



Class 3	Project	Sub-Phase	Unit	Disc.	Type	Serial No.	Rev.
	HDPE-16	DD	00	MA	POR	4501	01

PURCHASE ORDER REQUISITION FOR FLUID BED DRYER PACKAGE UNIT (16- PK-221)

Contract No. : 1400-102-18
Project : Tabriz 310 KTPA HDPE Plant
Owner : Tabriz Petrochemical Company (TPC)
Site : Tabriz Petrochemical Zone, East Azerbaijan Province, Iran

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Rev.	DATE (DD.MM.YY)	PURPOSE OF ISSUE	PREPARED	CHECKED	APPROVED	AUTHORIZED



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1 GENERAL

This Purchase Order Requisition (POR) is intended to be used as reference for vendor’s technical commitments to supply commodity listed in table 1, “Commodity & Quantity” below. This POR sets out minimum requirements for the supply and does not relieve the vendor of his full responsibility for the design and the reliable operation of the equipment supplied.

1.1 Definitions

- **PROJECT:** Tabriz 310 KTPA HDPE Plant
- **OWNER:** Tabriz Petrochemical Company (TPC)
- **CONTRACTOR:** Energy Industries’ Engineering and Design (EIED) Co.
- **PURCHASER:** Energy Industries’ Engineering and Design (EIED) Co.
- **VENDOR:** Beijing Riching International Trading Co. Ltd., (SHANDONG TIANLI ENERGY)

2 COMMODITY & QUANTITY

Vendor’s supply shall include, but not be limited to, supply of materials, prefabrication, shop assembling, shop inspection and tests, guarantee, painting, packing and transportation of items mentioned in Table 1.

Table -1

No	Tag No.	Qty	Service Name / Item Description
1.	16-PK-221	1	Fluid Bed Dryer Package Unit

3 SCOPE OF SUPPLY

Vendor shall be responsible for the design works, supply of materials, fabrication, shop assembling, shop inspection and tests, guarantee, painting, packing, transportation and satisfactory operation of the entire unit to the extent of the Vendor's supply.

CONTRACTOR’s approval shall in no way be construed as relieving Vendor of any of his obligation, responsibilities or liabilities under the CONTRACT and/or applicable Codes and Standards.

If the CONTRACTOR fails to comment or only partially comment on Vendor's documents, by all means, it shall not be construed as an acceptance of the content of the documents unless expressly stated. Vendor’s quotation shall include, but not be limited to, equipment, materials specified in the following: Articles marked with “X” hereunder shall be within Vendor’s Scope of Supply and (O) shall be considered as option. Articles which have not been marked, are out of Vendor's Scope of Supply.



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Description			Vendor's Proposal	Remarks
1	EQUIPMENT (REFER TO MECHANICAL DATA SHEET AND P&IDS)			
1	1	Fluid Bed Dryer package unit including:	[X]	
		1. Nitrogen Circuit Blowers (1st and 2nd Stages)	[X]	
		2. Fluid Bed Dryer (first stage back-mixed and the second stage plug flow type)	[X]	
		3. Nitrogen Heater (1st and 2nd Stages)	[X]	
		4. Hexane Cooler for Scrubber	[]	
		5. Hexane Post Cooler	[]	
		6. 2 Nitrogen Scrubber Reflux Pumps	[X]	
		7. Dryer Cyclone Rotary Feeders (1st and 2nd Stages)	[X]	
		8. Dryer Outlet Rotary Feeder	[X]	
		9. Cyclone Separators (1st and 2nd Stages)	[X]	
		10. Nitrogen Scrubbing Tower	[X]	
		11. Noise Hood Extractor Fan for Blowers	[X]	If required as per project requirement for noise limit
		12. Gearbox (if required)	[X]	
13. Safety valves and vacuum protection devices	[X]			
1	2	All other necessary devices, even if not mentioned but deemed necessary for correct and safe start-up/ operation/ shut down of the unit.	[X]	
2	ELECTRICAL			
2	1.	Electric Motors	[X]	
2	2.	Cable Glands	[X]	
2	3.	Local Control Stations (LCS)	[X]	If required.
2	4.	Power Cables and Wiring Within the Package Units, Between Local Power/Control Panel and Electric Motors and Devices	[X]	
2	5.	Conduits, Cable Tray and ladder, Fittings for Cable Assembly Inside the Package B.L. Physical Separation Required Between Power and Control.	[X]	
2	6.	Secondary Earthing	[X]	
2	7.	Electric Oil Heating Elements and Heater Power and Control Panels	[]	
2	8.	VFD Panels Includes All Required CTS, PTS For Motor, Transformer (if applicable)	[X]	



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Description			Vendor's Proposal	Remarks
2	9.	VFD Protection	[X]	
2	10.	VFD Auxiliary Requirements and Cooling System	[X]	
2	11.	Air Craft Warning Light for Structure Above 30m (If Applicable)	[]	
2	12.	Spot Lighting	[]	
2	13.	Lightning	[]	
2	14.	Earth lug	[X]	
2	15.	All required RTDs for motor bearings and windings	[X]	
2	16.	Supply Of Electrical Cables and Wiring for Interconnection from Electrical Power/Control Panel and Switchboard Or Electrical Cabins.	[]	
2	17.	MCC switchgear (LV & MV)	[]	
2	18.	Distribution panels (LV & MV)	[]	
2	19.	Power and control cables between VFD and motors (LV & MV)	[]	
3	INSTRUMENTATION			
3	1.	Instrumentation (whole package)	[X]	Min as per project P&ID
3	2.	Unit control panels (Process, ESD, Safety)	[]	
3	3.	Local control panel (LCP) /Gauge board	[X]	
3	4.	Hook Up / Tubing / Tube Fitting Related to Instruments Inside B.L.	[X]	
3	5.	Instrumentation Cables and Wiring from Field Instruments to Junction Boxes/ Local Control Panel Inside Package B.L. +Incoming and Outgoing Glands	[X]	
3	6.	Instrument Junction Boxes	[X]	
3	7.	Supply Of Instrument Cables From Junction Boxes In B.L Of Package to DCS Located In Room Except Special Cables	[]	By purchaser except special cable that will be supplied by vendor
3	8.	(Vibration, Temperature, Speed, etc) Monitoring System		
		1 Probes	[]	
		2 Tranduser	[]	
	3	Machine monitoring system and panel and software	[]	
4	PIPING AND INSULATION ISSUES			
4	1.	Manifolds And pre-fabricated Interconnecting Piping (Including Fittings, Manual / Automatic Valves, Bellows etc.)	[X]	Min as per project P&ID, B.L.



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Description			Vendor's Proposal	Remarks
4	2.	Necessary Supports for Equipment, Piping and etc. for Each Skid	[X]	
4	3.	Utility And Drain Piping Flanged with valve at Each Skid Edge (Terminated at One Point for Each Fluid Line Service)	[X]	
4	4.	Necessary Support / Clips for Thermal Insulation	[X]	Including MTO of Insulation
4	5.	Piping Insulation material and cover	[]	
4	6.	Ladders, Platforms and Walkways Necessary for Operation and Maintenance	[X]	on the equipment body and inside package battery limit
4	7.	Mating flanges with bolts, nuts and gaskets	[X]	if not according to PMS
5	CIVIL AND STRUCTURE			
5	1.	Foundation Template	[X]	
5	2.	Foundation Bolts, Nuts, Shim Plate And Jack Screw	[X]	
5	3.	Setting bolt	[X]	
5	4.	All Required Support and Structure Inside Battery Limits	[X]	
6	PAINTING			
6	1.	Shop Paint Material	[X]	
6	2.	Touch-Up Paint For Field Repair Works (10% Of Total Paint)	[X]	
7	SAFETY			
7	1.	Noise Attenuation Means (Acoustic Enclosure, Insulation Etc.) To Limit The Noise Level	[X]	If required
7	2.	F&G Detector And Devices	[]	
7	3.	Fire-Proofing Material	[X]	Fire-Proofing Material and Fire-Proofing support clip refers to the fireproof materials required for equipment, pipes, instruments, and electrical equipment bodies.
7	4.	Fire-Proofing support clip	[X]	
8	FIRST FILL & CONSUMABLE			
8	1.	Lubricants, Flushing Oil, Lubricant Oil, Hydraulic Oil, Hot Oil, Grease, Etc	[X]	(Separate Price)
8	2.	Chemicals	[]	
8	3.	Molecular sieve	[]	
8	4.	Anti-freezing agent	[]	
8	5.	Welding consumable and electrodes	[X]	



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Description			Vendor's Proposal	Remarks
9	MISCELLANEOUS			
9	1.	Heat Tracing (electrical, steam...)	[X]	
9	2.	Flexible Connections Wherever Required (At end Inside The B.L.),	[X]	
9	3.	Safety Guard Over Rotating Parts	[X]	
9	4.	Skids and Mounting of All Equipment as Well as Accessories On Skids, Base Frame Common for Machines and Motors	[X]	
9	5.	Lifting Lugs	[X]	
9	6.	Name Plate	[X]	Material: SS.316L
10	SPARE PARTS			
10	1.	Special Tools for Start-Up, Cleaning, Installation (lifting beam...), Assembly-Disassembly and Maintenance	[X]	
10	2.	Recommended Spare Parts for Commissioning and Start-Up	[X]	
10	3.	Spare Parts For 2 Years Operation	[O]	
10	4.	Capital Spare Parts	[]	

Note:

- Spare parts shall be listed in a separate SPIR form (Att. #6 of MR).

4 SCOPE OF WORK

Vendor's quotation shall include but not be limited to works specified in the following table. Hereunder Articles marked with "X" shall be within Vendor's Scope of Work and articles marked with "O" shall be considered as optional. Articles which have not been marked, are out of Vendor's Scope of Work.

Description	Vendor's Proposal	Remarks
1. Engineering Design and Documentation including 3D modeling	[X]	
2. Supplying of All Materials, Manufacturing and Assembling	[X]	
3. Guarantee (Material, Mechanical, & Fabrication, Capacity Performance, Hydraulic Performance (if required), ...)	[X]	
4. Sub-Vendor Coordination	[X]	
5. Inspection, Testing and Material Certification	[X]	



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6. PIM	[X]	
7. Participation in HAZOP and SIL study meeting	[X]	
8. Surface protection, Painting and Rust Prevention to be performed at the Vendor's shop	[X]	
9. Sea worthy packing, preservation and protection for delivery and storage (if applicable)	[X]	
10. Shipping Preparation	[X]	
11. Certificates or declarations of conformance (as required) of all Ex equipment (if any)	[X]	
12. Certification for the instrumentation and controls according to the installation area.	[X]	
13. Supervision for Installation	[0]	Per diem
14. Supervision for Commissioning, Pre-Commissioning & Start-up	[0]	Per diem
15. Training for Operation and Maintenance and service period	[0]	Per diem
16. Loading Foundation Design Data	[X]	
17. Civil work at Site	[]	
18. Site erection and installation of equipment, machinery, piping, and instruments supplied loose	[]	
19. Design for platform, ladders and sidewalks	[X]	
20. Design the piping routes between equipment	[X]	
21. Supply of information about maintenance hoists number and characteristics, maintenance and service platforms	[X]	

Notes:

- The Design and Construction shall comply with all Regulations of the Project Defined Codes and Standards.

5 OUT OF SCOPE OF WORK/SUPPLY

Refer to articles which have not been marked in Items 3 and 4.

6 PRIORITY OF DOCUMENTS

The order of priority of documentation is as follows:

- (1) Purchase Order
- (2) This Purchase Order Requisition
- (3) Technical Clarifications, MOM and Agreed Deviations (in order of date)



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- (4) Data Sheets / Drawings attached to MR
- (5) Technical Specifications / Purchaser's documents attached to Material Requisition
- (6) Material Requisition
- (7) Local Laws and Regulations
- (8) International Code & Standards referred to in the Specifications
- (9) Vendor's Latest Technical Proposal

If VENDOR discovers any inconsistency or conflict within the Documents comprising this item and could not be resolved considering above precedence, the most stringent Requirements shall govern. Any ambiguity or conflict shall be referred to the Purchaser and approved solution shall be applied.

7 SPECIAL NOTES

For notes and other requirements refer to related MR Doc. No. "HDPE-16-DD-00-MA-MRQ-4501-02" prepared by Purchaser.

1. VPIS shall be provided in project format by Vendor. The contents shall as a minimum conform to VDR attached to MR. Purchaser keeps the right to comment on VPIS (new document, new date of submission and purpose of issue) as per normal practice
2. The latest project documents listed below (section 8), shall be considered as base for Vendor scope of work and supply.

8 LIST OF LATEST REVISION OF DOCUMENTS

The following documents shall form an integral part of this Requisition. In case of conflicts between requirements, as a general rule, the most restrictive requirements shall govern. In any case the Vendor shall ask the Purchaser in writing for resolution of the conflicts, prior to starting work. All documents such as drawings, data sheets, ... are for vendors' reference.

It shall be Supplier/Vendor's responsibility to acquire possession of all required material standards and to notify the Purchaser when he is not in possession of the applicable Standards, form, and/or specification.

No.	Document No.	Document Title	Rev.
1.	Data Sheet(s)		
1.1	HDPE-16-DD-20-MA-DSH-PK-221	Mechanical Data Sheet For Fluid Bed Dryer Package Unit (16-PK-221)	03

**Tabriz Petrochemical Company****310 KTPA HDPE Plant****PURCHASE ORDER REQUISITION FOR FLUID
BED DRYER PACKAGE UNIT (16-PK-221)**

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No.	Document No.	Document Title	Rev.
1.2	HDPE-16-DD-00-EL-DSH-0001	Data sheet for MV motor	04
1.3	HDPE-16-DD-00-EL-DSH-0002	Data sheet for LV motor	04
1.4	HDPE-16-DD-00-EL-DSH-0008	Data sheet for Local Control Station (LCS)	04
1.5	HDPE-16-DD-00-EL-DSH-0010	Data sheet for Variable Speed Drive	04
2.	Technical Specification(s)		
2.1	HDPE-16-DD-00-MA-SPC-0002	General Requirements For Packages Unit	02
2.2	HDPE-16-DD-00-IN-SPC-0007	Specification For Instrumentation And Control For Packages	03
2.3	HDPE-16-DD-00-PI-SPC-0001	Piping Material Specification (PMS)	04
2.4	HDPE-16-DD-00-PI-SPC-0002	Specification For Painting	03
2.5	HDPE-16-DD-00-PI-SPC-0003	Specification for Thermal Insulation	01
2.6	HDPE-16-DD-00-PI-SPC-0004	Specification for Piping Bulk Material	02
2.7	HDPE-16-DD-00-EL-SPC-0006	Specification For Power And Control Cables	03
2.8	HDPE-16-DD-00-EL-SPC-0009	Specification For Electrical Requirements For Packaged Equipment	03
2.9	HDPE-16-DD-00-EL-SPC-0010	Specification For Variable Speed Drive	04
2.10	HDPE-16-DD-00-EL-SPC-0013	Specification For Earthing And Lightning Protection System	03
2.11	HDPE-16-DD-00-EL-SPC-0014	Specification For Electrical Installation	03
2.12	HDPE-16-DD-00-EL-SPC-0015	Specification For Induction Motors	02
2.13	HDPE-16-DD-00-EL-SPC-0016	Specification For Local Control Station	03
2.14	HDPE-16-DD-00-EL-SPC-0022	Specification For Electrical Bulk Materials	01
2.15	HDPE-16-DD-90-SA-SPC-0010	General Specification For Noise	03
2.16	HDPE-16-DD-00-ST-SPC-0005	Specification For Grouting	02
2.17	HDPE-16-DD-00-TI-SPC-0001	Specification For Test & Inspection of Pipe, Fitting and Flange	01
2.18	HDPE-16-DD-00-TI-SPC-0002	Specification For Test & Inspection of Valves	01
2.19	HDPE-16-DD-00-TI-SPC-0003	Specification For Test & Inspection of Fixed Equipment	02
2.20	HDPE-16-DD-00-TI-SPC-0004	Specification For Test & Inspection of Rotary Equipment	02
2.21	HDPE-16-DD-00-TI-SPC-0005	Specification For Test & Inspection of Electrical & Telecom System	03
2.22	HDPE-16-DD-00-TI-SPC-0006	Specification For Test & Inspection of Instrumentation	03
2.23	HDPE-16-DD-00-TI-SPC-0007	Specification For Equipment Non-Destructive Testing	02
2.24	HDPE-16-DD-00-TI-SPC-0008	Specification For Equipment Welding	02
2.25	HDPE-16-DD-00-ST-DCR-0001	Structural Design Criteria	03
2.26	HDPE-16-DD-00-ST-SPC-0002	Specification for Steel Works Fabrication & Erection	02
3	Drawing(s)		
3-1	HDPE-16-DD-00-PR-PID-0001	P&ID For Symbols & Legend	03
3-2	HDPE-16-DD-00-PR-PID-0002	P&ID For Equipment Symbols	01
3-3	HDPE-16-DD-00-PR-PID-0003	P&ID For Instrumentation Symbols	03
3-4	HDPE-16-DD-00-PR-PID-0005	P&ID For Sealing System	03
3-5	HDPE-16-DD-20-PR-PID-0221	P&ID For Powder Workup Unit Powder Drying I	03
3-6	HDPE-16-DD-20-PR-PID-0222	P&ID For Powder Workup Unit Powder Drying II	03
3-7	HDPE-16-DD-20-PR-PID-0223	P&ID For Powder Workup Unit Powder Drying III	03



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No.	Document No.	Document Title	Rev.
3-8	HDPE-16-BS-0010-07-B	Process Flow Diagram For Powder Drying (MMI 6022)	02
3-9	HDPE-16-BS-0010-37-B	Process Flow Diagram For Powder Drying (MMP 5902B)	02
3-10	HDPE-16-BS-0010-67-B	Process Flow Diagram For Powder Drying (MMF 5704)	02
3-11	HDPE-16-DD-00-ST-STD-0017	Standard Details For Anchor Bolt	01
3-12	HDPE-16-DD-00-PI-PLN-1001	Unit Plot Plan For Area-B (POLYMERIZATION)	03
4	Project General Procedure(s)		
4-1	HDPE-16-GM-00-PM-GEN-0001	Code and Standard	03
4-2	HDPE-16-GM-00-PM-GEN-0002	Site Conditions	02
4-3	HDPE-16-GM-00-PM-PRC-0004	Spare Part Procedure	02
4-4	HDPE-16-GM-00-PM-PRC-0005	Engineering Numbering Procedure	02
4-5	HDPE-16-GM-00-PC-PRC-0002	Vendor Document Handling Procedure	03
4-6	HDPE-16-GM-00-PP-PRC-0001	Packing, Marking And Shipping Procedure	03
5	Engineering Document(s)		
5-1	HDPE-16-DD-00-PR-DBS-0001	Basis of Design	03
5-2	HDPE-16-DD-00-EL-DCR-0001	Electrical Design Criteria	04

9 APPENDICES

- Attachment #1: Latest Revision of Documents (Refer to Attached CD)
- Attachment #2: Vendor's Technical Proposals in order of receiving date
- Attachment #3: MOMs and Technical Clarifications in order of date
- Attachment #4: Deviation List
- Attachment #5: Material Requisition (Without Attachments)
- Attachment #6: Correspondence Index