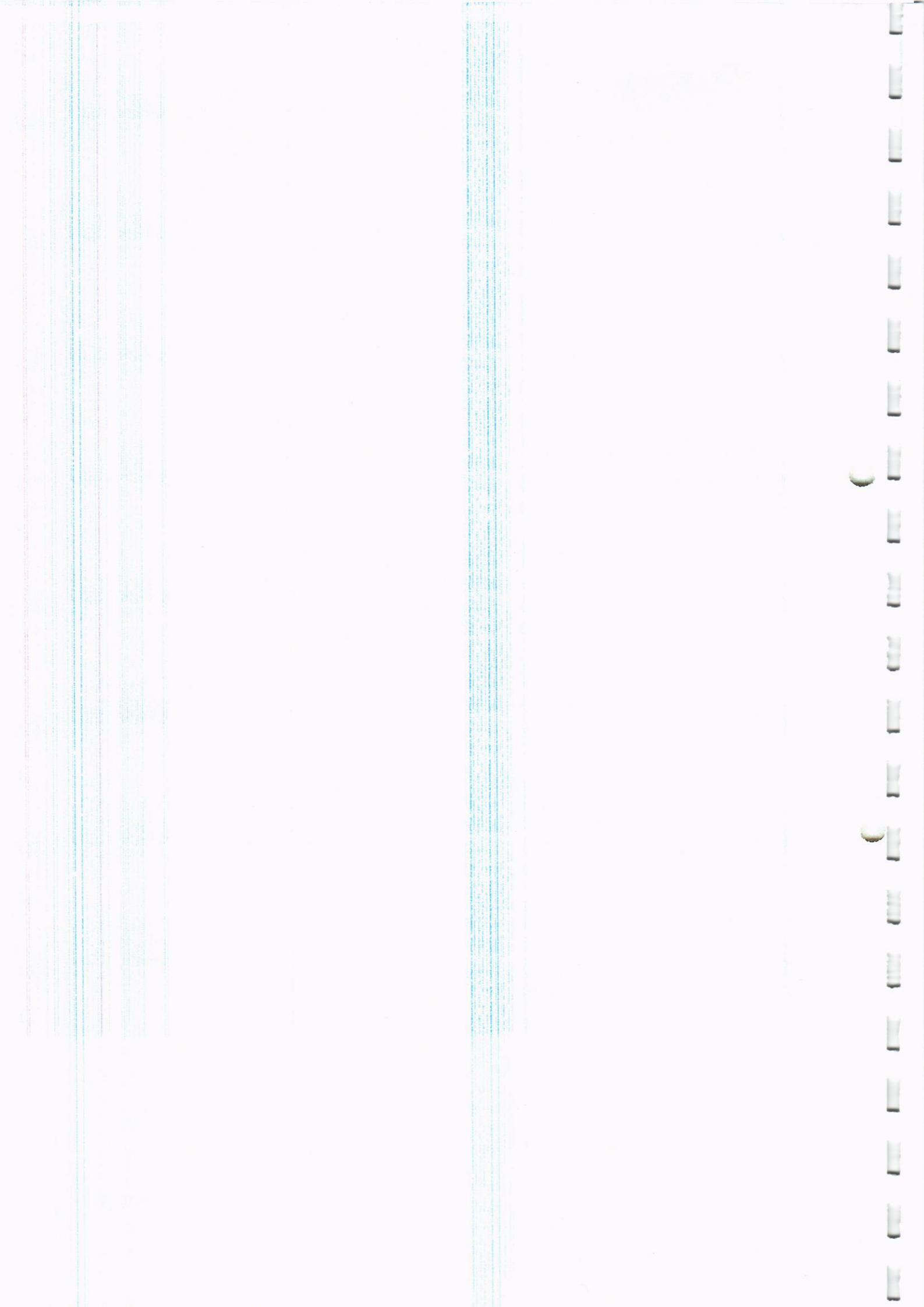
Sales & Service
Italian

subsidiary

P. +39 0426 302511

service.it@swegon.it

Swegon Operations S.r.l. a socio unico - P.IVA 02481290282
Società soggetta all'attività di direzione e coordinamento da
parte della Investment Latour AB Svezia



ORIGINAL

Construction programme and detailing relevant activities, dates

Following is the construction programme detailing relevant activities according to the received technical specifications and dates for each project site.



[illegible]

Ser.	Description	Unit	Qty	start of works	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	end of works
RADOVISH MUNICIPALITY-ADMINISTRATIVE BUILDING																						
PROCUREMENT AND INSTALLATION OF:																						
1 MECHANICAL INSTALLATIONS				kit	2																	
1	Highly efficient, reversible heat pump	kg	460																			
2	Stand for the heat pump	piece	12																			
3	Rubber anti-vibration device	piece	4																			
4	Drain and supply coupling,	piece	4																			
5	Rubber flanged compensator	piece	2																			
6	Flow switch	piece	2																			
7	Circulation pump with electronic regulation for the primary side of the heat exchanger	piece	2																			
8	Circulation pump with electronic regulation for the primary side of the heat exchanger	piece	1																			
9	Ball valves with flange joints	piece	12																			
10	Non-return valves	piece	3																			
11	Filter with flanged joints for catching dirt in the hydraulic circuit,	piece	3																			
12	Balancing valve with flanged joints and connections for flow measurement	piece	3																			
13	Membrane expansion tank	piece	2																			
14	Plate heat exchanger	piece	1																			
15	Hydraulic separator	piece	1																			
16	Vessels for de-aeration	piece	4																			
17	Manometers	piece	12																			
18	Thermometers	piece	14																			
19	Tap for emptying and de-aeration of the 1/2" installation	piece	16																			
20	Pre-insulated steel pipes	m	65																			
21	Marking the route of an external pipe installation	m	65																			
22	Excavation of earth of third and fourth category for a trench	m³	65																			
23	Fine trench planning	m³	65																			
24	Procurement and placement of a layer of fine sand	m³	5																			
25	Backfilling the trench by manually placing a layer in the trench of selected excavated soil	m³	19																			
26	Procurement and installation of PVC tape for warning	m	65																			

Construction programme and detailing relevant activities, dates

Ser.	Description	Unit	Qty
SECONDARY SCHOOL "KOSTA SUSINOV"			
PROCUREMENT AND INSTALLATION OF:			
1 MECHANICAL INSTALLATIONS			
1	Highly efficient, reversible heat pump	kit	3
2	Stand for the heat pump	kg	690
3	Rubber anti-vibration device	piece	18
4	Drain and supply coupling	piece	6
5	Rubber flanged compensator	piece	6
6	Flow switch	piece	3
7	Circulation pump with electronic regulation for the primary side of the heat exchanger	piece	3
8	Circulation pump with electronic regulation for the primary side of the heat exchanger	piece	1
9	Ball valve with flange joints	piece	18
10	Non-return valve with flanged joints	piece	4
11	Filter with flanged joints for catching dirt in the hydraulic circuit	piece	4
12	Balancing valve with flanged joints and connections for flow measurement,	piece	3
13	Membrane expansion tank	piece	1
14	Plate heat exchanger	piece	1
15	Hydraulic separator	piece	1
16	De-aeration vessels	piece	5
17	Manometers	piece	14
18	Thermometers	piece	16
19	1/2" tap for emptying and de-aeration	piece	19
20	Pre-insulated steel pipes	m	140
21	Marking the route of an external pipe installation	m	140
22	Excavation of earth of third and fourth category for a trench	m³	140
23	Fine trench flattening	m³	140
24	Procurement and placement of a layer of fine sand	m³	7
25	Backfilling the trench by manually placing a layer in the trench of selected excavated soil	m³	29
26	Procurement and installation of PVC tape for warning	m	140

[illegible]

Construction programme and detailing relevant activities, dates

Ser.	Description	Unit	Qty	start of works	end of works
KINDERGARTEN " ACO KARAMANOV "					
PROCUREMENT AND INSTALLATION OF:					
1 MECHANICAL INSTALLATIONS					
1	Highly efficient, reversible heat pump	Kit	1		
2	Stand for the heat pump	kg	230		
3	Rubber anti-vibration device	piece	6		
4	Drain and supply coupling	piece	2		
5	Rubber flanged compensator	piece	2		
6	Flow switch	piece	1		
7	Circulation pump with electronic regulation for the primary side of the heat exchanger	piece	1		
8	Circulation pump with electronic regulation for the primary side of the heat exchanger	piece	1		
9	Ball valve with flange joints	piece	14		
10	Non-return valve with flanged joints	piece	2		
11	Filter with flanged joints for catching dirt	piece	2		
12	Balancing valve with flanged joints and connections for flow measurement	piece	2		
13	Membrane expansion tank	piece	1		
14	Plate heat exchanger	piece	1		
15	Hydraulic separator	piece	1		
16	De-aeration vessels	piece	2		
17	Manometers	piece	8		
18	Thermometers	piece	10		
19	Tap for emptying and de-aeration	piece	8		
20	Pre-insulated steel pipes	m	120		
21	Marking the route of an external pipe installation	m	120		
22	Excavation of earth of third and fourth category for a trench	m ³	120		
23	Fine trench planning	m ³	120		
24	Procurement and placement of a layer of fine sand	m ³	12		
25	Backfilling the trench	m ³	38		
26	Procurement and installation of PVC tape for warning	m	120		

Ser.	Description	Unit	Qty
OJ "KRSTE PETKOV MISIRKOVIĆ"			
PROCUREMENT AND INSTALLATION OF:			
1 MECHANICAL INSTALLATIONS			
1	Highly efficient, reversible heat pump	kit	2
2	Stand for the heat pump	kg	460
3	Rubber anti-vibration device	piece	12
4	Drain and supply coupling	piece	4
5	Rubber flanged compensator	piece	4
6	Flow switch	piece	2
7	Circulation pump with electronic regulation for the primary side of the heat exchanger	piece	2
8	Circulation pump with electronic regulation for the secondary side of the heat exchanger	piece	1
9	Ball valve with flange joints	piece	14
10	Non-return valve with flanged joints	piece	2
11	Filter with flanged joints for catching dirt in the hydraulic circuit	piece	3
12	Balancing valve with flanged joints and connections for flow measurement	piece	2
13	Membrane expansion tank	piece	2
14	Plate heat exchanger	piece	1
15	Hydraulic separator	piece	1
16	De-aeration vessels	piece	4
17	Manometers	piece	12
18	Thermometers	piece	14
19	1/2" tap for emptying and de-aeration of the installation,	piece	16
20	Pre-insulated steel pipes	m	260
21	Marking the route of an external pipeline installation	m	260
22	Excavation of earth of third and fourth category for a trench	m³	120
23	Fine trench flattening	m³	120
24	Procurement and placement of a layer of fine sand	m³	12
25	Backfilling the trench by manually placing a layer in the trench of selected excavated soil	m³	38
26	Procurement and installation of PVC tape for warning	m	120

[illegible]

FORM 4.6.3
WORK PLAN AND PROGRAMME

Construction programme and detailing relevant activities, dates

Ser.	Description	Unit -	Qty -
"25th MAY" SPORTING HALL			
PROCUREMENT AND INSTALLATION OF:			
1 MECHANICAL INSTALLATIONS			
1	Heat pump split system with direct expansion of the operating fluid,	piece	8
2 ELECTRICAL INSTALLATIONS			
1	Supply, transport and installation of cable trays of type NYN 5x10 mm ² cable	m	15
2	Supply, transport and installation of cable trays of type NYN 3x2,5 mm ² cable	m	150
3	Supply, transport and installation of cable clampsNYN 4x50 mm ² + NBN 1x35 mm ²	m	30
4	Procurement, transportation and installation of a RT switchboard - mechanical	piece	1

[illegible]