

MECHANICAL HANDBOOK  
SECTION 4.4.

DATA SHEET N° 1645-055-1

Humphreys and Glasgow, Ltd. London, S.W.1.				CENTRIFUGAL PUMP				Item No. P1854A/B			
Contract C1645 VARNA				Sheet 32 of 3 Sheets							
Main Item No. Q1851				Plant G30 MTD AMMONIA							
Total No. TWC Working: ONE Standby: ONE				Location VARNA, BULGARIA							
1 Service CONDENSATE EXTRACTION PUMPS				No. Pumps: Motor Drive-TWO Engine/Turbine Drive:							
2 Fluid CONDENSATE											
3 Analysis/Solids Content				Pumping Temperature				Max.		Min.	
4 DUTY (each pump)				Units		Normal		Rated		Specific Gravity	
5 Capacity				M <sup>3</sup> /h		28				Max.	
6 Discharge Pressure				Kg/CM <sup>2</sup>		6				Viscosity, centipoises	
7 Suction Pressure				Kg/CM <sup>2</sup>		0				Vapour Pressure	
8 Differential Pressure				Kg/CM <sup>2</sup>		6				Shut-off Head	
9 Total Head at S.G. M						60				61 M	
10 Hydraulic Horsepower				KW		4.6				Maximum Pump Head (MAX DIA IN <sup>2</sup> )	
11 Efficiency				%		50				75 M	
12 Power Absorbed				KW		9.2				Maximum End-of-Curve Power	
13 NPSH available						1.5				15 KW	
14 Vertical Pump-Suction Nozzle distance to Support Plate										Recommended Driver Power	
15 SPECIFICATION										12 KW	
16 Manufacturer: NUOVO PIGNONE Speed 2950 RPM										DRIVE: Direct Coupled/Thru Gearbox/V-Belt	
17 Size & Type: H-3-S-TC No. of Stages: 1										MOTOR: 16 KW VOLTS 3 PHASE 50 CYCLES	
18 Rotation: CLOCKWISE/ANTI-CLOCKWISE looking on coupling										Make ALSTHOM Supplied by Vendor/Purchaser	
19 from Driver end.										Driver mounted Above/below Pump.	
20 MATERIALS										ENGINE/TURBINE: H.P. Supplied by Vendor/Purchaser	
21 Casing CAST IRON										Make Type Size	
22 Impeller CAST IRON										Driver mounted Above/below Pump	
23 Impeller Wear Ring CAST IRON										GEARBOX: Supplied by Vendor/Purchaser/With Driver	
24 Casing Wear Ring CAST IRON										Input/Output Speeds / RPM	
25 Lantern Ring AISI 304 X502N187										Makes Type Effcy. %	
26 Neck Bush										COUPLINGS: Make: NUOVO PIGNONE Type & Size:	
27 Shaft Sleeve AISI 316 X502N/A, 1810										Pump Thrust on Driver Bearings: NONE	
28 Shaft SAE 4140										TEMPERATURE: Source CLOSED COOLING TOWER CIRC	
29 Balance Piston										Temperature: Normal: - Maximum: 25°C	
30 NOTE: NO COPPER OR COPPER ALLOYS PERMITTED										Pressure: Normal: 5 Kg/CM <sup>2</sup> Maximum: 7 Kg/CM <sup>2</sup>	
31										Quantity per Pump: - M <sup>3</sup> /h Temp. Rise: - °C	
32										For Bearings, Pedestals Packing Box, Driver, Oil Cooler	
33 BEARINGS: Type: Radial: BALL Thrust: BALL										FLUSHING FLUID: Type: -	
34 Lubrication: Oil, Grease, Constant Level Oil.										Quantity: - Pressure: - Temp: -	
35 Force Feed, Fluid pumped.										Thrust Balance connection to Suction Nozzle	
36 SHAFT: Horizontal/Vertical, CASING SPLIT: Axially/Radially										Suction source: Suction line From Suction Nozzle	
37 CASING SUPPORT: Foot, Centre Line, Driver, Piping,											
38 SUCTION: Flange Size: 4" Rating ND16 *										Recirculation Flow thru Orifice/Valve in Purchaser's	
39 End, Side, Top, Bottom										bypass: Yes/No Quantity:	
40 DISCHARGE: Flange Size: 3" Rating ND10 *											
41 End, Side, Top, Bottom										Vendor/Driver Manufacturer to fit Driver half-coupling	
42 IMPELLER Diameter: 206.5 MM Max Possible: 232										Vendor/Purchaser to mount Driver on Bedplate	
43 Specific Speed:										Vendor/Purchaser to supply Foundation Bolts	
44 Clearance: Wear Ring, API Neck Bush:										WEIGHTS: Pump and Bedplate + MOTOR = 607 Kg.	
45 PACKING/MECHANICAL SEAL:										Driver Maintenance Lift	
46 Make CRANE Type SSG Size										Driver Drg.No. 160-4170	
47 Arrangement										Arrangement Drg.No. 5A0-03166/3	
48 Materials: Seal: - Seat: -										Performance Curve No. 387/65-1	
49 Screwed Conns: API/BSP											
50 SPECIFICATIONS: Pump: GS P1-1 Rev. Protection: SM Y1-1 Rev.											
DRPD BY		RJP RJP								Remarks: VENDOR TO SUPPLY DETAILS MARKING TO	
CHKD BY										2) VENDOR TO ROUGH BORE MOTOR HALF COUPLING & SEND TO MOTOR SUPPLIER FOR FINISH BORE & FITTING TO MOTOR SHAFT.	
APVD BY										Ambient Conditions: SEE SHEET 2.	
DATE		16.9.68 22.9.69									
ISSUE		ORIG		REV.1		REV.2		REV.3			

\* RASB FACE TO DIN 2533 GASKET FACE TO RANGE 1 DIN 3141