

**INVITATION TO BID NO. 15002549 AO/MP
PROJECT MP/ROM/06/005**

TECHNICAL SPECIFICATIONS

**FOR THE PURCHASE AND SUPPLY OF VALVES
TO PHASE OUT THE CTC IN THE PRODUCTION OF
DI(2-ETHYLHEXYL) PEROXYDICARBONATE (DEHPC) AT
OLTCHIM S.A., ROMANIA.**

1. AIM OF THE PROJECT

The project has been designed to phase out CTC at the DEHPC production of Oltchim S.A. Romania. DEHPC is used in CTC solution as a catalyst. The project will phase out the use of 120.45 ODP MT of Carbon tetrachloride (CTC) at Oltchim S.A. Ramnicu Valcea, Romania.

2. ENTERPRISE BACKGROUND

Oltchim S.A. is one of the largest basic material manufacturer and petrochemical companies in Romania. Owned 95% by the state Oltchim manufactures chlorinated products from chlorine and petrochemicals.

3. CONSTRUCTION MATERIALS FOR THE EQUIPMENT

Considering the corrosive nature of the phosgene and hydrochloric gas used/produced in the manufacturing processes, and also the explosive nature of the Hydrogen peroxide and DEHPC used/manufactured, the construction materials used for producing reactors and containers shall be selected and manufactured very carefully. Any heavy metal content in the products may result not only loss in the quality of the product, but also a decomposition that may result in an explosion.

4. SPECIFICATION OF SCOPE OF EQUIPMENT AND SERVICE

The Technical Specifications shall be used for the purchase and supply of equipment to produce DEHPC at Oltchim S.A. Romania in order to phase out the CTC. This document specifies the scope of supply of goods.

The Contractor shall inform UNIDO in its bid of the origin of equipment.

Pressure equipment shall be certified according to Romanian and EU legislation (DIN 28063:1999).

Also the Contractor shall transfer clear proofs together with its bid that it can comply with the requirements of the certificates and documents in the list as follows:

- CE Certification, Marking and Declaration of Conformity to the EEC directives as follows: Pressure equipment directive: 97/23/EC, Dangerous substances and explosive atmospheres regulations;
- Machinery (98/37/EC);
- Code Mechanical design calculations.

The Contractor shall transfer together with its bid:

- Spare part list for commissioning and 1 year together with the prices.

The Contractor shall provide the detailed drawings of the equipment, to be used for civil works and mechanical detailed design engineering.

The Contractor shall attach the following documents together with the equipment, when transported to Oltchim:

- Inspection and testing plan to be used after the equipment installed and operating
- Weld procedure specs and qualifications for manufacturing the equipment
- Weld map details
- Installation, maintenance and operation manual for the equipment
- Packing and preservation procedure for the equipment

- If the equipment is under PED requirements, to be included are also the general assembly drawing with the main design parameters (temperature, pressure, working fluid), and also the detailed design of the equipment manufacturing, and the drawing for the name plate
- Conformity statement of the manufacturer and CE stamp on the nameplate

Further details of the equipment are given in Annex 1 and Annex 2

5. SERVICE

The Contractor shall provide clear evidence with the bid of its ability to ensure the completeness of its service ability.

Price given in the bid shall cover:

- cost of equipment including cost of documentations
- service manuals and operating manuals if needed
- packing and transportation cost, included also the transport insurance, according to INCOTERM 2000, DDU Ramnicu Valcea, Romania
- cost of spare parts. The price of these spare parts shall include labeling and packaging for preservation for a period of one (1) year in the destination country based on the agreed Incoterm DDU Ramnicu Valcea Republic of Romania.

6. ELECTRICITY SUPPLY

220/380 V, 50 Hz

Any electric part of the EQUIPMENT shall meet ATEX II 3D.

7. TIME SCHEDULE

Equipment shall be delivered up to 4 months after the placement of the Purchase Order.

8. SCOPE OF SUPPLY

Not only the complete offers for industrial valves shall be considered by UNIDO but due to the shortage of the project funds, also partial offers including even the selection of the cheapest valves items among all the bids. The contractor must endeavor to submit a complete offer for all the valves as described above in the Annex 1 or a partial offer.

9. SERVICES FOR INSTALLATION, COMMISSIONING, TRIAL RUNS AND START-UP

Installation will be performed by local companies, which will be involved in commissioning, trial runs and start-up. Electrical design will be also provided by a local company, which will also specify the control and monitoring equipment needed for technological line operation. However, the supplier shall provide control and monitoring devices specified in the Annex 1 together with the equipment because these devices should be assembled on the equipment.

Installation and commissioning costs should not be included in the supplier's offer.

10. CERTIFICATES

The Contractor shall provide certificates, which shall clearly state how they refer to the identified part of equipment.

11. WARRANTY

EXTENT OF THE WARRANTY

The Contractor warrants that the equipment is in accordance with all the requirements of the Technical Specifications, new, of first quality, of tested design, safe and fit for purpose and use for which it is intended under the Technical Specifications.

WARRANTY PERIOD

The equipment or any part of it is warranted for a minimum period of 24 months from the date of receipt at Oltchim's stores of the equipment or 18 months from the date of commissioning, which ever is later.

Table of Scope of Supply

UNIDO ITB No. 15002549 AO/MP MP/ROM/06/005						
Scope of supply						
UNIDO REQUIREMENTS			TO BE COMPLETED BY THE INVITEE			
Item	Name and required parameters	Quantity	Unit price Currency	Total item price Currency	Compliance yes/no	Remarks**)
	I. Equipment, parts, supplies					
1	Valves (see Annex 1)	One set				
2	Control valves (see Annex 2)	One set				
	Sub-total:					
	II. Cost of site technical assistance if necessary					
	III. Cost of spare parts					
	IV. Cost of transportation DDU Ramnicu Valcea					
	Total DDU Ramnicu Valcea					

Annex 1. TECHNICAL SPECIFICATIONS OF VALVES TO BE SUPPLIED

	DN10	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
1. BALL VALVE PN16										
Material: X6CrNiTi18-10 (1.4541)										
TOTAL (PCS)	24	35	13	24	19	6	21	3	11	3
2. BALL VALVE PN16 (for agent of -50°C)										
Material: X6CrNiTi18-10 (1.4541)										
TOTAL (PCS)	1	1	4	1	1					
3. BALL VALVE PN16										
Material: PTFE TEFLON STEEL										
TOTAL (PCS)				43			9		2	
4. BALL VALVE PN16										
Material: PG 235 GH(CARBON STEEL)										
TOTAL (PCS)		1	1	1	1		2		3	2
5. BALL DISCHARGE VALVE PN16										
Material: X6CrNiTi18-10 (1.4541)							100/50		100/80	
TOTAL (PCS)							4		2	
6. MEMBRANE VALVE-MVFS	DN10	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
FALTERNBALG SEAL, PN16										
Material: TELON STEEL (PTFE)										
TOTAL (PCS)				9			7			
7. MEMBRANE VALVE-MV PN16										
Material: TEFLON STEEL (PTFE)										
TOTAL (PCS)				3			1			

Annex 2. TECHNICAL SPECIFICATIONS OF CONTROL VALVES TO BE SUPPLIED

1. **Item**
 2. **Equipment**
 3. **Type**
 4. **Fluid**
 5. **Technical characteristics**
- : WV – 2611, WV – 2621, WV – 2631, WV – 2631,
: CONTROL VALVE
: ON - OFF
: Isododecane
:
- : DN 15 PN 16
:
- : stainless steel W. nr. 1.4571 or equivalent
: stainless steel W. nr. 1.4571 or equivalent
: stainless steel W. nr. 1.4571 or equivalent
: flange acc.DIN 2501
: acc.EN 1092-1 Form D (DIN 2512 Form N)
: pneumatic
: 0 or 1 bar
: yes / yes
: close
: yes, G ¼ ", 24 V d.c., normally closed
: yes, min. 1A / 24 V d.c.
: VI
: IP 54
: min EEx dII CT4
5. **Quantity**
 6. **Technical documentation shall be included in the offer**
- : 3 pcs
1. **Item**
 2. **Equipment**
 3. **Type**
 4. **Fluid**
 5. **Technical characteristics**
- : LV – 2225,
: CONTROL VALVE
: ON - OFF
: Isododecane
:
- : DN 32 PN 16
:
- : stainless steel W. nr. 1.4571 or equivalent
: stainless steel W. nr. 1.4571 or equivalent
: stainless steel W. nr. 1.4571 or equivalent
: flange acc.DIN 2501
1. **Item**
 2. **Equipment**
 3. **Type**
 4. **Fluid**
 5. **Technical characteristics**
- : DN 15 PN 16
:
- : stainless steel W. nr. 1.4571 or equivalent
: stainless steel W. nr. 1.4571 or equivalent
: stainless steel W. nr. 1.4571 or equivalent
: flange acc.DIN 2501

Sealing surface
 Actuator
 Control signal
 Gauge / Air set
 Fail safe position
 Solenoid valve 3 / 2 way
 Limit switches (2 pcs.)
 Leakage class
 Mechanical protection degree
 Explosion - proof

: acc.EN 1092-1 Form D (DIN 2512 Form N)
 : pneumatic
 : 0 or 1 bar
 : yes / yes
 : close
 : yes, G ¼ ”, 24 V d.c., normally closed
 : yes, min. 1A / 24 V d.c.
 : VI
 : IP 54
 : min EEx dII CT4

5. Quantity
 6. Technical documentation shall be included in the offer

Item
Equipment
 Type
 Fluid
 Technical characteristics
 Nominal size
 Material for :
 - body
 - trim
 - seat
 Process connection
 Sealing surface
 Actuator
 Control signal
 Gauge / Air set
 Fail safe position
 Solenoid valve 3 / 2 way
 Limit switches (2 pcs.)
 Leakage class
 Mechanical protection degree
 Explosion - proof
 Quantity
 5. Technical documentation shall be included in the offer
 6.

: 1 pc.
 : **WV – 2612, WV – 2622, WV – 2632**
 : **CONTROL VALVE**
 : ON - OFF
 : DEHPC (Bis-2-ethylhexyl peroxi dicarbonat)
 :
 : DN 25 PN 16
 :
 : stainless steel W. nr. 1.4571 or equivalent, PTFE lined
 : stainless steel W. nr. 1.4571 or equivalent, PTFE lined
 : stainless steel W. nr. 1.4571 or equivalent, PTFE lined
 : flange acc.DIN 2501
 : acc.EN 1092-1 Form B1 (DIN 2526 Form C)
 : pneumatic
 : 0 or 1 bar
 : yes / yes
 : close
 : yes, G ¼ ”, 24 V d.c., normally closed
 : yes, min. 1A / 24 V d.c.
 : VI
 : IP 54
 : min EEx dII CT4
 : 3 pcs