

PROJECT: PP-PE PILOT PLANT

client:

Title: DATA SHEET FOR 1ST GAS PHASE REACTOR  
CENTRIFUGAL COMPRESSOR (CF-411)



شرکت ملی صنایع پتروشیمی  
شرکت پژوهش و فناوری پتروشیمی

# DATA SHEET FOR 1ST GAS PHASE REACTOR CENTRIFUGAL COMPRESSOR (CF-411)

	Document No.: 400-DAS-A4-RE-0037	Rev.: 2
	Owner Job No.:	Type: DAS
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CENTRIFUGAL COMPRESSOR (CF-411)

REV. PAGE	0	1	2	3	4	5	REV. PAGE	0	1	2	3	4	5	REV. PAGE	0	1	2	3	4	5
A	X	X																		
B	X	X	X																	
1	X	X	X																	
2	X	X	X																	
3	X	X	X																	
4	X	X	X																	
5	X	X	X																	
6	X	X	X																	
7	X	X																		
8	X	X																		

5																				
4																				
3																				
2	10/10/2021	K.A/ V.V		M.N			M.A			AFC										
1	02/18/2009	H.R		A.A			H.R			AFC										
0	01/31/2009	A.SH		R.S			A.KI			IFA										
Rev	Date	Prepared By			Checked BY			Approved by			Status									

Document Revision

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		Process Data Sheet				DATE	
		<b>CENTRIFUGAL COMPRESSOR</b>				October 10, 2021	
PLANT: <b>PE-PP R&amp;T Arak Center</b>				AREA <b>400</b>	SHEET 5 OF 6		
1	SERVICE <b>1st GAS PHASE REACTOR COMPRESSOR</b>				ITEM		
2	TYPE AND MODEL No. OF UNITS						
3	LOCATION <input type="checkbox"/> OUTDOOR <input type="checkbox"/> UNDER ROOF <input type="checkbox"/> MEZZANINE <input checked="" type="checkbox"/> GROUND FLOOR						
4	LUBRICATION AND SEALING SYSTEM						
5	COMPRESSOR MANUFACTURER WILL SUPPLY A FORCED OIL LUBRICATION SYSTEM						
6	COMMON WITH <input type="checkbox"/> COMPRESSOR <input type="checkbox"/> GEAR <input type="checkbox"/> DRIVER <input type="checkbox"/>						
7	<input type="checkbox"/> COMBINED WITH SEAL OIL SYSTEM <input type="checkbox"/> SEPARATE FROM SEAL OIL SYSTEM <input type="checkbox"/> WITHOUT SEAL OIL UNIT						
8	SYSTEM ACCORDING TO DIAGRAM FIG. OF API STANDARD No. 617						
9	OIL SYSTEM		LUBRICATION		SEAL		
10	TYPE OF OIL USED						
11	WORKING PRESSURE bar g						
12	MAX ALLOWABLE PRESSURE bar g						
13	REQUIRED OIL FLOW RATE m <sup>3</sup> /h						
14	RESERVOIR: MOUNTED ON		<input type="checkbox"/> BASE PLATE	<input type="checkbox"/> CONSOLE	<input type="checkbox"/> BASE PLATE	<input type="checkbox"/> CONSOLE	
15	CAPACITY m <sup>3</sup>						
16	RETENTION TIME min						
17	PROVIDED WITH HEATER		<input type="checkbox"/> ELECTRIC	<input type="checkbox"/> STEAM	<input type="checkbox"/> ELECTRIC	<input type="checkbox"/> STEAM	
18	MATERIAL						
19	MAIN PUMP; MANUFACTURER						
20	TYPE-MODEL						
21	CASING MATERIAL						
22	CAPACITY-SPEED-POWER		m <sup>3</sup> /h	RPM	KW	m <sup>3</sup> /h RPM KW	
23	MOUNTED ON		<input type="checkbox"/> BASE PLATE	<input type="checkbox"/> CONSOLE	<input type="checkbox"/> BASE PLATE	<input type="checkbox"/> CONSOLE	
24	DRIVEN BY		<input type="checkbox"/> SHAFT	<input checked="" type="checkbox"/> MOTOR	<input type="checkbox"/> TURBINE	<input type="checkbox"/> SHAFT <input checked="" type="checkbox"/> MOTOR <input type="checkbox"/> TURBINE	
25	STAND-BY PUMP; MANUFACTURER						
26	TYPE-MODEL						
27	CASING MATERIAL						
28	CAPACITY-SPEED-POWER		m <sup>3</sup> /h	RPM	KW	m <sup>3</sup> /h RPM KW	
29	MOUNTED ON		<input type="checkbox"/> BASE PLATE	<input type="checkbox"/> CONSOLE	<input type="checkbox"/> BASE PLATE	<input type="checkbox"/> CONSOLE	
30	DRIVEN BY		<input type="checkbox"/> SHAFT	<input type="checkbox"/> MOTOR	<input type="checkbox"/> TURBINE	<input type="checkbox"/> SHAFT <input type="checkbox"/> MOTOR <input type="checkbox"/> TURBINE	
31	AUTOMATIC START		<input type="checkbox"/> YES	<input type="checkbox"/> NO			
32	ACTUATED ON				<input type="checkbox"/> YES	<input type="checkbox"/> NO	
33	PUMP SAFETY VALVES; SET PRESS. bar g						
34	TYPE		<input type="checkbox"/> INTEGRAL	<input type="checkbox"/> SEPARATE		<input type="checkbox"/> INTEGRAL <input type="checkbox"/> SEPARATE	
35	OIL COOLER		<input type="checkbox"/> DUAL	<input type="checkbox"/> SINGLE		<input type="checkbox"/> DUAL <input type="checkbox"/> SINGLE	
36	MOUNTED ON		<input type="checkbox"/> BASE PLATE	<input type="checkbox"/> CONSOLE		<input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE	
37	COOLING MEDIUM						
38	CONSTRUCTION CODE		<input type="checkbox"/> FEMA C	<input type="checkbox"/>		<input type="checkbox"/> FEMA C <input type="checkbox"/>	
39	SHELL MATERIAL						
40	PIPE MATERIAL						
41	EXCHANGING HEAT KW						
42	FILTERS		<input type="checkbox"/> SINGLE	<input type="checkbox"/> DUAL		<input type="checkbox"/> SINGLE <input type="checkbox"/> DUAL	
43	MANUFACTURER -TYPE						
44	FILTERING DEGREE						
45	FILTERING ELEMENT		<input type="checkbox"/> REPLACEABLE	<input type="checkbox"/> CLEANING TYPE		<input type="checkbox"/> REPLACEABLE <input type="checkbox"/> CLEANING TYPE	
46	BODY MATERIAL						
47	VALVES: BODY MATERIAL						
48	OIL DRAINS: REQUIRED		<input type="checkbox"/> YES <input type="checkbox"/> NO		SUPPLIED BY		
49	MOUNTED ON		<input type="checkbox"/> BASE PLATE	<input type="checkbox"/> CONSOLE		<input type="checkbox"/>	
50	MAX SEAL OIL LEAK						LITERS/DAY
51	OVERHEAD SEAL OIL TANK: REQUIRED		<input type="checkbox"/> YES <input type="checkbox"/> NO				
52	SUPPLIED BY		<input type="checkbox"/> COMPRESSOR MANUFACTURER <input type="checkbox"/>				
53	PLACED		METERS ABOVE COMPRESSOR CENTERLINE				
54	CLARIFIER: REQUIRED		<input type="checkbox"/> YES <input type="checkbox"/> NO				
55	SUPPLIED BY		<input type="checkbox"/> COMPRESSOR MANUFACTURER <input type="checkbox"/>				
56	CAPACITY		<input type="checkbox"/> 100% DAY	<input type="checkbox"/> 50% DAY		<input type="checkbox"/>	
57	OIL PIPING MATERIAL		<input type="checkbox"/> C-STEEL, CLEAN AND PICKLED		<input type="checkbox"/>		
58	DRAIN OIL PIPING MATERIAL		<input type="checkbox"/> STAINLESS STEEL		<input type="checkbox"/>		
59	OTHER DATA						
60	NOTES:						
61							
62							
63							
64							
65	3						
66	2	AFC	10/10/21	M.N	M.A		
67	1	Issue for bidding					
68	0	First issue					
69	REV.	DESCRIPTION	DATE	BY	APP'D		

		Process Data Sheet				DATE
		<b>CENTRIFUGAL COMPRESSOR</b>				October 10, 2021
PLANT: <b>PE-PP R&amp;T Arak Center</b>				AREA <b>400</b>	SHEET 6 OF 6	
1	SERVICE	<b>1st GAS PHASE REACTOR COMPRESSOR</b>			ITEM	
2	TYPE AND MODEL	No. OF UNITS <b>0</b>				
3	LOCATION	<input type="checkbox"/> OUTDOOR	<input type="checkbox"/> UNDER ROOF	<input type="checkbox"/> MEZZANINE	<input checked="" type="checkbox"/> GROUND FLOOR	
4	<b>INSTRUMENT AND PROTECTIONS</b>					
5	INSTRUMENT READ OUT	<input type="checkbox"/> METRIC UNITS		<input type="checkbox"/> ENGLISH UNITS		
6	LOCAL PANEL FOR COMPRESSOR SUPPLIED BY	<input type="checkbox"/> COMPR.MANUF.		<input type="checkbox"/> PURCHASER		<input type="checkbox"/> NOT REQUIRED
7	ELECTRICAL AND INSTRUMENT CONNECTIONS SHALL BE BROUGHT OUT TO TERMINAL BOXES BY:					
8	<input type="checkbox"/> COMPR.MANUFACTURER			<input type="checkbox"/> PURCHASER		
9	METERS AND INDICATORS		MANUFACTURER		TYPE AND SIZE	
10	PRESSURE GAUGES					
11	THERMOMETERS					
12	LEVEL INDICATORS					
13	SIGHT FLOW INDICATORS					
14	TACHOMETERS					
15	PRESSURE SWITCHES					
16	TEMPERATURE SWITCHES					
17	AXIAL DISPLACEMENT INDICATORS					
18	SAFETY AND/OR RELIEF VALVES					
19	POWER INDICATOR & RECORDER					
20	INSTRUMENTS COMPRESSOR MANUFACTURER SHALL SUPPLY AS A MINIMUM					
21	PRESSURE GAUGES	LOCAL MOUNTED	PANEL MOUNTED	PROTECTIONS	ALARM	LOCK
22	OIL PUMP DISCHARGE	<input type="checkbox"/>	<input type="checkbox"/>	LUBE OIL LOW PRESSURE	<input type="checkbox"/>	<input type="checkbox"/>
23	LUBE OIL EACH LEVEL	<input type="checkbox"/>	<input type="checkbox"/>	SEAL OIL LOW PRESSURE	<input type="checkbox"/>	<input type="checkbox"/>
24	SEAL OIL EACH LEVEL	<input type="checkbox"/>	<input type="checkbox"/>	RESERVOIR OIL LOW LEVEL	<input type="checkbox"/>	<input type="checkbox"/>
25	DIFFERENTIAL, SEAL OIL	<input type="checkbox"/>	<input type="checkbox"/>	GOV. CONTROL OIL LOW PRESSURE	<input type="checkbox"/>	<input type="checkbox"/>
26	DIFF. BEFORE/AFTER FILTERS	<input type="checkbox"/>	<input type="checkbox"/>	OIL FILTERS DIFF. HIGH PRESSURE	<input type="checkbox"/>	<input type="checkbox"/>
27	GOV. CONTROL OIL	<input type="checkbox"/>	<input type="checkbox"/>	COMPR. DISCHARGE HIGH TEMP.	<input type="checkbox"/>	<input type="checkbox"/>
28	COMPRESSOR DISCHARGE	<input type="checkbox"/>	<input type="checkbox"/>	ROTOR AXIAL POSITION	<input type="checkbox"/>	<input type="checkbox"/>
29	COMPRESSOR SUCTION	<input type="checkbox"/>	<input type="checkbox"/>	STARTING OF AUXILIARY/SPARE PUMPS	<input type="checkbox"/>	<input type="checkbox"/>
30	INTERMEDIATE STAGES	<input type="checkbox"/>	<input type="checkbox"/>	HIGH VIBRATIONS ON EACH BEARING	<input type="checkbox"/>	<input type="checkbox"/>
31				HIGH TEMP. LUBE OIL	<input type="checkbox"/>	<input type="checkbox"/>
32	THERMOMETERS:			HIGH TEMP EACH BEARING	<input type="checkbox"/>	<input type="checkbox"/>
33	OUTLET, EACH BEARING	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
34	OUTLET, EACH SEAL	<input type="checkbox"/>	<input type="checkbox"/>			
35	COOLER INLET/OUTLET	<input type="checkbox"/>	<input type="checkbox"/>			
36	COMPR. SUCTION/DISCHARGE	<input type="checkbox"/>	<input type="checkbox"/>			
37						
38	<input type="checkbox"/> REMOTE LOCKING	<input type="checkbox"/> ELECTRIC		<input type="checkbox"/> PNEUMATIC		<input type="checkbox"/> HYDRAULIC
39	<input type="checkbox"/> AXIAL POSITION CONTINUOUS INDICATOR					
40	<input type="checkbox"/> VISUAL FLOW INDICATOR ON EACH OIL OUTLET LINE FOR BEARINGS-SEAL-COUPLINGS					
41	<input type="checkbox"/> LEVEL GAUGES LUBE					
42						
43						
44	TO ACTUATE ALARMS AND LOCKS THE CONTACT WILL:					
45	<input type="checkbox"/> OPEN	<input type="checkbox"/> CLOSE TO SOUND ALARM				
46	<input type="checkbox"/> OPEN	<input type="checkbox"/> CLOSE TO LOCK				
47	ALARM AND LOCK CONTACTS WILL BE SEPARATE AND:					
48	<input type="checkbox"/> ONE-POLE DOUBLE-THROW TYPE					
49	<input type="checkbox"/> TWO-POLE DOUBLE-THROW TYPE					
50	CONTROL					
51	METHOD	<input type="checkbox"/> SPEED VARIATION	FROM	TO	RPM	ON <input type="checkbox"/> SUCTION <input type="checkbox"/> DISCHARGE
52		<input type="checkbox"/> BY-PASS	FROM	TO	%	<input type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL
53	CONTROL DEVICE	<input type="checkbox"/> WITH PRESSURE SWITCH		<input type="checkbox"/> WITH THERMOSTAT		
54	SIGNAL FROM	TYPE		RANGE		
55				EFFECT ON VARIATION		
56	ANTISURGE CONTROL					
57	NOTES:					
58						
59						
60						
61						
62						
63	3					
64	2	AFC	10/10/21	M.N	M.A	
65	1	Issue for bidding				
66	0	First issue				
67	REV.	DESCRIPTION	DATE	BY	APPD	

PROJECT: PP-PE PILOT PLANT

client:



Title: DATA SHEET FOR 2nd GAS PHASE REACTOR CENTRIFUGAL COMPRESSOR (CF-421)

**DATA SHEET FOR 2nd GAS PHASE REACTOR  
CENTRIFUGAL COMPRESSOR  
(CF-421)**

Document No.: 400-DAS-A4-RE-0038

Rev.: 2

Owner Job No.:

Type: DAS

Page 1

PROJECT: PP-PE PILOT PLANT

client:



شرکت ملی صنایع پتروشیمی  
شرکت پژوهش و فناوری پتروشیمی

Title: DATA SHEET FOR 2nd GAS PHASE REACTOR CENTRIFUGAL COMPRESSOR (CF-421)

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A	X	X																		
B	X	X																		
1	X	X	X																	
2	X	X	X																	
3	X	X	X																	
4	X	X	X																	
5	X	X	X																	
6	X	X	X																	
7	X	X																		
8	X	X																		

5																				
4																				
3																				
2	10/10/2021						K.A / V.V						M.N						M.A	AFC
1	10/12/2011						H.R						A.A						H.R	AFC
0	01/08/2011						H.R						A.A						H.R	IFA
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Document Revision

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	Owner Job No.:	Type: DAS
		Page 2



		Process Data Sheet					DATE	
		CENTRIFUGAL COMPRESSOR					October 10, 2021	
PLANT: <b>PE-PP R&amp;T Arak Center</b>			AREA <b>400</b>		3 OF 6			
SERVICE <b>2nd GAS PHASE REACTOR COMPRESSOR</b>			ITEM		<b>CF-421</b>			
TYPE AND MODEL		CENTRIFUGAL		No. OF UNITS		1		
LOCATION		<input checked="" type="checkbox"/> OUTDOOR		<input type="checkbox"/> UNDER ROOF		<input type="checkbox"/> MEZZANINE		
						<input checked="" type="checkbox"/> GROUND FLOOR		
SERVICE DATA								
CONDITIONS		DESIGN	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4		
POSITION (SEE SKETCH)								
COMPRESSOR CASING								
COMPRESSED GAS (SEE ANALYSIS)								
BAROMETRIC PRESSURE:		bar a						
CAPACITY	kg/h							
	std m <sup>3</sup> /h							
	m <sup>3</sup> /h AT INTAKE CONDITIONS	<b>1031</b>	<b>1145</b>	<b>1145</b>				
INTAKE CONDITIONS								
PRESSURE		bar a	<b>25</b>	<b>25</b>	<b>25</b>			
TEMPERATURE		°C	<b>75</b>	<b>80</b>	<b>75</b>			
RELATIVE HUMIDITY		%						
MOLAR MASS		Kg/Kmol	<b>28.1</b>	<b>39.27</b>	<b>42.35</b>			
Cp/Cv (K1)			<b>1.25</b>	<b>1.31</b>	<b>1.41</b>			
DENSITY		Kg/m <sup>3</sup>	<b>26.8</b>	<b>42.8</b>	<b>51.8</b>			
Z <sub>1</sub> - COMPRESSIBILITY FACTOR			<b>0.90</b>	<b>0.78</b>	<b>0.71</b>			
DISCHARGE CONDITIONS								
PRESSURE		bar a	<b>25.4</b>	<b>25.7</b>	<b>25.8</b>			
TEMPERATURE EXPECTED/ACTUAL		°C						
Cp/Cv (K2)								
Z <sub>2</sub> - COMPRESSIBILITY FACTOR								
SURGE LIMIT AT DES. COND.		%						
COMPRESSION RATIO								
POLYTROPIC HEAD		m	<b>150.34</b>	<b>164.93</b>	<b>156.84</b>			
POWER REQUIRED		KW						
COMPRESSOR SPEED		RPM						
DRIVER (1)		<input checked="" type="checkbox"/> ELECTRIC MOTOR		<input type="checkbox"/> STEAM TURBINE				
GAS ANALYSIS								
COMPOSITION		MOLAR MASS	% MOLAR	% MOLAR	% MOLAR	% MOLAR	% MOLAR	
1 Hydrogen		2.0	<b>28.50</b>	<b>4.70</b>	<b>0.70</b>			
2 Ethylene		28.1	<b>25.00</b>	<b>23.40</b>	<b>10.00</b>			
3 Propylene		42.1						
4 Propane		44.1	<b>46.50</b>	<b>64.40</b>	<b>88.00</b>			
5 Butene-1		56.1		<b>7.50</b>	<b>1.30</b>			
6								
7								
8								
Total			<b>100.00</b>	<b>100.00</b>	<b>100.00</b>			
NOTES ON GASES:								
CORROSION CAUSED BY:								
COMPRESSOR SKETCH								
NOTES:								
(1)		THE ELECTRICAL MOTOR SHALL BE IN ACCORDANCE WITH "TECHNICAL SPECIFICATION FOR LV MOTORS " DOC.No.900-SPC-A4-EE-0005 "						
		BY VENDOR, MOTOR ENCLOSURES SHALL BE OF TOTALLY ENCLOSED FAN-COOLED (TEFC)						
3								
2 AFC		10/10/21	M.N	M.A				
1 Issue for bidding								
0 First issue								
REV.	DESCRIPTION	DATE	BY	APP'D				

	<b>Process Data Sheet</b> <b>CENTRIFUGAL COMPRESSOR</b>	DATE October 10, 2021
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PLANT: <b>PE-PP R&amp;T Arak Center</b>	AREA <b>400</b>	SHEET 4 OF 6
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SERVICE <b>2nd GAS PHASE REACTOR COMPRESSOR</b>	ITEM <b>CF-421</b>
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TYPE AND MODEL	No. OF UNITS
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LOCATION <input checked="" type="checkbox"/> OUTDOOR	<input type="checkbox"/> UNDER ROOF	<input type="checkbox"/> MEZZANINE	<input type="checkbox"/> GROUND FLOOR
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**ENGINEERING DATA**

COMPRESSOR SPEED <b>3000 RPM Shall be preferred</b>	RPM	CRITICAL SPEEDS 1st	RPM
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MAX CONTINUOUS SPEED	RPM	CRITICAL SPEEDS 2nd	RPM
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SURGE LIMIT <b>m3/h</b>	AT DESIGN CONDITIONS	% OF DESIGN CAPACITY
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DIRECTION OF ROTATION (COMPRESSOR VIEWED FROM MOTOR)
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**MATERIALS AND CONSTRUCTION**

COMPRESSOR CASING	SPLIT	<input checked="" type="checkbox"/> HORIZONTAL	<input type="checkbox"/> VERTICAL	MATERIAL <b>SS.304</b>
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THICKNESS	mm	CORROSION ALLOWANCE	mm
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MAX ALLOWABLE TEMP.	<b>180 °C</b>	MAX ALLOW.PRESS/HYDR.TEST	<b>30 bar g</b>
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IMPELLERS	TYPE	<input type="checkbox"/> ENCLOSED	<input checked="" type="checkbox"/> OPEN	MATERIAL <b>Stainless steel</b>
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CONSTRUCTION	<input type="checkbox"/> CAST	<input checked="" type="checkbox"/> WELDED	<input type="checkbox"/> BIVETED	<input type="checkbox"/> MILLED	<input type="checkbox"/>
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No.	DIAMETERS	MAX	
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DIAPHRAGMS	COOLED	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	MATERIAL
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LABYRINTHS	RADIAL CLEARANCES	mm	MATERIAL
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SHAFT	DIAMETERS (IMPELLER FIT)	mm	MATERIAL
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RADIAL BEARINGS	HOUSING	<input type="checkbox"/> INTEGRAL	<input checked="" type="checkbox"/> SEPARATE
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TYPE	<input type="checkbox"/> BABBIT METAL PLATED SHELLS	<input type="checkbox"/>
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LUBRICATION	<input checked="" type="checkbox"/> OILING	<input type="checkbox"/> FORCED	<input type="checkbox"/> OIL PRESS.	bar g
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SPAN	mm	DIAMETER	mm	LENGTH	mm	CLEARANCE	mm
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THRUST BEARINGS	TYPE	<input checked="" type="checkbox"/> KINGSBURY SINGLE	<input type="checkbox"/> KINGSBURY DOUBLE	<input type="checkbox"/> BALL	<input type="checkbox"/> ROLLER
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SHAFT SEAL	LUBRICATION	<input type="checkbox"/> FORCED	<input checked="" type="checkbox"/> OILING	<input type="checkbox"/> OIL PRESS.	bar g
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BASEPLATE	TYPE	<input type="checkbox"/> LABYRINTH	<input type="checkbox"/> LIQUID FILM	<input checked="" type="checkbox"/> MECHANICAL	<input type="checkbox"/> RING
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TYPE	<input checked="" type="checkbox"/> WELDED STEEL	<input type="checkbox"/> CAST STEEL	<input type="checkbox"/>	<b>Face to face seal</b>
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COMMON WITH COMPRESSOR AND MOTOR	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
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SUPPLIED BY	<input checked="" type="checkbox"/> COMPRESSOR MANUFACTURER
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COUPLING	POSITION	<input type="checkbox"/> GEAR MOTOR	<input type="checkbox"/> COMPR. MOTOR	<input type="checkbox"/> COMPR. TURBINE
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MANUFACTURER	
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TYPE	
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LUBRICATION	
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COUPLING GUARD	TYPE	<input checked="" type="checkbox"/> SHEET STEEL	<input type="checkbox"/> NONSPARKING	<input type="checkbox"/>
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SUPPLIED BY	<input checked="" type="checkbox"/> COMPRESSOR MANUFACTURER
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**OTHER PARTS:**

MASS: COMPRESSOR WITHOUT BASE PLATE	Kg	MAX FOR MAINTENANCE	Kg
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MASS: MAX TO MOUNTING	Kg	COMPRESSOR WITH BASE PLATE	Kg
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**CONNECTIONS**

CONNECTION (a)	SIZE	RATING	FACING	UPWARDS	DOWNWARDS	RIGHT (b)	LEFT (b)
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INTAKE PIPING				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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DELIVERY PIPING				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----------------	--	--	--	--------------------------	--------------------------	--------------------------	--------------------------

				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--	--	--	--------------------------	--------------------------	--------------------------	--------------------------

				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--	--	--	--------------------------	--------------------------	--------------------------	--------------------------

				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--	--	--	--------------------------	--------------------------	--------------------------	--------------------------

				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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PURGE CONNECTIONS LIQUID USED	SIZE	RATING AND FACING	No.
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DRAIN CONNECTIONS	SIZE	RATING AND FACING	No.
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VENT CONNECTIONS	SIZE	RATING AND FACING	No.
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NOTES:
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NOTES:
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	<b>Process Data Sheet</b> <b>CENTRIFUGAL COMPRESSOR</b>	DATE October 10, 2021
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PLANT: <b>PE-PP R&amp;T Arak Center</b>	AREA	SHEET 5 OF 6
1 SERVICE <b>2nd GAS PHASE REACTOR COMPRESSOR</b>	ITEM	
2 TYPE AND MODEL	No. OF UNITS	
3 LOCATION	<input type="checkbox"/> OUTDOOR <input type="checkbox"/> UNDER ROOF <input type="checkbox"/> MEZZANINE <input checked="" type="checkbox"/> GROUND FLOOR	
LUBRICATION AND SEALING SYSTEM		
5 COMPRESSOR MANUFACTURER WILL SUPPLY A FORCED OIL LUBRICATION SYSTEM		
6 COMMON WITH	<input type="checkbox"/> COMPRESSOR <input type="checkbox"/> GEAR <input type="checkbox"/> DRIVER <input type="checkbox"/>	
7	<input type="checkbox"/> COMBINED WITH SEAL OIL SYSTEM <input type="checkbox"/> SEPARATE FROM SEAL OIL SYSTEM <input type="checkbox"/> WITHOUT SEAL OIL UNIT	
8 SYSTEM ACCORDING TO DIAGRAM FIG. OF API STANDARD No. 617		
9	OIL SYSTEM	LUBRICATION
10	TYPE OF OIL USED	
11	WORKING PRESSURE	bar g
12	MAX ALLOWABLE PRESSURE	bar g
13	REQUIRED OIL FLOW RATE	m <sup>3</sup> /h
14	RESERVOIR: MOUNTED ON	<input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE <input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE
15	CAPACITY	m <sup>3</sup>
16	RETENTION TIME	min
17	PROVIDED WITH HEATER	<input type="checkbox"/> ELECTRIC <input type="checkbox"/> TEAM <input type="checkbox"/> ELECTRIC <input type="checkbox"/> TEAM
18	MATERIAL	
19	MAIN PUMP; MANUFACTURER	
20	TYPE-MODEL	
21	CASING MATERIAL	
22	CAPACITY-SPEED-POWER	m <sup>3</sup> /h    RPM    KW
23	MOUNTED ON	<input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE <input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE
24	DRIVEN BY	<input type="checkbox"/> SHAFT <input type="checkbox"/> MOTOR <input type="checkbox"/> TURBINE <input type="checkbox"/> SHAFT <input type="checkbox"/> MOTOR <input type="checkbox"/> TURBINE
25	STAND-BY PUMP; MANUFACTURER	
26	TYPE-MODEL	
27	CASING MATERIAL	
28	CAPACITY-SPEED-POWER	m <sup>3</sup> /h    RPM    KW
29	MOUNTED ON	<input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE <input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE
30	DRIVEN BY	<input type="checkbox"/> SHAFT <input type="checkbox"/> MOTOR <input type="checkbox"/> TURBINE <input type="checkbox"/> SHAFT <input type="checkbox"/> MOTOR <input type="checkbox"/> TURBINE
31	AUTOMATIC START	<input type="checkbox"/> YES <input type="checkbox"/> NO
32	ACTUATED ON	<input type="checkbox"/> YES <input type="checkbox"/> NO
33	PUMP SAFETY VALVES; SET PRESS.	bar g
34	TYPE	<input type="checkbox"/> INTEGRAL <input type="checkbox"/> SEPARATE <input type="checkbox"/> INTEGRAL <input type="checkbox"/> SEPARATE
35	OIL COOLER	<input type="checkbox"/> DUAL <input type="checkbox"/> SINGLE <input type="checkbox"/> DUAL <input type="checkbox"/> SINGLE
36	MOUNTED ON	<input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE <input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE
37	COOLING MEDIUM	
38	CONSTRUCTION CODE	<input type="checkbox"/> EMA C <input type="checkbox"/>
39	SHELL MATERIAL	
40	PIPE MATERIAL	
41	EXCHANGING HEAT	KW
42	FILTERS	<input type="checkbox"/> SINGLE <input type="checkbox"/> DUAL <input type="checkbox"/> SINGLE <input type="checkbox"/> DUAL
43	MANUFACTURER -TYPE	
44	FILTERING DEGREE	
45	FILTERING ELEMENT	<input type="checkbox"/> REPLACEABLE <input type="checkbox"/> CLEANING TYPE <input type="checkbox"/> REPLACEABLE <input type="checkbox"/> CLEANING TYPE
46	BODY MATERIAL	
47	VALVES: BODY MATERIAL	
48	OIL DRAINS: REQUIRED	<input type="checkbox"/> YES <input type="checkbox"/> NO            SUPPLIED BY
49	MOUNTED ON	<input type="checkbox"/> BASE PLATE <input type="checkbox"/> CONSOLE <input type="checkbox"/>
50	MAX SEAL OIL LEAK	LITERS/DAY
51	OVERHEAD SEAL OIL TANK: REQUIRED	<input type="checkbox"/> YES <input type="checkbox"/> NO
52	SUPPLIED BY	<input type="checkbox"/> COMPRESSOR MANUFACTURER <input type="checkbox"/>
53	PLACED	METERS ABOVE COMPRESSOR CENTERLINE
54	CLARIFIER: REQUIRED	<input type="checkbox"/> YES <input type="checkbox"/> NO
55	SUPPLIED BY	<input type="checkbox"/> COMPRESSOR MANUFACTURER <input type="checkbox"/>
56	CAPACITY	<input type="checkbox"/> 100% DAY <input type="checkbox"/> 30% DAY <input type="checkbox"/>
57	OIL PIPING MATERIAL	<input type="checkbox"/> STEEL, CLEAN AND PICKLED <input type="checkbox"/>
58		<input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/>
59	DRAIN OIL PIPING MATERIAL	<input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/>
60	OTHER DATA	
61	NOTES:	
62		
63		
64		
65	3	
66	2	AFC    10/10/21    M.N    M.A
67	1	Issue for bidding
68	0	First issue
69	REV.	DESCRIPTION    DATE    BY    APP'D

	<b>Process Data Sheet</b> <b>CENTRIFUGAL COMPRESSOR</b>	DATE October 10, 2021
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PLANT: <b>PE-PP R&amp;T Arak Center</b>	AREA	SHEET 6 OF 6
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1 SERVICE <b>2nd GAS PHASE REACTOR COMPRESSOR</b>	ITEM
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2 TYPE AND MODEL	No. OF UNITS <b>0</b>
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4 LOCATION <input type="checkbox"/> OUTDOOR	<input type="checkbox"/> UNDER ROOF	<input type="checkbox"/> MEZZANINE	<input type="checkbox"/> GROUND FLOOR
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**INSTRUMENT AND PROTECTIONS**

5 INSTRUMENT READ OUT	<input type="checkbox"/> METRIC UNITS	<input type="checkbox"/> ENGLISH UNITS
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6 LOCAL PANEL FOR COMPRESSOR SUPPLIED BY	<input type="checkbox"/> COMPR.MANUF.	<input type="checkbox"/> PURCHASER	<input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> NOT NEEDED
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7 ELECTRICAL AND INSTRUMENT CONNECTIONS SHALL BE BROUGHT OUT TO TERMINAL BOXES BY:

<input type="checkbox"/> COMPR.MANUFACTURER	<input type="checkbox"/> PURCHASER
---	------------------------------------

9 METERS AND INDICATORS	MANUFACTURER	TYPE AND SIZE
10 PRESSURE GAUGES		
11 THERMOMETERS		
12 LEVEL INDICATORS		
13 SIGHT FLOW INDICATORS		
14 TACHOMETERS		
15 PRESSURE SWITCHES		
16 TEMPERATURE SWITCHES		
17 AXIAL DISPLACEMENT INDICATORS		
18 SAFETY AND/OR RELIEF VALVES		
19 POWER INDICATOR & RECORDER		

20 INSTRUMENTS COMPRESSOR MANUFACTURER SHALL SUPPLY AS A MINIMUM

21 PRESSURE GAUGES	LOCAL MOUNTED	PANEL MOUNTED	PROTECTIONS	ALARM	LOCK
22 OIL PUMP DISCHARGE	<input type="checkbox"/>	<input type="checkbox"/>	LUBE OIL LOW PRESSURE	<input type="checkbox"/>	<input type="checkbox"/>
23 LUBE OIL EACH LEVEL	<input type="checkbox"/>	<input type="checkbox"/>	SEAL OIL LOW PRESSURE	<input type="checkbox"/>	<input type="checkbox"/>
24 SEAL OIL EACH LEVEL	<input type="checkbox"/>	<input type="checkbox"/>	RESERVOIR OIL LOW LEVEL	<input type="checkbox"/>	<input type="checkbox"/>
25 DIFFERENTIAL, SEAL OIL	<input type="checkbox"/>	<input type="checkbox"/>	GOV. CONTROL OIL LOW PRESSURE	<input type="checkbox"/>	<input type="checkbox"/>
26 DIFF. BEFORE/AFTER FILTERS	<input type="checkbox"/>	<input type="checkbox"/>	OIL FILTERS DIFF. HIGH PRESSURE	<input type="checkbox"/>	<input type="checkbox"/>
27 GOV. CONTROL OIL	<input type="checkbox"/>	<input type="checkbox"/>	COMPR. DISCHARGE HIGH TEMP.	<input type="checkbox"/>	<input type="checkbox"/>
28 COMPRESSOR DISCHARGE	<input type="checkbox"/>	<input type="checkbox"/>	ROTOR AXIAL POSITION	<input type="checkbox"/>	<input type="checkbox"/>
29 COMPRESSOR SUCTION	<input type="checkbox"/>	<input type="checkbox"/>	STARTING OF AUXILIARY/SPARE PUMPS	<input type="checkbox"/>	<input type="checkbox"/>
30 INTERMEDIATE STAGES	<input type="checkbox"/>	<input type="checkbox"/>	HIGH VIBRATIONS ON EACH BEARING	<input type="checkbox"/>	<input type="checkbox"/>
31			HIGH TEMP. LUBE OIL	<input type="checkbox"/>	<input type="checkbox"/>
32 THERMOMETERS:			HIGH TEMP EACH BEARING	<input type="checkbox"/>	<input type="checkbox"/>
33 OUTLET, EACH BEARING	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
34 OUTLET, EACH SEAL	<input type="checkbox"/>	<input type="checkbox"/>			
35 COOLER INLET/OUTLET	<input type="checkbox"/>	<input type="checkbox"/>			
36 COMPR. SUCTION/DISCHARGE	<input type="checkbox"/>	<input type="checkbox"/>			
37					

<input type="checkbox"/> REMOTE LOCKING	<input type="checkbox"/> ELECTRIC	<input type="checkbox"/> PNEUMATIC	<input type="checkbox"/> HYDRAULIC
---	-----------------------------------	------------------------------------	------------------------------------

39 <input type="checkbox"/> AXIAL POSITION CONTINUOUS INDICATOR
---

40 <input type="checkbox"/> VISUAL FLOW INDICATOR ON EACH OIL OUTLET LINE FOR BEARINGS-SEAL-COULPLINGS
--

41 <input type="checkbox"/> LEVEL GAUGES LUBE
---

42

43

44 TO ACTUATE ALARMS AND LOCKS THE CONTACT WILL:

45 <input type="checkbox"/> OPEN	<input type="checkbox"/> CLOSE TO SOUND ALARM
----------------------------------	---

46 <input type="checkbox"/> OPEN	<input type="checkbox"/> CLOSE TO LOCK
----------------------------------	--

47 ALARM AND LOCK CONTACTS WILL BE SEPARATE AND:

48 <input type="checkbox"/> ONE-POLE DOUBLE-THROW TYPE	<input type="checkbox"/> TWO-POLE DOUBLE-THROW TYPE
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**CONTROL**

51 METHOD	<input type="checkbox"/> SPEED VARIATION	FROM	TO	RPM	ON	<input type="checkbox"/> SUCTION	<input type="checkbox"/> DISCHARGE
-----------	--	------	----	-----	----	----------------------------------	------------------------------------

52	<input type="checkbox"/> BY-PASS	FROM	TO	%	<input type="checkbox"/> AUTOMATIC	<input type="checkbox"/> MANUAL	
----	----------------------------------	------	----	---	------------------------------------	---------------------------------	--

53 CONTROL DEVICE	<input type="checkbox"/> WITH PRESSURE SWITCH	<input type="checkbox"/> WITH THERMOSTAT
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54 SIGNAL FROM	TYPE	RANGE
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55 EFFECT ON VARIATION

56 ANTISURGE CONTROL

57 NOTES:

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REV.	DESCRIPTION	DATE	BY	APP'D
3				
2	AFC	10/10/21	M.N	M.A
1	Issue for bidding			
0	First issue			

PROJECT: PP-PE PILOT PLANT

client:

Title: DATA SHEET FOR 1ST GAS PHASE REACTOR  
CENTRIFUGAL COMPRESSOR (CF-411)



# DATA SHEET FOR 1ST GAS PHASE REACTOR CENTRIFUGAL COMPRESSOR (CF-411)

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	Owner Job No.:	Type: DAS
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PROJECT: PP-PE PILOT PLANT

client:

Title: DATA SHEET FOR 1ST GAS PHASE REACTOR  
CENTRIFUGAL COMPRESSOR (CF-411)



شرکت ملی صنایع پتروشیمی  
شرکت پژوهش و فناوری پتروشیمی

# DATA SHEET FOR 1ST GAS PHASE REACTOR CENTRIFUGAL COMPRESSOR (CF-411)

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PROJECT: PP-PE PILOT PLANT

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