



COMUNICACIÓN PROCESAMIENTO Y EJECUCIÓN

12/02/2026

CIRCULAR N°8

LICITACIÓN ABREVIADA N°1500205100 - (EN ARCE 152051) COMPRA DE SIETE EQUIPOS MODULARES DE INYECCIÓN DE PRODUCTOS QUÍMICOS PARA ÁREA 1 EN REFINERÍA LA TEJA.

Estimados señores:

Solicitamos tomar nota de las siguientes aclaraciones, modificaciones y agregados al Pliego de Condiciones Particulares de la Licitación de referencia:

Pregunta 1) El pliego solicita que "Todos los motores eléctricos involucrados en el skid deben ser aptos para áreas clasificadas: clase I, div. 2 grupos B, C y D (no se acepta otra solución).", sin embargo, la marcación "clas I, div.2 grupos B, C y D" para atmósferas explosivas son derivadas de la norma NEMA de motores. Solicitamos el aval para cotizar motores de acuerdo con la norma internacional IEC, considerándola equivalente en términos de atmosfera explosiva: Zona 2 IIC (cumple con IIA/IIB) T3, al tiempo que el grupo IIA cumple con el grupo D, el grupo IIB cumple con el grupo C y el grupo IIC cumple con el grupo B". Lo que necesitamos saber si ANCAP aprueba lo anterior.

Respuesta 1) Se pueden aceptar como equivalentes las normas mencionadas, pero se solicitan las certificaciones correspondientes (IECx o ATEX).

Pregunta 2) Por favor informar los requisitos de agitación en Tanque de cada módulo. Su utilización determinará la selección de potencia y características de cada uno. Por favor, indicar si su requerimiento es debido a la presencia de sólidos no solubles, mezcla de químico y diluyente, etc.

Respuesta 2) La agitación es únicamente para mezclar el químico y el diluyente para obtener una solución homogénea. No se espera que el funcionamiento sea continuo.



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Pregunta 3) Por favor confirmar se deberá incluir Repuestos Recomendados para los Equipos Rotatorios a suministrar.

Respuesta 3) Repuestos solicitados:

Bombas API 675 – Tipo Diafragma:

- **Diafragma completo: 5 unidades**
- **Válvula de succión completa: 2 unidades**
- **Válvula de alivio completa: 1 unidad**
- **Válvula de descarga completa: 2 unidades**
- **Juego de sellos (O-rings y empaques): 5 juegos**
- **Bolas de válvula: 10–20 unidades**
- **Asientos de válvula: 10 unidades**

Bombas API 675 – Tipo Émbolo:

- **Empaquetadura (packing): 5 juegos**
- **Válvula de succión completa: 2 unidades**
- **Válvula de alivio completa: 1 unidad**
- **Válvula de descarga completa: 2 unidades**
- **Juego de sellos y juntas: 5 juegos**
- **Bolas de válvula: 10–20 unidades**
- **Asientos de válvula: 10 unidades**

Según la cantidad de bombas idénticas del suministro multiplicar las cantidades anteriores de acuerdo a los siguientes valores:

- **1 a 3 bombas: 1.**
- **4 a 6 bombas: 2.**
- **Más de 6 bombas: 3.**

Pregunta 4) Por favor especificar requisitos técnicos para Válvulas de Alivio de los módulos.

Respuesta 4) Para la selección de las válvulas de alivio tomar en cuenta los siguientes párrafos de API 675 (Se aclara que al tratarse un equipo paquete “SKID”,



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cuando la norma API 675 indica Purchaser aplica al oferente) y la especificación de ANCAP INT-ET-020.

6.8 Relief Valve Application

6.8.1 Diaphragm pumps shall have an integral, adjustable hydraulic relief valve to provide full protection of the pump

drive mechanism from excessive discharge pressure. The relief valve setting shall be at least 10 % or 175 kPa (25

psi) over the rated discharge pressure, whichever is greater. The relief valve shall be self-seating and shall be easily

accessible for adjustment, repair, or replacement.

6.8.2 Packed-plunger pumps require external relief valves for mounting in the Purchaser's piping (section 7.4).

7.4 Pressure-limiting Valves (PLVs)

7.4.1 PLVs or other protective devices shall be used with all positive displacement pumps. Rupture disks shall not

be used. The sizing, selection and installation of pressure limiting valves should meet the requirements of API 520,

Part I and API 520, Part II.

7.4.2 Unless otherwise specified, the Purchaser shall provide PLVs in accordance with API 526. The Vendor shall

provide the Purchaser with information on recommended flow rate and relieving pressure. The Vendor and Purchaser

should review the Purchaser's valve selection. PLV sizes and settings, including accumulation, shall take into account

all possible modes of equipment failure and shall meet the requirements of 6.3.2.

7.4.2.1 If specified, the valve shall be provided by the Vendor. (es parte del alcance del suministro)

Pregunta 5) Por favor especificar si en el marco de la presente contratación, se requerirá adaptarse a la Lista de Proveedores aprobados de ANCAP. De ser afirmativo, por favor enviar Lista de Proveedores aprobados de ANCAP



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Respuesta 5) No aplica lista de proveedores, salvo para válvulas de alivio que se aceptan las siguientes marcas: CONSOLIDATED, ANDERSON GREENWOOD, FARRIS, CROSBY, LESSR. Si el interesado lo estima pertinente, podrá solicitar a ANCAP la inclusión su marca de preferencia mediante consulta previa al acto de apertura.

Sin perjuicio de lo mencionado anteriormente, tener en cuenta lo siguiente:

INT ET 020/2006

PRESSURE RELIEF VALVES

TECHNICAL SPECIFICATION

REV.	FECHA	DESCRIPCION	PREPARADO POR	APROB ADO POR



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1. SCOPE

This Technical Specification establishes the general requirements for the supply of safety valves for LA TEJA REFINERY – Montevideo, Uruguay.

2. APPLICABLE DOCUMENTATION

Whenever applicable, the last edition of the following codes and standards will be considered:

- ASTM - American Society for Testing and Materials
- MSS - Manufacturers Standardization Society of the Valve and Fittings Industry
- ANSI - American National Standard Institute
 - ANSI B1.20.1 Connection threads (NPT).
 - ANSI B16.5 Flanged connections.
- ISA - Instrument Society of America
- AISI - American Iron and Steel Institute
- API - American Petroleum Institute
 - API RP520-I Sizing, selection and installation.
 - API RP520-II Sizing, selection and installation.
 - API RP521 Safety Relief Valves Guide.
 - API RP526 Safety relief valves with steel flanges
 - API RP527 Metal-metal seat tightness

3. GENERAL CHARACTERISTICS

- A. Design and manufacturing of safety relief valves will be based in the last edition of API 526 standard so as to provide a long term service under the operating conditions specified in the data sheets with no more than one maintenance operation per year performed by regular maintenance plant personnel using the equipment and tools usually available in the plant.
- B. Manufacturer standard design valves will be preferred provided they meet this spec requirements and offer the maximum parts interchange ability, to reduce the spare parts stock.
- C. Pilot operated valves will not be accepted. Nozzle/disk/spring design valves will be used.
- D. Each safety relief valve with metal/metal seats will fulfill the maximum leakage requirements defined by API RP 527 standard. The test indicated in this standard may be required to verify that condition. Contact surfaces between nozzle and plug will be flat and totally polished.
- E. The manufacturer will verify the materials compatibility with the specified service conditions for the valve; compatibility between metals in contact for relative shift to avoid excessive friction will also be verified.
- F. Full nozzles will be used.
- G. The plug material will be ARMCO 17.4 PH or similar, with a hardness of 40-42 Rockwell C, erosion resistant and corrosion resistant (stress corrosion) under stress.
- H. Vendor will verify valve sizing for the specified operating conditions.
- I. Valve discharge capacity will be certified in accordance with ASME code, section VIII. Discharge coefficient will not be lower than $K= 0.953$. A certificate for this value will be presented in accordance with ASME code.



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- J. Set pressure tolerances, for sets above 15 psig (1.03 bar g) will be in agreement with the values required by ASME code, section VIII, division 1; for example: For a valve sized for an overpressure of 10% and a re-close adjustment of 7% of the set pressure, tolerances will be: ± 2 psi (± 0.13 bar) for pressures up to 70 psig (4.8 barg), $\pm 3\%$ of the pressure set for pressures above 70 psig (4.8 bar g).
- K. Connection flanges will be RF (raised face), finish: serrated concentric 125 AARH minimum to 250 maximum in accordance with ANSI B16.5, unless something different is required in the particular specification. For the input flange the nozzle itself may constitute the ring. The manufacturer will indicate in the drawings the extra thickness introduced by the nozzle to allow the sizing of the connection studs.
- L. For liquid service, valves to be used for protection against thermal expansion, will have characteristics of gradual opening with overpressure, requiring a maximum of 25% overpressure for total opening. On the contrary, valves for gas or vapor service, will have a "pop" open characteristic, this is, full opening once surpassed the set pressure.
- M. Valve springs will be selected by the manufacturers based on the set pressures.
- N. The pressure set may be modified, using the adjusting bolt, at least $\pm 10\%$ of the specified value for valves with sets up to 250 psig, and $\pm 5\%$ for valves with sets above 250 psig, without compromising the spring or the valve itself.
- O. The reset ring of the valves will be adjusted 7% below the pressure set, at the factory.
- P. When indicated in the data sheets spring material CS, it will be considered alloy carbon steel treated for springs with a corrosion-free surface coating (electrochemical coating: nickel plated, zinc plated, phosphatized, etc.). For service or discharge temperatures above 232 °C, tungsten alloy steel springs will be used.
- Q. Valves will have an adequate surface treatment allowing for a correct outdoors operation under the weather and installation conditions of the refinery. All valves shall be suitable for operating in a salt laden marine atmosphere.
- R. For balanced valves with vented bonnets, the connection to the atmosphere will be provided with an accessory to avoid the introduction of insects or rain to the valve interior.
- S. Nuts, stud bolts and bolts linking parts under pressure (ex. body, bonnet) will be of the indicated quality or better, depending on the valve body material:
For carbon steel bodies:
- ASTM A 193 Gr. B7 for bolts and stud bolts.
 - ASTM A 194 Gr. 2H for nuts.
- For alloy steels and stainless steels:
- ASTM A 320 Gr. B8 class 2 for bolts and stud bolts.
 - ASTM A 194 8 for nuts
- T. Valves for Hydrogen Service shall be provided with serrated concentric smooth finish flanges (not exceeding 125 AARH maximum according to MSS-SP-6). Valves shall be identified with a stainless steel nameplate***



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attached to the body with the following legend: "HYDROGEN SERVICE".

4. INSPECTIONS AND TESTS

- A. Hydraulic tests for the body and seat of the valves may be required. In that case, the vendor will submit a recommended test procedure for approval.
- B. Manufacturing or material origin (body/internals) certificates may be required.
- C. Non-destructive material tests as per ASME code will be performed only if it is explicitly required.
- D. For different materials the following techniques will be used: x-rays, ultrasound, penetrating inks or magnetic particles.
- E. The INSPECTION may require each valve, totally assembled, to be operated three times, under pressure conditions, to demonstrate the whole assembly is operative. Test tank capacity will be enough to avoid damage to valve seats.

5. PROPOSAL

Vendor will verify the sizing for each one of the valves using the API RP 520/ASME standards and the corresponding calculations for the selection conditions. These calculations will be submitted during the offering stage.

One spare valve for each type and size of every safety and relief valve to be supplied shall also be quoted.



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6. DATA SHEETS

1	TAG N°			
2	SERVICE			
3	DRAWING			
4	LINE N° / VESSEL N°			
5	FULL NOZZLE	SEMI NOZZLE		
6	SAFETY OR RELIEF			
7	CONV., BELLOWS, PILOT OP.			
8	BONNET TYPE			
CONN.	9	SIZE: INLET	OUTLET	
	10	FLANGE RATING OR SCREWED		
	11	TYPE OF FACING		
MATERIALS	12	BODY	BONNET	
	13	SEAT	DISC	
	14	GUIDES	RINGS	
	15	SPRING		
	16	BELLOWS		
	17			
OPTIONS	18	CAP: SCREWED OR BOLTED		
	19	LEVER: PLAIN OR PACKED		
	20	TEST GAG		
	21			
	22			
BASIS	23	CODE		
	24	FIRE		
	25	OTHER		
OPERATION CONDITIONS	26	FLUID AND STATE		
	27	LIQ. CAPAC.	VAP./GAS CAPAC.	
	28	OPER. SG. GR.	MOL. WT.	
	29	VISCOS. AT REL. TEMP. (Cp)		
	30	OPER. PRESS.	SET	
	31	OPER. TEMP.	RELIEF TEMP.	DESIGN TEMP.
	32	BACK PRESSURE	CONSTANT	
			VARIABLE	
			TOTAL	
	33	SPRING SET		
	34	% OVER PRESSURE		
	35	COMPRESSIBIL. FACTOR		
	36	Cp/Cv		
	37			
38				
39	CALC. AREA Sq. in.	SELECTED		
40	ORIFICE DESIGNATION	SPRING CODE		
41	MANUFACTURER			
42	MODEL N°			
43	UNITS:	PRESSURE (Kg/cm2 g)	TEMPERATURE (deg C) FLOW (Kg/h)	



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Esperando se sirvan tomar nota de lo que antecede, saluda a Uds. Muy atentamente:



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