



## FRAMEWORK PURCHASE CONTRACT

This framework purchase contract ("**Contract**") was concluded pursuant to section 2079 *et seq.* of the act no. 89/2012 Coll., Civil Code ("**Civil Code**") on the day, month and year stated below by and between:

- (1) **Institute of Physics of the Academy of Sciences of the Czech Republic, a public research institution,**

with its registered office at:

Na Slovance 2, Praha 8, PSČ: 182 21,

registration no.: 68378271,

represented by: RNDr. Michael Prouza, Ph.D., director

("Buyer"); and

- (2) **Kurt J. Lesker Company Ltd,**

with its registered office at: Austin House, Sidney Little Road Churchfields Industrial Estate St. Leonards-on-Sea TN38 9PU United Kingdom,

registration no.: 2426614,

represented by: Richard Whitehouse

("Seller").

(The Buyer and the Seller are hereinafter jointly referred to as "**Parties**" and individually as "**Party**".)

### WHEREAS

- (A) The Buyer is a public contracting authority and the beneficiary of a grant of the Ministry of Education, Youth and Sports of the Czech Republic for project ADONIS - Pokročilý výzkum s využitím fotonů a částic vytvořených vysoce intenzivními lasery", reg. č. CZ.02.1.01/0.0/0.0/16\_019/0000789 and other projects ("**Projects**"), all within the Operational Programme Research, Development and Education.
- (B) For the successful realization of Projects it is necessary to purchase the Objects of Purchase (as defined below) in accordance with Rules for the Selection of Suppliers within the Operational Programme Research, Development and Education and the Act no. 134/2016 Coll., on Public Procurement.
- (C) The Seller wishes to provide the Objects of Purchase to the Buyer for consideration.
- (D) The Seller's bid for the public procurement entitled "*Vacuum valves (TP20\_119) - reissue*", whose purpose was to procure the Objects of Purchase ("**Public Procurement**"), was selected by the Buyer as the most suitable.



## IT WAS AGREED AS FOLLOWS:

### 1. BASIC PROVISIONS

- 1.1 Under this Contract the Seller shall (for the whole duration of this Contract), on the basis of written requests, hand over to the Buyer devices, which shall meet requirements listed in Annex 1 (*Technical Specification*) to this Contract (“**Objects of Purchase**”) and shall transfer to the Buyer ownership right to the Objects of Purchase, and the Buyer shall take over the Objects of Purchase and shall pay the Seller the Purchase Price (as defined below), all under the terms and conditions stipulated in this Contract.
- 1.2 Under this Contract the Seller shall (“**Related Activities**”):
- a) package and transport the Objects of Purchase to the place of delivery under the conditions stipulated in Annex 1 (*Technical Specification*) to this Contract,
  - b) verify that the Objects of Purchase meet all requirements stipulated in this Contract;
  - c) verify that the Objects of Purchase are fully functional; and
  - d) cooperate with the Buyer during the performace of this Contract.
- 1.3 The Objects of Purchase shall be supplied new (not remanufactured).

### 2. WRITTEN REQUESTS

- 2.1 The Seller shall supply the Objects of Purchase on the basis of written requests of the Buyer (“**Requests**”).
- 2.2 In each Request the Buyer shall specify the quantity and the type of Objects of Purchase that the Buyer wishes to procure.
- 2.3 The Seller shall confirm in writing the acceptance of the Request within two working days from its receipt, at the latest.
- 2.4 By delivering the confirmation of the acceptance of the Request the individual purchase contract is concluded.
- 2.5 The Request is considered to be made in writing even if it was sent via email. The Request is considered as confirmed in writing even if it was confirmed via email.

### 3. NO MINIMUM QUANTITY OF THE OBJECTS OF PURCHASE

The Buyer is not obliged to order any minimum quantity of the Objects of Purchase under this Contract. The quantities stated in Annex 2 (*Price sheet*) are indicative only (not binding).



#### 4. **THE PLACE OF DELIVERY**

The place of delivery is at the address: ELI Beamlines, Průmyslová 836, post code 252 41, Dolní Břežany, Czech Republic or other address in Dolní Břežany specified by the Buyer prior to the delivery of Objects of Purchase.

#### 5. **DURATION OF THE CONTRACT**

5.1 This Contract is concluded for the period of two years.

5.2 Under this Contract, the Buyer is not entitled to purchase Objects of Purchase in the total amount that exceeds 204 370 EUR. This Contract shall terminate also if this amount is reached, i.e. the Buyer cannot purchase more Objects of Purchase without breaching the maximum amount.

#### 6. **THE TIME OF DELIVERY**

6.1 The Seller shall deliver the Objects of Purchase (with the exception of pendulum valves described in Annex 1, Article 6.5 and large gate valves described in Annex 1, Article 6.10) and shall carry out Related Activities within 10 weeks from the conclusion of the individual purchase contract (i.e. the delivery of the confirmation that the Request was accepted).

The pendulum valves described in Annex 1, Article 6.5 shall be delivered and the Related Activities shall be carried out within 15 weeks from the conclusion of the individual purchase contract (i.e. the delivery of the confirmation that the Request was accepted).

The large gate valves described in Annex 1, Article 6.10 shall be delivered and the Related Activities shall be carried out within 20 weeks from the conclusion of the individual purchase contract (i.e. the delivery of the confirmation that the Request was accepted).

6.2 If the Seller cannot perform this Contract in time due to the circumstances that were hard to foresee and the Seller had no control over (e.g. COVID-19 measures), the Seller shall request the Buyer for the extension of the time of delivery. Such a request shall be accompanied with the supporting evidence. In such a case, the time of delivery shall be extended for the period of time that corresponds to the duration of the unforeseen circumstances. Due to the above mentioned reasons Parties do not need to conclude an amendment to this Contract.

6.3 The Seller is entitled to handover the Objects of Purchase during working days between 7:30 and 17:30 hours, unless otherwise agreed by the Parties. Exact working days shall be determined on the basis of mutual agreement. If the agreement is not reached, the Seller shall perform during the last day, on which it is possible to fulfill this Contract in time and the Buyer shall provide to the Seller for this purpose necessary cooperation.

#### 7. **THE OWNERSHIP RIGHT**

The ownership right to the Objects of Purchase shall be transferred to the Buyer upon the acceptance of the Objects of Purchase by the Buyer.

#### 8. **PRICE AND PAYMENT TERMS**



- 8.1 The purchase price of Objects of Purchase is stated in Annex 2 (*Price sheet*) to this Contract (“**Purchase Price**”).
- 8.2 The Purchase Price cannot be exceeded and includes all costs and expenses of the Seller related to the performance of this Contract. The Purchase Price includes, among others, all expenses related to the handover of the Objects of Purchase and execution of Related Activities, costs of copyright, insurance, customs, warranty service and any other costs and expenses connected with the performance of this Contract.
- 8.3 The Purchase Price for the Objects of Purchase shall be paid in EUR on the basis of a tax document – invoice, to the account of the Seller designated in the invoice.
- 8.4 The Purchase Price shall be paid after the acceptance of the Objects of Purchase by the Buyer. The copy of the acceptance protocol must be attached to the invoice.
- 8.5 The Buyer shall realize payments on the basis of duly issued invoices within 30 days from their receipt. The invoice shall be considered to be paid for on the day when the invoiced amount is deducted from the Buyer’s account on behalf of the Seller’s account.
- 8.6 The invoice issued by the Seller as a tax document must contain all information required by the applicable laws of the Czech Republic. Invoices issued by the Seller in accordance with this Contract shall contain in particular following information:
- a) name and registered office of the Buyer,
  - b) tax identification number of the Buyer,
  - c) name and registered office of the Seller,
  - d) tax identification number of the Seller,
  - e) registration number of the tax document,
  - f) scope of the performance (including the reference to this Contract),
  - g) the date of the issue of the tax document,
  - h) the date of the fulfilment of the Contract,
  - i) Purchase Price,
  - j) registration number of this Contract, which the Buyer shall communicate to the Seller based on Seller’s request before the issuance of the invoice, and
  - k) declaration that the performance of the Contract is for the purposes of a certain project (the Seller shall ask the Buyer for the identification data of the project prior to issuing the invoice).
- 8.7 In case that the invoice shall not contain the above mentioned information, the Buyer is entitled to return it to the Seller during its maturity period and this shall not be considered as a default. The new maturity period shall begin from the receipt of the supplemented or corrected invoice to the Buyer.



- 8.8 Last invoice of every calendar year must be delivered to the Buyer on December 15 of that calendar year, at the latest.

## 9. **SELLER'S DUTIES**

- 9.1 The Seller shall ensure that the Objects of Purchase and Related Activities are in compliance with this Contract including all its annexes and applicable legal (e.g. safety), technical and quality norms.
- 9.2 During the performance of this Contract the Seller proceeds independently. If the Seller receives instructions from the Buyer, the Seller shall follow such instructions unless these are against the law or in contradiction to this Contract. If the Seller finds out or should have found out if professional care was exercised that the instructions are for any reason inappropriate or illegal or in contradiction to this Contract, then the Seller must notify the Buyer.
- 9.3 All things necessary for the performance of this Contract shall procure the Seller, unless this Contract stipulates otherwise.

## 10. **ACCEPTANCE OF THE OBJECTS OF PURCHASE**

- 10.1 If the Objects of Purchase do not meet requirements of this Contract, the Buyer is entitled to refuse the takeover of the Objects of Purchase. In such a case the Seller shall remedy the deficiencies within ten (10) working days, unless Parties agree otherwise. The Buyer is entitled (but not obliged) takeover the Objects of Purchase despite the above mentioned deficiencies, in particular if such deficiencies do not prevent the Buyer in the proper use of the Objects of Purchase. In such a case the Seller and the Buyer shall list the deficiencies in the acceptance protocol, including the manner and the date of their removal (remedy). If the Parties do not reach agreement in the Handover Protocol regarding the date of the removal, the Seller shall remove the deficiencies within ten (10) working days.

## 11. **WARRANTY**

- 11.1 The Seller shall provide a warranty of quality of the Objects of Purchase for the period of 2 years. If on the warranty list or other document is the warranty period of longer duration, then this longer warranty period shall have priority over the period stated in this Contract.
- 11.2 The warranty period shall begin on the day of the signature of the acceptance protocol. If the acceptance protocol lists any deficiencies, the warranty period shall begin on the day, which follows the day, in which the last deficiency was removed.
- 11.3 The Seller shall remove defects that occur during the warranty period free of charge and in the terms stipulated in this Contract.
- 11.4 If the Buyer ascertains a defect of the Objects of Purchase during the warranty period, the Buyer shall notify such defect without undue delay to the Seller. Defects may be notified on the last day of warranty period, at the latest.



- 11.5 The Buyer notifies defects in writing via e-mail. The Seller shall accept notifications of defects on the following e-mail address: [michalp@lesker.com](mailto:michalp@lesker.com). The Seller shall confirm within 24 hours from the receipt of the notification.
- 11.6 In the notification the Buyer shall describe the defect and the manner of removal of the defect. The Buyer has the right to:
- a) ask for the removal of the defect by the delivery of new Objects of Purchase or its individual parts, or
  - b) ask for the removal of the defect by repair, or
  - c) ask for the reasonable reduction of the Purchase Price.

The choice among the above mentioned rights belongs to the Buyer. The Buyer is also entitled to withdraw from this Contract, if by delivering the Objects of Purchase with defects this Contract is substantially breached.

- 11.7 The Seller shall remove the defect within 4 weeks from its notification, unless Parties agree due to the nature of the defect otherwise.
- 11.8 The Seller shall remove the defect within terms stipulated in this Contract even if the notification of the defect is in his opinion unjustified. In such a case the Seller is entitled to ask for reimbursement of the costs of removal of the defect. If Parties disagree on whether the notification of the defect is justified or not, the Buyer shall ask an expert for the expert's opinion, which shall determine whether the notification of the defect was justified or not. In the case that the expert shall consider the notification as justified, then the Seller shall bear costs of the expert's opinion. If the expert considers the notification to be unjustified, then the Buyer shall reimburse the Seller for verifiably and effectively incurred costs of removal of the defect.
- 11.9 Parties shall execute a protocol on the removal of the defect, which shall contain the description of the defect and the confirmation that the defect was removed. The warranty period shall be extended by a period of time that elapses between the notification of the defect until its removal.
- 11.10 In case that the Seller does not remove the defect within stipulated time or if the Seller refuses to remove the defect, then the Buyer is entitled to remove the defect at his own costs and the Seller shall reimburse these costs within 10 days after the Buyer's request to do so.
- 11.11 The warranty does not cover defects caused by unprofessional manipulation or by the failure to follow Seller's instructions for the operation and maintenance of the Objects of Purchase.

## 12. **PENALTIES**

- 12.1 If the Seller is in delay with the removal of the defect, the Seller shall pay to the Buyer a contractual penalty in the amount of 0,05% of the Purchase Price for every (even commenced) day of delay.
- 12.2 The Seller shall pay contractual penalties within fifteen (15) days from the day, on which the Buyer enumerated its claims. The payment of contractual penalties shall not affect the right of the Buyer to damages even to the extent to which such damages exceeds the contractual penalty.





- 12.3 The Buyer is entitled to unilaterally set off claims arising from the contractual penalties against the claim of the Seller for the payment of the Purchase Price (regardless of whether such claims for payment are payable or not).

13. **TERMINATION BY NOTICE**

- 13.1 The Buyer is entitled to terminate this Contract by a written notice anytime without stating its reasons.
- 13.2 The notice period is one (1) month and shall start on the first day of the month that follows the month in which the Seller received the written notice.

14. **RIGHT OF WITHDRAWAL**

- 14.1 The Buyer is entitled to withdraw from this Contract or individual purchase contracts without any penalties, if any of the following circumstances occur:
- d) the Seller shall be in delay with the delivery of the Objects of Purchase and such delay lasts more than 3 weeks;
  - e) the insolvency proceeding is initiated against the Seller; or
  - f) the Buyer ascertains that the Seller provided in its bid for the Public Procurement information or documents that do not correspond to the reality and that had or could have had impact on the result of the award procedure, which preceded the conclusion of this Contract.

15. **SPECIAL PROVISIONS**

By signing this Contract, the Seller becomes a person that must cooperate during the finance control within the meaning of Section 2 letter e) of the act no. 320/2001 Coll., on finance control in the public administration, and shall provide to the Directing Body of the Operational Programme Research, Development and Education or other control bodies access to all parts of the bid, Contract or other documents that are related to the legal relationship formed by this Contract. This duty also covers documents that are subject to the protection in accordance with other acts (business secrets, secret information, etc.) provided that control bodies fulfil requirements stipulated by these acts. The Seller shall secure that all its subcontractors are also obliged to cooperate with control bodies in the above stipulated extent. The possibility of effective control must be preserved until the year 2033.

16. **CONFIDENTIALITY**

- 16.1 Parties shall not disclose information that shall become available to them in connection with this Contract and its performance and whose disclosure could harm the other Party. Duties of the Buyer ensuing for the applicable legal regulations remain unaffected. The Seller is particularly aware that the Buyer must make this Contract including all its annexes publicly available in accordance with the act no. 134/2016 Coll., on Public Procurement and act no. 340/2015 Coll., on the register of contracts.



## 17. FINAL PROVISIONS

- 17.1 This Contract is governed by the laws of the Czech Republic, especially by the Civil Code.
- 17.2 All disputes arising out of this Contract or out of legal relations connected with this Contract shall be preferable settled by a mutual negotiation. In case that the dispute is not settled within sixty (60) days, such dispute shall be decided by courts of the Czech Republic in the procedure initiated by one of the Parties.
- 17.3 The Seller bears the risk of changed circumstances within the meaning of Section 1765 of the Civil Code.
- 17.4 The Seller takes into account that the Buyer is not in relation to this Contract an entrepreneur, nor the subject matter of this Contract is connected with the business activities of the Buyer.
- 17.5 The Seller is not entitled to set off any of its claims or his debtor's claims against the Buyer's claims. The Seller is not entitled to transfer its claims against Buyer that arose on the basis or in connection with this Contract on third parties. The Seller is not entitled to transfer rights and duties from this Contract or its part on third parties.
- 17.6 All modifications and supplements of this Contract must be in writing.
- 17.7 If any of provisions of this Contract are invalid or ineffective, the Parties are bound to change this Contract in such a way that the invalid or ineffective provision is replaced by a new provision that is valid and effective and to the maximum possible extent correspond to the original invalid or ineffective provision.
- 17.8 If any Party breaches any duty under this Contract and knows or should have known about such breach, it shall notify it to the other Party and shall warn such Party of possible consequences of the breach.
- 17.9 This Contract is executed in four (4) counterparts and every Party shall receive two (2) counterparts.
- 17.10 An integral part of this Contract is Annex 1 (*Technical Specification*) and Annex 2 (*Price sheet*). If in Annex 1 (*Technical Specification*) is used term "Contracting Authority", it is meant Buyer and by term "supplier" is meant the Seller.
- 17.11 This Contract shall be valid on the date of the signature of both Parties and effective on the day, on which it was published in the register of contracts within the meaning of the act no. 340/2015 Coll., on the register of contracts.

**IN WITNESS WHEREOF** attach Parties their handwritten signatures:

**Buyer**

Signature: \_\_\_\_\_

Name: RNDr. Michael Prouza, Ph.D.





EUROPEAN UNION  
European Structural and Investing Funds  
Operational Programme Research,  
Development and Education



Position: director

Date:

**Seller**

Signature: \_\_\_\_\_

Name: Richard Whitehouse

Position: EMEIA Compliance and Commercial Manager

Date: 26th April 2021



EUROPEAN UNION  
European Structural and Investing Funds  
Operational Programme Research,  
Development and Education



## **ANNEX 1**

### **TECHNICAL SPECIFICATION**

<b>Confidentiality Level</b>	<i>BL - Restricted for internal use</i>	<b>TC ID / Revision</b>	00276598/C
<b>Document Status</b>	<i>Document Released</i>	<b>Document No.</b>	N/A
<b>WBS code</b>	<i>6.3 – Vacuum Engineering</i>		
<b>PBS code</b>	<i>NOT known at the moment. The vacuum valves for L4, Beam Transport and Experimental halls will be delivered within this framework contract. The future PBS codes will include following top level strings: RA.L4, SE.BDS and E.E[x]</i>		
<b>Project branch</b>	<i>Engineering &amp; Scientific documents (E&amp;S)</i>		
<b>Document Type</b>	<i>Specification (SP)</i>		

**[RSD product category A]**

## ***Vacuum valves (TP20\_119) – reissue***



### **Keywords**

vacuum, valves, particles, flange

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## 1. Introduction

### 1.1. Purpose

This Requirements Specification Document (RSD) lists the technical requirements and constraints on product/device (**Vacuum valves**) of ELI Beamlines. This can lead to the identification of product interfaces with the ELI science-based technology and ELI building facility. This RSD also acts as the parent document for the technical requirements that need to be addressed in lower level design description documents.

### 1.2. General description

Vacuum valves will be a part of an extended vacuum system that centrally provides backing and roughing vacuum to large vacuum vessels at ELI Beamlines facility. The valves will provide sealed separation between two regions with different pressures. Vacuum valves will be used for applications under high vacuum or ultra-high vacuum. The vacuum valves categorized according to the type of flange, drive and applicable pressure range.

### 1.3. Scope

This RSD contains all of the technical requirements: *functional, performance, operational and design, transportation, safety and quality requirements* for the product/device **Vacuum valves**. The PBS codes are not known at the moment.

This product is a product of the **category A**. The category A is an off-the-shelf product without necessity of modifications and necessity to be subjected to a verification program (design, inspection and testing review) according to the ELI Beamlines project. All verification activities shall be executed by Supplier in accordance with the supplier's outgoing inspection plan.

### 1.4. Terms, Definitions and Abbreviations

For the purpose of this document, the following abbreviated terms apply:

Abbreviation	Meaning
ELI	Extreme Light Infrastructure
HV	High Vacuum
TMP	Turbo Molecular Pump
SS	Stainless Steel
Al	Aluminium
DN	Diameter Nominal
CA	Contract Authority



## 2. General Functional, Performance and Design requirements

REQ-023170/A

Sizes, types of flanges, actuators and drives shall be according to ANNEX I.

REQ-023171/A

Maximum leak rate shall be according to ANNEX I.

REQ-023172/A

Differential pressure at opening of valves shall be according to ANNEX I.

REQ-023173/A

It shall be possible to install and operate the vacuum valves in any mounting position.

REQ-023174/A

Gate valves specified in chapter 6.5 of ANNEX I (*Gate valve - Al – pneumatic actuator*) shall be compatible with TMP mounting.

REQ-023175/A

Gate valves specified in chapter 6.6 of ANNEX I (*Gate valve - SS – pneumatic actuator*) shall be compatible with TMP mounting.

REQ-023176/A

All solenoids valves specified in ANNEX I shall use 24V DC power supply.

REQ-023177/A

The maximal amount of particles (particles bigger than 300 nm) generation of the valve during one cycle shall be according to ANNEX I.

REQ-023178/A

The electro-pneumatic valves shall be closed (NC-normally closed) during a power outage and/or interruption in the supply of compressed air.

REQ-023179/A

The valves specified in ANNEX I (6.1, 6.3, 6.5, 6.6, 6.7, 6.9, 6.10) shall be equipped with an electro-pneumatic actuator with OPEN/CLOSED limit switches and with the possibility of connection to the control system. Connection type shall be specified e.g. DIN 7 pin etc.

REQ-023180/A

Maximum closing or opening time shall be according to ANNEX I.

REQ-023181/A

Valve body material shall be according to ANNEX I.

REQ-023182/A

Valves with pneumatic actuator shall work at (or operate at min) pressure (5-6) bar.

REQ-023185/A

Valves sealing surfaces shall be without scratches.

### 3. Transportation requirements

REQ-023183/A

Valves shall be assembled and packed in cleanroom environment ISO 8 according to standard ČSN EN ISO 14644 (or equivalent, e.g. EN ISO 14644) or cleaner.

REQ-023186/A

The transportation to the final destination of the technologies and the instruments shall be conducted by the supplier.

REQ-023187/A

The technologies and instruments shall be delivered in protective package preventing damage and contamination.

### 4. Product Safety Requirements

REQ-023188/A

The Supplier shall supply a **Declaration of Conformity** or any other equivalent document legally recognized and accepted in the Czech Republic for each product type if the appropriate legislation determines the Supplier's obligation to have a Declaration of Conformity (or the equivalent document) for the purposes of a Device sale in the Czech Republic to fulfil the requirements of 2001/95/EC directive or applicable Czech law.

### 5. Product Quality Requirements

REQ-023189/A

The Supplier shall provide **Instructions for use** (Product User Manual) as part of the delivered Product. The Instructions for use shall include the instructions and descriptions regarding the following:

- transport and handling;
- storage and installation;
- safe operation and maintenance procedures.

REQ-023190/A

The Supplier shall supply the **3D model and 2D sketch**.

REQ-023195/A

The Supplier shall use following data formats:

- \*.JPG, \*.PNG, \*.PDF/A, \*.HTML;
- CAD 2D: \*.dwg;
- CAD 3D: STEP file types (\*.stp;\*.ste;\*.step);
- text processors \*.doc, \*.docx, OpenDocument Format;
- spreadsheet processors \*.xls, \*.xlsx, OpenDocument Format;
- presentations \*.ppt, \*.pptx; OpenDocument Format.

REQ-023191/A

The Supplier shall provide information on executed of outgoing check of the Product. At least this information shall comprise declaration about execution of outgoing check and **declaration of conformity with technical requirements** defined by the product RSD and completeness of the Product.

*NOTE: Alternatively the Supplier might provide the CA with information (e.g.: catalogue/technical data sheets, product manuals or other similar documentation) if such documentation is detailed enough to prove meeting all requirements stipulated herein.*

REQ-023192/A

The Supplier shall establish and maintain a non-conformance control system compatible with ČSN EN ISO 9001 (equivalent to EN ISO 9001).

### 5.1. International standards

REQ-023193/A

Valves shall be equipped with ISO F or ISO K flange according to ISO 1609:2020 - Vacuum technology - Flange dimension.

REQ-023194/A

Valves shall be equipped with ISO KF flange according to ISO 2861:2013 - Vacuum technology - Dimensions of clamped - type quick-release couplings.

## 6. ANNEX I

### 6.1. HV Angle valve - Al – pneumatic actuator

DN	DN16	DN25	DN40	DN50
<b>Body material</b>	Aluminium			
<b>Flange</b>	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)
<b>Body shape</b>	Angle	Angle	Angle	Angle
<b>Feedthrough</b>	Bellows	Bellows	Bellows	Bellows
<b>Solenoid valve [VDC]</b>	24	24	24	24
<b>Min. differential pressure at opening [mbar]</b>	1000	1000	1000	1000
<b>Minimal cycles until first service</b>	$9 \cdot 10^5$	$9 \cdot 10^5$	$9 \cdot 10^5$	$9 \cdot 10^5$
<b>Max. leak rate [mbar. ls<sup>-1</sup>]</b>	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$
<b>Max. consumption of compressed air [l/stroke]</b>	0,02	0,025	0,05	0,06
<b>Position indicator</b>	YES	YES	YES	YES
<b>Max. closing time [s]</b>	0,2	0,3	0,7	0,8
<b>Max. particles generation of the valve</b>	20			

Tab. 1 Specification – HV Angle valves Al – pneumatic actuator

## 6.2. HV Angle valve - AI – manual actuator

DN	DN16	DN25	DN40	DN50
<b>Body material</b>	Aluminium			
<b>Flange</b>	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)
<b>Body shape</b>	Angle	Angle	Angle	Angle
<b>Feedthrough</b>	Bellows	Bellows	Bellows	Bellows
<b>Min. differential pressure at opening [mbar]</b>	1000	1000	1000	1000
<b>Minimal cycles until first service</b>	8000	8000	8000	8000
<b>Max. leak rate [mbar. ls<sup>-1</sup>]</b>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>
<b>Actuator</b>	Handwheel			
<b>Max. particles generation of the valve</b>	20			

Tab. 2: Specification – HV Angle valves AI – manual actuator

### 6.3. HV Inline valves - Al – pneumatic actuator

DN	DN16	DN25	DN40
<b>Body material</b>	Aluminium		
<b>Flange</b>	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)
<b>Body shape</b>	Inline	Inline	Inline
<b>Feedthrough</b>	Bellows	Bellows	Bellows
<b>Solenoid valve [VDC]</b>	24	24	24
<b>Min. differential pressure at opening [mbar]</b>	1000	1000	1000
<b>Minimal cycles until first service</b>	$9 \cdot 10^5$	$9 \cdot 10^5$	$9 \cdot 10^5$
<b>Max. leak rate [mbar. ls<sup>-1</sup>]</b>	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$
<b>Max. consumption of compressed air [l/stroke]</b>	0,02	0,025	0,05
<b>Position indicator</b>	YES	YES	YES
<b>Max. closing time[s]</b>	0,2	0,3	0,7
<b>Max. particles generation of the valve</b>	20		

Tab. 3: Specification – HV Inline valves Al – pneumatic actuator



#### 6.4. HV Inline valves - AI – manual actuator

DN	DN16	DN25	DN40
<b>Body material</b>	Aluminium		
<b>Flange</b>	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)
<b>Body shape</b>	Inline	Inline	Inline
<b>Feedthrough</b>	Bellows	Bellows	Bellows
<b>Min. differential pressure at opening [mbar]</b>	1000	1000	1000
<b>Minimal cycles until first service</b>	8000	8000	8000
<b>Max leak rate [mbar. ls<sup>-1</sup>]</b>	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$
<b>Actuator</b>	Handwheel		
<b>Max. particles generation of the valve</b>	20		

Tab. 4: Specification – HV Inline valves AI – manual actuator

## 6.5. Pendulum valve - Al – pneumatic actuator

DN	DN400	DN500
<b>Body material</b>	Aluminium	
<b>Flange</b>	ISO-F (according to ISO 1609)	ISO-F (according to ISO 1609)
<b>Body shape</b>	Pendulum	Pendulum
<b>Solenoid valve [VDC]</b>	24	24
<b>Min. differential pressure at opening [mbar]</b>	2	2
<b>Minimal cycles until first service</b>	150000	150000
<b>Max. leak rate [mbar ls<sup>-1</sup>]</b>	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$
<b>Max. consumption of compressed air [l/stroke]</b>	1	4
<b>Position indicator</b>	YES	YES
<b>Max. closing time[s]</b>	10	20
<b>Max. particles generation of the valve [nm]</b>	1200	

Tab. 5: Specification – Pendulum valves Al – pneumatic actuator

## 6.6. Gate valve - SS – pneumatic actuator

DN	DN63	DN80	DN100	DN160	DN200	DN250	DN320
<b>Body material</b>	Stainless steel						
<b>Flange</b>	ISO-F (according to ISO 1609)	ISO-F (according to ISO 1609)	ISO-F (according to ISO 1609)	ISO-F (according to ISO 1609)	ISO-F (according to ISO 1609)	ISO-F (according to ISO 1609)	ISO-F (according to ISO 1609)
<b>Body shape</b>	Gate	Gate	Gate	Gate	Gate	Gate	Gate
<b>Feedthrough</b>	Bellows / rotary	Bellows / rotary	Bellows	Bellows	Bellows	Bellows	Bellows
<b>Solenoid valve [VDC]</b>	24	24	24	24	24	24	24
<b>Min. differential pressure at opening [mbar]</b>	25	25	25	25	25	25	25
<b>Minimal cycles until first service</b>	150000	150000	150000	150000	150000	150000	150000
<b>Max. leak rate [mbar.l.s<sup>-1</sup>]</b>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>
<b>Max. consumption of compressed air [l/stroke]</b>	0,2	0,2	0,3	0,3	0,5	0,5	0,7
<b>Position indicator</b>	YES	YES	YES	YES	YES	YES	YES
<b>Max. closing time[s]</b>	2,5	2,5	3	4	8	8	10
<b>Max. particles generation of the valve</b>	1200						

Tab. 6: Specification – Gate valves SS – pneumatic actuator

## 6.7. Angle valve with soft-pump function - AI – pneumatic actuator

DN	DN25	DN40	DN50	DN63	DN80	DN100	DN160
<b>Body material</b>	Aluminium						
<b>Flange</b>	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-K (according to ISO 1609)	ISO-K (according to ISO 1609)	ISO-K (according to ISO 1609)	ISO-K (according to ISO 1609)
<b>Body shape</b>	Angle	Angle	Angle	Angle	Angle	Angle	Angle
<b>Solenoid valve [VDC]</b>	24	24	24	24	24	24	24
<b>Min. differential pressure at opening [mbar]</b>	1000	1000	1000	1000	1000	1000	1000
<b>Minimal cycles until first service</b>	$9 \cdot 10^5$	$9 \cdot 10^5$	$9 \cdot 10^5$	$9 \cdot 10^5$	$9 \cdot 10^5$	$9 \cdot 10^5$	$9 \cdot 10^5$
<b>Max. leak rate [mbar. ls<sup>-1</sup>]</b>	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$
<b>Max. consumption of compressed air [l/stroke]</b>	0,03	0,05	0,07	0,25	0,25	0,5	1,2
<b>Position indicator</b>	YES	YES	YES	YES	YES	YES	YES
<b>Max. closing time[s]</b>	0,35	0,8	0,9	1	1	1,5	3,5
<b>Max. particles generation of the valve</b>	150						

Tab. 7: Specification - Soft start valves AI – pneumatic actuator

## 6.8. Manually actuated venting valve

DN	DN10
<b>Body material</b>	Stainless steel
<b>Flange</b>	ISO-KF (according to ISO 2861)
<b>Min. differential pressure on plate in opening direction [mbar]</b>	1000
<b>Max leak rate – valve seat [mbar. ls<sup>-1</sup>]</b>	$5 \cdot 10^{-9}$

Tab. 8: Specification – Manually actuated venting valves

### 6.9. Mini vacuum gate valve for flange KF - Al – pneumatic actuator

DN	DN16	DN25	DN40	DN50
<b>Body material</b>	Aluminium			
<b>Flange</b>	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)
<b>Body shape</b>	Gate	Gate	Gate	Gate
<b>Feedthrough</b>	Shaft feedthrough	Shaft feedthrough	Shaft feedthrough	Shaft feedthrough
<b>Solenoid valve [VDC]</b>	24	24	24	24
<b>Min. differential pressure at opening [mbar]</b>	25	25	25	25
<b>Minimal cycles until first service</b>	30000	30000	30000	30000
<b>Max. leak rate [mbar. ls<sup>-1</sup>]</b>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>	5·10 <sup>-9</sup>
<b>Max. consumption of compressed air [l/stroke]</b>	0,05	0,08	0,1	0,1
<b>Position indicator</b>	YES	YES	YES	YES
<b>Max. closing time [s]</b>	1	1,5	1,8	2
<b>Max. particles generation of the valve</b>	150			

Tab. 9: Specification – Mini vacuum gate valve for KF Al – pneumatic actuator



### 6.10. Large gate valve - pneumatic actuator

DN		DN630
Valve body material		Stainless steel
Flange		ISO-F (according to ISO 1609)
Body shape		Gate
Feedthrough		Bellows
Solenoid valve [VDC]		24
Min. differential pressure at opening [mbar]		8
Minimal cycles until first service		20000
Max. leak rate [mbar·l·s <sup>-1</sup> ]		5·10 <sup>-9</sup>
Max. consumption of compressed air [l/stroke]		5
Position indicator	contact	YES
	visual (mechanical)	YES
Max. closing time [s]		15
Working position		ANY
Max. weight [kg]		500
Max. dimension with pneumatic actuator L x W x H [mm]		1100 x 310 x 2000

Tab. 10: Specification – Large gate valve - pneumatic actuator.

### 6.11. HV Angle valve - Al – manual actuator, with position indicator

DN	DN25	DN40
<b>Body material</b>	Aluminium	
<b>Flange</b>	ISO-KF (according to ISO 2861)	ISO-KF (according to ISO 2861)
<b>Body shape</b>	Angle	Angle
<b>Feedthrough</b>	Bellows	Bellows
<b>Min. differential pressure at opening [mbar]</b>	1000	1000
<b>Minimal cycles until first service</b>	8000	8000
<b>Max. leak rate [mbar. ls<sup>-1</sup>]</b>	$5 \cdot 10^{-9}$	$5 \cdot 10^{-9}$
<b>Actuator</b>	Handwheel	
<b>Max. particles generation of the valve</b>	20	
<b>Position indicator</b>	YES	

Tab. 11 Specification – HV Angle valves Al – manual actuator, with position indicator



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## **ANNEX 2**

### **PRICE SHEET**

Vacuum valves													
Type		DN	Flange	Body material	Manufacturer	Trade name of the product	Ordering number	Minimal QTY	Estimating QTY	Price per piece excluding VAT	Price per piece including VAT	Total price excluding VAT	Total price including VAT
6.1.	HV Angle valve - AI – pneumatic actuator	16	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26424-KA41-000	0	1	273.53 €	330.97 €	273.53 €	330.97 €
		25	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26428-KA41-000	0	3	308.82 €	373.68 €	926.47 €	1,121.03 €
		40	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26432-KA41-000	0	5	326.47 €	395.03 €	1,632.35 €	1,975.15 €
		50	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26434-KA41-000	0	1	379.41 €	459.09 €	379.41 €	459.09 €
6.2.	HV Angle valve - AI – manual actuator	16	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26424-KA01-000	0	1	141.18 €	170.82 €	141.18 €	170.82 €
		25	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26428-KA01-000	0	1	167.65 €	202.85 €	167.65 €	202.85 €
		40	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26432-KA01-000	0	5	211.76 €	256.24 €	1,058.82 €	1,281.18 €
		50	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26434-KA01-000	0	1	291.18 €	352.32 €	291.18 €	352.32 €
6.3.	HV Inline valves - AI – pneumatic actuator	16	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.5	26524-KA41-000	0	1	352.94 €	427.06 €	352.94 €	427.06 €
		25	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.5	26528-KA41-000	0	1	388.24 €	469.76 €	388.24 €	469.76 €
		40	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.5	26532-KA41-000	0	1	405.88 €	491.12 €	405.88 €	491.12 €
6.4.	HV Inline valves - AI – manual actuator	16	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.5	26524-KA01-000	0	1	220.59 €	266.91 €	220.59 €	266.91 €
		25	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.5	26528-KA01-000	0	1	247.06 €	298.94 €	247.06 €	298.94 €
		40	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.5	26532-KA01-000	0	1	291.18 €	352.32 €	291.18 €	352.32 €
6.5.	Pendulum valve - AI – pneumatic actuator	400	ISO-F	Aluminium	VAT Group AG	VAT Series 16.2	16252-PA41	0	1	17,243.82 €	20,865.02 €	17,243.82 €	20,865.02 €
		500	ISO-F	Aluminium	VAT Group AG	VAT Series 16.2	16254-PA41	0	1	20,647.05 €	24,982.93 €	20,647.05 €	24,982.93 €
6.6.	Gate valve - SS – pneumatic actuator	63	ISO-F	Stainless steel	VAT Group AG	VAT Series 11	11036-PE44-000	0	1	2,013.53 €	2,436.37 €	2,013.53 €	2,436.37 €
		80	ISO-F	Stainless steel	VAT Group AG	VAT Series 11	11038-PE44-000	0	1	2,452.94 €	2,968.06 €	2,452.94 €	2,968.06 €
		100	ISO-F	Stainless steel	VAT Group AG	VAT Series 11	11040-PE44-000	0	1	2,452.94 €	2,968.06 €	2,452.94 €	2,968.06 €
		160	ISO-F	Stainless steel	VAT Group AG	VAT Series 11	11044-PE44-000	0	1	3,168.53 €	3,833.92 €	3,168.53 €	3,833.92 €
		200	ISO-F	Stainless steel	VAT Group AG	VAT Series 11	11046-PE44-000	0	1	4,271.47 €	5,168.48 €	4,271.47 €	5,168.48 €
		250	ISO-F	Stainless steel	VAT Group AG	VAT Series 11	11048-PE44-000	0	1	6,457.06 €	7,813.04 €	6,457.06 €	7,813.04 €
		320	ISO-F	Stainless steel	VAT Group AG	VAT Series 11	11050-PE44-000	0	1	9,026.47 €	10,922.03 €	9,026.47 €	10,922.03 €
6.7.	Angle valve with soft-pump function - AI – pneumatic actuator	25	ISO-KF	Aluminium	VAT Group AG	VAT Series 29	29028-KA41-000	0	1	796.76 €	964.09 €	796.76 €	964.09 €
		40	ISO-KF	Aluminium	VAT Group AG	VAT Series 29	29032-KA41-000	0	1	937.94 €	1,134.91 €	937.94 €	1,134.91 €
		50	ISO-KF	Aluminium	VAT Group AG	VAT Series 29	29034-KA41-000	0	1	1,061.47 €	1,284.38 €	1,061.47 €	1,284.38 €
		63	ISO-K	Aluminium	VAT Group AG	VAT Series 29	29036-QA41-000	0	1	1,200.00 €	1,452.00 €	1,200.00 €	1,452.00 €
		80	ISO-K	Aluminium	VAT Group AG	VAT Series 29	29038-QA41-000	0	1	1,288.24 €	1,558.76 €	1,288.24 €	1,558.76 €
		100	ISO-K	Aluminium	VAT Group AG	VAT Series 29	29240-QA41-000	0	3	1,826.47 €	2,210.03 €	5,479.41 €	6,630.09 €
		160	ISO-K	Aluminium	VAT Group AG	VAT Series 29	29244-QA41-000	0	3	2,497.06 €	3,021.44 €	7,491.18 €	9,064.32 €
6.8.	Manually actuated venting valve	10	ISO-KF	Stainless steel	VAT Group AG	VAT Series 21.3	21320-KE01-000	0	1	109.41 €	132.39 €	109.41 €	132.39 €
6.9.	Mini vacuum gate valve for flange KF - AI – pneumatic actuator	16	ISO-KF	Aluminium	VAT Group AG	VAT Series 012	01224-KA44-000	0	1	749.12 €	906.43 €	749.12 €	906.43 €
		25	ISO-KF	Aluminium	VAT Group AG	VAT Series 012	01228-KA44-000	0	1	795.88 €	963.02 €	795.88 €	963.02 €
		40	ISO-KF	Aluminium	VAT Group AG	VAT Series 012	01232-KA44-000	0	1	879.71 €	1,064.44 €	879.71 €	1,064.44 €
		50	ISO-KF	Aluminium	VAT Group AG	VAT Series 012	01234-KA44-000	0	1	926.47 €	1,121.03 €	926.47 €	1,121.03 €
6.10.	Large gate valves - pneumatic actuator	630	ISO-F	Stainless steel	VAT Group AG	VAT Series 19.1	19156-PE44-000	0	2	48,235.29 €	58,364.71 €	96,470.59 €	116,729.41 €
6.11.	HV Angle valve - AI – manual actuator- with position indicator	25	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26428-KA08-000	0	1	344.12 €	416.38 €	344.12 €	416.38 €
		40	ISO-KF	Aluminium	VAT Group AG	VAT Series 26.4	26432-KA08-000	0	1	388.24 €	469.76 €	388.24 €	469.76 €

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Total price excluding VAT	Total price including VAT
193,428.81 €	234,048.86 €