



Exploration & Production

GENERAL SPECIFICATION

ROTATING MACHINERY

DS MEC 272

Centrifugal pump data sheet

01	08/03	Change of Group name and logo
00	11/01	First issue
Rev.	Date	Notes



Exploration & Production

General Specification

Date: 08/03

DS MEC 272

Rev: 01

Data sheet

CUSTOMER :		ITEM :		SPECIF.	
LOCATION :		Nbr. of units:			
JOB N° :		UNIT :		Page : /	
1 APPLICABLE TO ☐ PROPOSAL ☐ PURCHASE ☐ AS-BUILT					
2 Manufacturer :		2 Manufacturing plant :			
3 Size & Type :		3 Functional design : ☐ Package ☐ Unit			
4 Service :		4 ☐ Continuous ☐ Intermittent ☐ Standby			
5 Driver type :		5 ISO classification ☐ A ☐ B ☐ C ☒ D			
6 RATED OPERATING CONDITIONS / PERFORMANCE				6 APPLICABLE SPECIFICATIONS	
7 Pumped liquid : ☐ Corrosive / Erosive agent : ☐ Flammable ☐ Hazardous				7 ☐ API std 610 ☐ API std 682	
8 ☐ H2S concentration: Ppm				8 ☐ API std 614 ☐	
9 Pumping temperature: (°C) Mini: Maxi: Rated :				9 ☐	
10 Relative density (specific gravity): Mini: Maxi:				10 ☐	
11 Vapor pressure: bar A at °C Viscosity: cP at °C / Maxi: cP					
12 Operating conditions : Mini Normal Rated				12 INSTALLATION DATA	
13 Flow capacity m3/h				13 See specification :	
14 Suction pressure bar g				14 Altitude : m Barometer : mbar	
15 Discharge pressure (1) bar g				15 Ambient temperature: Mean value : °C	
16 Differential pressure (1) bar				16 Mini : Maxi : Design : °C	
17 Differential head (1) m				17 Humidity at design temperature : %	
18 Bowl different'l head (2) m				18 Wind speed : m/s	
19 Pump efficiency %				19 Atmospheric air	
20 Bowl efficiency (2) %				20 Dust > 10 µ g/m3	
21 Pump absorbed power kW				21 < 10 µ g/m3	
22 NPSH Available/ Required (3) m / / /				22 Corrosion by :	
23 ☐ Proposal curve: ☐ N'ber of stage: ☐ Speed : RPM					
24 ☐ Allowable operating range : to m				24 Installation: ☐ Indoor ☐ Off shore	
25 ☐ Minimum continuous flow : ☐ Thermal : m3/h ☐ Stable : m3/h				25 ☐ Heated ☐ Outdoor ☐ Under roof	
26 ☐ With selected impeller : ☐ Shut off head: m ☐ Maxi head: m				26 ☐ Winterise ☐ Tropicalisation	
27 ☐ Maxi power with selected impeller: kw ☐ Suction specific speed : m/s				27 Area classification : ☐ Safe ☐ Hazardous	
28 ☐ Impeller diameter : Rated : mm Maxi : mm Mini : mm				28 Group of explosion : ☐ II A ☐ II B	
29 ☐ Driver minimum power requirements : kW / RPM				29 Auto ignition temperature: ☐ T3 ☐ °C	
30					
31 SHOP TEST / INSPECTION				31 Starting : ☐ Local ☐ Remote	
32 ☒ Shop inspection ☐ by control agency				32 ☐ Automatic (valves full open) ☐ Manual	
33 ☒ Tests :				33	
34 Manufacturer standard shop tests				34 ☐ AVAILABLE UTILITIES	
35 Actual running clearances check & records				35 Cooling water :	
36 Hydrostatic test with: ☐ Water ☐ Petrol				36 Pressure bar g	
37 Water jacket hydrostatic test				37 Allowable dP bar	
38 Performance test (6 points) with				38 Temperature °C	
39 ☐ Shop driver ☐ Job driver				39 Allowable dT °C	
40 ☐ Full length ☐ Reduced length				40 Steam :	
41 NPSH test: ☐ Rated point only				41 Pressure bar g	
42 ☐ Curve (5 points) ☐ Deaerated water				42 Temperature °C	
43 Mechanical 4 hour run test (with job driver) ☐				43 Instrument air :	
44 Dismantling after test				44 Pressure mini bar g	
45 Lube oil console operational & 4 hour run test				45 Pressure maxi bar g	
46 Auxiliary equipments operationel & run test				46 Temperature °C	
47				47 Dew point °C	
48 ACCESSORIES BY MANUFACTURER (M) OR OTHER (O)				48 Electricity :	
49				49	
50 Base plate ☐ with drip rim				50 AC/DC Volts Phase / Hertz	
51 Stainless steel shim				51	
52 Levelling pads				52	
53 Anchor bolts				53	
54 Driver				54 Control	
55 Gear				55 PAINTING	
56 Coupling(s)				56 ☐ Supplier stand'd ☐ Standard	
57 Coupling guard(s)				57 ☐ Other ☐ Sea boxing	
58 Lube oil unit				58 ☐ Special ☐ Outdoor storage	
59 Notes: Information to be completed : ☐ By purchaser ☐ By manufacturer ☐ Either by purchaser or manufacturer					
60 (1) At discharge flange (2) Vertical pump only (3) At suction flange					
61					
62					
63					
64					
65					
66					
67					
68 DESIGNATION Date By Appr Rev DESIGNATION Date By Appr Rev					



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LOCATION :		Nbr. of units:			
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1 CONSTRUCTION					
2 Casing mounting : ☐ Centerline ☐ Near centerline ☐ Foot ☐ In line		Material : ☐ API class :			
3 ☐ Vertical ☐ w/mounting plate ☐ Vertical barrel ☐ w/separate mounting plate		☐ AFNOR ☐ ASTM ☐ Hardened			
4 Casing split : ☐ Axial split ☐ Radial split					
5 Casing type : ☐ Single volute ☐ Multiple volute ☐ Diffuser		Casing			
6 Casing pressure rating : ☐ Maxi allowable working pressure : bar g at °C		Inner case parts			
7 ☒ Suction press. regions must be designed for Maxi Allowable Working Presuure		Impeller			
8 ☒ Hydrotest pressure = 1.5 x MAWP ☐ Test pressure : bar g		Case wear rings ☐			
9 Impeller(s) : ☐ Overhung ☐ Between bearings ☐ Barrel		Impeller wear rings ☐			
10 Type : ☐ Closed ☐ Open ☐ Semi open ☐ Individually secured		Shaft			
11 Shaft : ☐ Ø at coupling : mm ☐ Ø between bearing : mm		Shaft sleeve(s) ☐			
12 Span between : ☐ Bearing center: mm ☐ Bearing & impeller: mm		Throat bushing ☐			
13 Direction of rotation (viewed from drive end) : ☐ CW ☐ CCW		Interstage sleeves ☐			
14 Bearing (type / number) : ☐ Radial : ☐ Thrust :		Interstage bushings ☐			
15 ☐ Review and approve thrust bearing size (§ 5.2.5.2.4)		Seal gland			
16 Lubrication : ☐ Grease ☐ Oil ring ☐ Flinger ☐ Flood ☐ Purge oil mist		Discharge head			
17 ☐ Pure oil mist ☐ Constant level oiler preference (see remarks) (§ 2.9.2.2)		Suction can			
18 ☐ Pressure lube system (§ 5.2.6.5) ☐ API - 610 ☐ API - 614		Bearing case			
19 ☐ Oil viscosity ISO grade :		Base plate			
20					
21 Shaft sealing : ☐ Packing ☐ Size : ☐ N'ber of ring : ☐ Injection required ☐ Flow : m3/h					
22 ☐ Mechanical seal ☐ API 610 Seal code : ☐ Manufacturer :		Type and size :			
23 ☐ Auxiliary seal device ☐ Cland taps : ☐ Flush ☐ Drain ☐ Quench ☐ Heating ☐ Cooling					
24 Seal flush piping : ☐ Api flush plan(s) : ☐ Tubing ☐ Pipe ☐ Carbon steel ☐ Stainless steel					
25 ☐ Piping assembly ☐ Threaded+seal welding ☐ Socket welded ☐ Unions ☐ Flanged ☐ Tube type fittings					
26 ☐ Pressure switch ☐ Pressure gauge ☐ Thermometer ☐ Level switch ☐ Level gauge ☐ Air heat exchanger					
27					
28 Cooling water and steam piping : ☐ Cooling water piping plan: ☐ Flow indicator ☐ With flange at limit of supply					
29 ☐ Cooling water requirements : m3/h ☐ Steam piping plan: ☐ Tubing ☐ Pipe ☐ CS ☐ S Steel					
30 ☐ Piping assembly ☐ Threaded+seal welding ☐ Socket welded ☐ Unions ☐ Flanged ☐ Tube type fittings					
31					
32 CASING CONNECTIONS					
33 Connections		Ø (inch)	ANSI class	Facing	Position
34 ☐ Suction nozzle					Connection on nozzles
35 ☐ Discharge nozzle					☐ Pressure gauge with: ☐ Plug ☐ Valve
36 ☐ Casing drain(s) ☐ Ø (inch): ☐ Number: ☐ with valve(s) ☐ With flange at limit of supply					☐ Pressure gauge with: ☐ Plug ☐ Valve
37 ☐ Casing vent(s) ☐ Ø (inch): ☐ Number: ☐ with valve(s) ☐ With flange at limit of supply					
38					
39 BASEPLATE ☐ Heavy duty API base ☐ Non-grouting construction ☒ Full penetration welds ☐ Stiffness test (§ 3.3.6)					
40					
41 COUPLING(s)		SPECIAL CASE for VERTICAL PUMPS			
42 ☐ Manufacturer : ☐ Type & size:		Type ☐ With can ☐ Without can			
43 ☐ Spacer length : mm ☐ Limited end float required		☐ Number of shaft section :			
44 ☐ Service factor : ☐ Coupling rating : kW/rpm		☐ Number of Bearings:			
45		☒ Thrust bearing on pump			
46 ELECTRICAL MOTOR DRIVER		☐ Thrust bearing on driver			
47 ☐ Manufacturer : ☐ Type & size:		☐ Thrust bearing lubrication :			
48 ☐ Nominal power : kw ☐ Service factor :		☐ Grease ☐ Oil			
49 ☐ Enclosure : ☐ Separate data sheet		☐ Radial bearing lubrication :			
50 ☐ Volts/ Phase/ Hertz : ☐ Direct On Line starting		☐ Pumped fluid			
51		☐ Grease ☐ Oil			
52 WEIGHT AND DIMENSIONS		☐ Normal thrust load :			
53 Item		Weight kg	Dimensions:LxWxH m		
54 ☐ Pump			☐ Up ☐ Down		
55 ☐ Driver			☐ Force : daN		
56 ☐ Base			☐ Thrust load at minimum flow :		
57 ☐ Accessories			☐ Up ☐ Down		
58 ☐ Total			☐ Force : daN		
59 ☐ Largest item			☐ Mini fluid level (@): mm		
60 ☐ Total shipping			☐ Minimum submergence :		
61			☐ (#) on sketch : mm		
62 Notes:					
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DESIGNATION		Date	By	Appr	Rev
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