




DEHDASHT PETROCHEMICAL INDUSTRY COMPANY
DEHDASHT HIGH DENSITY POLYETHYLENE PROJECT



Contract No.: DPIC/98-12	DOCUMENT TITLE: Compressor Data Sheet	POI: IFA	Rev.: D0
	DOCUMENT No: DPIC9812-000-VD-1002-ME-DS-0041	Sheet 1 of 7	

Compressor Data Sheet

PURCHASER'S COMMENT/APPROVAL STATUS						Purchaser: NARGAN
1	AP: Approved (Released for Manufacturing)					Requisition No.: DPIC98-12-001-000-ME-MR-4150-0001-D1
<input checked="" type="checkbox"/>	AN: Approved With Minor Comments (Fabrication may Proceed)					
3	NF: Approved With Comments (Fabrication not Proceed)					
4	RJ: Rejected					Item No. (Tag No.): PK-6101
5	NR: Not be Returned					
Date:	<input type="text" value="18.01.2022"/>	Signature:	<input type="text" value="A.AB"/>			Vendor Doc. No.: DPIC9812-000-VD-1002-ME-DS-0041
						
D0	02-Jan-22	IFA	M.R	M.M	A.V	
REV.	DATE ISSUE	Purpose of Issue	PREPARED	CHECKED	APPROVED	



DEHDASHT PETROCHEMICAL INDUSTRY COMPANY
DEHDASHT HIGH DENSITY POLYETHYLENE PROJECT



Contract No.: DPIC/98-12

DOCUMENT TITLE: Compressor Data Sheet

POI: IFA

Rev.: D0

DOCUMENT No: DPIC9812-000-VD-1002-ME-DS-0041

Sheet 2 of 7

TABULATION OF REVISED PAGES

Page	Rev-D0	Rev-D1	Rev-D2	Rev-D3	Rev-D4
1	x				
2	x				
3	x				
4	x				
5	x				
6	x				
7	x				
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					

Page	Rev-D0	Rev-D1	Rev-D2	Rev-D3	Rev-D4
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					
65					
66					
67					
68					
69					
70					



DEHDASHT PETROCHEMICAL INDUSTRY COMPANY
DEHDASHT HIGH DENSITY POLYETHYLENE PROJECT



Contract No.: DPIC/98-12

DOCUMENT TITLE: Compressor Data Sheet

POI: IFA

Rev.: D0

DOCUMENT NO.

Compressor shall be designed for refrigeration cycle with design duty 1750KW.

Sheet 3 of 7

VENDOR

S--1-00102

DESCRIPTION

**ROTARY-TYPE POSITIVE DISPLACEMENT
COMPRESSOR (API 619-3rd) DATA SHEET
SI UNITS**

BU	M	ME	12/27/2021	FOR REFERENCE

1 APPLICABLE TO: PROPOSAL PURCHASE AS BUILT PO. No.: TBA

2 FOR DEHDASHT PETROCHEMICAL COMPANY UNIT: Oil Flooded Screw Compressor

3 SITE DEHDASHT ITEM NO. P-PK6101-1A/B,2A/B SERIAL NO.:

4 SERVICE PROPYLENE REFRIGERATION PACKAGE NO. REQUIRED: 1 per System Total: 2

5 MANUFACTURER KASRAVAND MODEL 320LUD-M DRIVER: MOTOR

6 NOTE:

OPERATING CONDITIONS

There is discrepancy on flowrate between PFD and Data sheet.

TOTAL (3.1.24 & 4.1.3)	(4.1.4)	OTHER CONDITIONS			
		A	B	C	D
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUCTION	ECON	DISCH			
PPN	PPN	PPN			
21,030.0	297.1				
2.35	8.051				
-25.0	11.09				
42.08	42.08				
1.2228	1.2938				
0.9419	0.8513				
4,127	414.7				
			20.0		
			80.5		
			1.2963		
			0.7975		
			780.4		
			1,160		
			2,950		
			8.50		

Based on Project data sheet which is attached to MR, CONTROL SHALL BE ARRANGED ON THE SET-POINT VALUE OF THE COLD HEXANE TEMPERATURE.

(ALL DATA ON PER...)
ALL DATA ARE FOR EACH C...

12 GAS HANDLED (ALSO SEE PAG...)

13 FLOWRATE (1 ATM & 15°C) /hr

14 WEIGHT FLOW (WET)

15 **INLET CONDITIONS:**

16 PRESSURE NOTE 1 BarA

17 TEMPERATURE NOTE 1 °C

18 RELATIVE HUMIDITY %

19 MOLECULAR WEIGHT M

20 Cp/Cv (K1) OR (KAVG)

21 COMPRESSIBILITY (Z₁) OR (Z_{AVG})

22 INLET VOLUME Am³/hr

23 **DISCHARGE CONDITIONS:**

24 PRESSURE

25 TEMPERATURE

26 Cp/Cv (K2) OR (KAVG)

27 COMPRESSIBILITY (Z₂) OR (Z_{AVG})

28 WEIGHT FLOW (WET)

29 B-POWER REQUIRED (ALL LOSSES IN)

30 SPEED

31 PRESSURE RATIO (R)

32 VOLUMETRIC EFFICIENCY (%) (2ND /

33 ADIABATIC EFFICIENCY (%)

34

35 PERFORMANCE CURVE NO.

36

37 **PROCESS CONTROL:** (5.4.2.1)

38 METHOD: BYPASS FROM DISCHARGE KNOCKOUT DRUM TO SUCTION SCRUBBER

39 BYPASS: MANUAL AUTO VIA DCS

40 SPEED VARIATION FROM TO

41 OTHER SLIDE VALVE 30% to 100% (NORMAL), 0% to 40% EXTERNAL RECYCLE VALVE

42 SIGNAL: SOURCE COMPRESSOR SUCTION PRESSURE

43 TYPE 4-20 mA

44 RANGE: FOR PNEUMATIC CONTROL RPM @ PSIG & RPM @ PSIG

45 OTHER (kPa)

46 SERVICE: SPECIAL PURPOSE (3.1.37) GENERAL PURPOSE (3.1.9)

47 CONTINUOUS INTERMITTENT STANDBY (3.1.39) DRY (3.1.6) FLOODED SCREW (3.1.7) SEPARATOR (4.10.5.8)

48 **REMARKS:** 1 SETTLING PRESSURE IS ABOUT 18.0 BarA IF THE GAS WAS TO REMAIN IN THE SYSTEM IF BLOWDOWN VALVE IS MALFUNCTIONING.

49 2 DATA SHOWN ARE AT COMPRESSOR FLANGES. FOR PACKAGE DATA REFER TO PFD

50

51

52

53

This document is the property of DPIC. Any unauthorized attempt to reproduce it, in any form, is strictly prohibited.



DEHDASHT PETROCHEMICAL INDUSTRY COMPANY
DEHDASHT HIGH DENSITY POLYETHYLENE PROJECT



Contract No.: DPIC/98-12

DOCUMENT TITLE: Compressor Data Sheet
 DOCUMENT No: DPIC9812-000-VD-1002-ME-DS-0041

POI: IFA Rev.: D0
 Sheet 4 of 7

VENDOR

VENDOR DOC.:

S--1-00102

**ROTARY-TYPE POSITIVE DISPLACEMENT
 COMPRESSOR (API 619-3rd) DATA SHEET
 SI UNITS**

NO.	BY	APP	DATE	DESCRIPTION
B0	M	ME	12/27/2021	FOR REFERENCE

1	GAS ANALYSIS		NOR- MAL	RAT- ED	OTHER CONDITIONS				REMARKS
	⊗ MOL %	○			A	B	C	D	
2		M.W.							
3									
4	AIR	28.966	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	FOR GAS COMPOSITION REFER TO VENDOR
5	OXYGEN	32.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	PFD
6	NITROGEN	28.016	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
7	WATER VAPOR	18.016	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
8	CARBON MONOXIDE	28.010	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
9	CARBON DIOXIDE	44.010	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
10	HYDROGEN SULFIDE	34.076	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
11	HYDROGEN	2.016	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
12	METHANE	16.042	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
13	ETHYLENE	28.052	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
14	ETHANE	30.068	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
15	PROPYLENE	42.078	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
16	PROPANE	44.094	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
17	I-BUTANE	58.120	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
18	n-BUTANE	58.120	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
19	I-PENTANE	72.146	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
20	n-PENTANE	72.146	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
21	n-HEXANE	86.178	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
22	n-HEPTANE	100.205	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
23	n-OCTANE	114.232	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
24	n-NONANE	128.259	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
25	CYCLOPENTANE	70.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
26	CYCLOHEXANE	84.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
27	R134a	102.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
28	TOTAL		100%	0%	0%	0%	0%	0%	
29	AVG. MOL. WT.		42.08	0.00	0.00	0.00	0.00	0.00	

30 LOCATION:
 31 INDOOR HEATED UNDER ROOF
 32 OUTDOOR UNHEATED PARTIAL SIDES
 33 GRADE MEZZANINE
 34 ELECTRICAL AREA CLASS 1 GR IIA ZONE 2 / T3
 35 WINTERIZATION REQ'D. TROPICALIZATION REQ'D.
36 SITE DATA:
 37 ELEVATION 80 m BAROMETER 1.01 kg/cm2
 38 RANGE OF AMBIENT TEMPS.:
 39 DRY BULB WET BULB
 40 SITE RATED °C 46
 41 NORMAL °C 31.9
 42 MAXIMUM °C 46
 43 MINIMUM °C 1
44 UNUSUAL CONDITIONS:
 45 OTHER DUST
 46 Oil & Gas Plant
 47
 48
 49
50 REMARKS:
 51

NOISE SPECIFICATIONS:
 APPLICABLE TO MACHINE 85 dBA + 0 @ 1.0 m
 SEE SPECIFICATION
 APPLICABLE TO NEIGHBORHOOD
 SEE SPECIFICATION
 ACOUSTIC HOUSING/Blanket: YES NO
 SOUND LEVEL 85 dB @ 1 m dB RE: 0.0002 MICROBAR
 None
APPLICABLE SPECIFICATIONS: API 619
 MYCOM STANDARD
NOISE without Enclosure:

PAINTING: MANUFACTURER'S STD. OTHERS
 PRIMER Epoxy Phenolic Primer (AMERCOAT 90HS)
 INTERMEDIATE N/A
 FINAL Epoxy Phenolic Primer (AMERCOAT 90HS),
SHIPMENT:
 DOMESTIC EXPORT PACKING BOXING REQ'D
 STORAGE FOR _____ MONTHS
 PROVIDE N2 PURGE EQUIPMENT DURING SHIPMENT

This document is the property of DPIC. Any unauthorized attempt to reproduce it, in any form, is strictly prohibited.



DEHDASHT PETROCHEMICAL INDUSTRY COMPANY
DEHDASHT HIGH DENSITY POLYETHYLENE PROJECT



Contract No.: DPIC/98-12

DOCUMENT TITLE: Compressor Data Sheet
 DOCUMENT No: DPIC9812-000-VD-1002-ME-DS-0041

POI: IFA Rev.: D0
 Sheet 5 of 7

VENDOR

VENDOR DOC.:

S--1-00102

NO.	BY	APP	DATE	DESCRIPTION
B0	M	ME	12/27/2021	FOR REFERENCE

**ROTARY-TYPE POSITIVE DISPLACEMENT
 COMPRESSOR (API 619-3rd) DATA SHEET
 SI UNITS**

1 **SPEEDS:**

2 MAX. CONT. 3,780 RPM TRIP 3,816 RPM

3 MIN. TIP SPEEDS: 49.4 m/s @ RATED SPEED

4 MAX. TIP SPEEDS: 63.3 m/s @ MAX. CONT. SPEED

5 **LATERAL CRITICAL SPEEDS:**

6 FIRST CRITICAL 18,200 RPM

7 DAMPED No UNDAMPED Yes

8 MODE SHAPE

9 LATERAL CRITICAL SPEED - BASIS:

10 DAMPED UNBALANCE RESPONSE ANALYSIS

11 SHOP TEST

12 OTHER TYPE ANALYSIS: VENDOR In-House Test

13 Note1 please specify

14 **TORSIONAL CRITICAL SPEEDS:**

15 FIRST CRITICAL TBA RPM

16 SECOND CRITICAL --- RPM

17 THIRD CRITICAL --- RPM

18 **VIBRATION:** AS PER VENDOR EXCEPTION TO API-619

19 ALLOWABLE LEVEL 15.8 mm/sec TEST

20 (PEAK TO PEAK) 25.5 mm/sec SITE

21 **DISPLACEMENT (micro-m)** 40 TEST 63 SITE

22 **ROTATION, VIEWED FROM DRIVEN END:** CCW

23 **CASING:**

24 MODEL 320LUD-M

25 CASING SPLIT Radial (vertical)

26 MATERIAL LT Cast Steel (weldable), JIS G5152, SCPL1 Note2

27 OPERATION: DRY FLOODED, w/ Oil LIQUID

28 THICKNESS (mm) 20 CORR. ALLOW ("") None

29 MAX. WORK PRESS. CASING 27.6 SYSTEM 22.3 BarG

30 RELIEF VALVE SETTING 23.2 BarG N/A (On Separator)

31 MARGIN FOR ACCUMULATION N/A BarG

32 TEST PRESS. BarG AIR 27.6 HYDRO 41.4

33 MAX. ALLOW. TEMP. 88.6 °C MIN. OPER. TEMP. -42.8 °C

34 MAX. CASING CAPACITY (Inlet m3/h) 4,703

35 RADIOGRAPH QUALITY YES NO

36 **ROTORS:**

37 DIAMETER (mm): 321.30

38 NO. LOBES: MALE 4 FEMALE 6

39 TYPE: Unsymmetric

40 TYPE FABRICATION Milled from a Solid Material

41 MATERIAL Cr-Mo Steel Forging JIS G3221, SFCM 590S Note3

42 MAX. YIELD STRENGTH (N/mm2) > 360

43 BRINELL HARDNESS. MAX. MIN. 170

44 ROTOR LENGTH TO DIAMETER RATIO (L/D) 1.650

45 ROTOR CLEARANCE (mm) Not Applicable to Oil Flooded Screw

46 MAX. DEFLECTION (mm) 9.50E-02

47 MAX. MACHINE MACH NO. @ LOBES

48 INTERNALLY COOLED N/A UNCOOLED N/A

SHAFT: The Shaft is Integral with the Rotor (One Piece)

MATERIAL Same as Rotor

DIA @ ROTORS (mm) N/A DIA @ COUPLING (mm) 85.00

SHAFT END. TAPERED CYLINDRICAL

With Key

SHAFT SLEEVES: This Section is Not Applicable

AT SHAFT SEALS MATL.

TIMING GEARS: This Section is Not Applicable

SIZE (mm) TYPE

MATERIAL

SHAFT SEALS:

TYPE Dual

SEAL SYSTEM TYPE Oil Flooded Mechanical

INNER OIL LEAKAGE GUAR. (GAL/DAY/SEAL)

TYPE BUFFER GAS

NORMAL: m³/min @ kg/cm2

MAX.: m³/min @ kg/cm2

BEARING HOUSING CONSTRUCTION:

TYPE (SEPARATE), (INTEGRAL) Integral SPLIT Axial

MATERIAL Same as Casing

RADIAL BEARINGS: (Main Bearing / Side Bearing)

TYPE Journal (Sleeve Type) SPAN (mm) 172 / 108

AREA (cm²) 241 / 151 LOAD (kgf/cm2): ACT. ALLOW.

CENTER PIVOT N/A OFFSET PIVOT N/A

% OFFSET FROM LEADING EDGE N/A

NO. PADS N/A ROTOR ON OR BETWEEN PADS

PAD MATERIAL C. S. (JIS G 3445, STKM13A) Eq: ASTM A519 No.1020

THICKNESS 1.0 (mm)

TYPE BABBITT Tin (JIS H 5401, WJ-2) Eq to: ASTM B 23 No. 3

THRUST BEARING: Male Side / Female Side

LOCATION At the driven end TYPE Tilting Pad

MFR. ORION AREA (mm²) M/F 12,600 / 12,600

LOAD (kg/cm2): M/F ALL. 13.0 / 13.0 ALLOW. 13.0 / 13.0

GAS LOADING (N) CPLG. SLIP LOAD (N)

CPLG. COEFF. FRICT. CPLG. GEAR PITCH DIA. (mm)

BAL. PISTON COMPENSATING LOAD kgf

CENTER PIVOT Yes OFFSET PIVOT

% OFFSET FROM LEADING EDGE

NUMBER OF PADS M/F: 10 & 10

PAD MATERIAL

TYPE BABBITT THICKNESS 1.52E+00 (mm)

49 REMARKS: Note 1: Lateral analysis is based on previous experience with same model

50 Note 2: Equal to ASTM A 352, LCB

51 Note 3: Equal to ASTM A 668 Class G

52

This document is the property of DPIC. Any unauthorized attempt to reproduce it, in any form, is strictly prohibited.

