

Data Sheet for Standby generator for refurbishment of existing Pump Station PS34

SECTION 13: SCHEDULES OF INFORMATION TO BE COMPLETED BY THE TENDERER

1. TECHNICAL DECLARATIONS FOR SPECIFICATION AND DESIGN

(Extract from SANS 8528 Part 7)

Tenderers shall fill in under Column M for all items unless N/A has been inserted by the Engineer.

No	Term	Item	Reference	C	M
4.1	Basic data	Power demand		200 kVA	
		Power factor		From 0.8 to 0.89	N/A
		Rated frequency		50 Hz	
		Rated voltage		400 V	
		Type of system earthing	SANS 10142	TNS	
		Profile of the connected electrical load	9.1 of SANS 8528-5		N/A
		Required steady-state frequency and voltage behaviour	16 of SANS 8525-5	Class G2	
		Required transient frequency behaviour	16 of SANS 8525-5	Class G2	
		Type of fuel available	12 of SANS 8528-2	Refer South African Suppliers	
		Starting	15.1 of SANS 8528-5 and C.3.11 of SANS 8525-7	Electrical	
		Cooling and room ventilation	15.6 of SANS 8525-5		N/A

No	Term	Item	Reference	C	M
4.2	Engine	Speed	6.2 of SANS 8525-2		
		Fuel specification	12 of SANS 8525-2	Diesel: Refer South African Suppliers	
		Nature and type of speed governor	6.3 of SANS 8525-2		
		Nature of engine cooling		Water cooled	
		Required operating time without refuelling	15.3 of SANS 8525-2		N/A
		Required engine instrumentation	7.4 of SANS 8525-4	a,b,c,d,e,h	
		Required protection system	7.3 of SANS 8525-4	Over current, underspeed, control circuit protection	
		Fuel consumption	14.5 of SANS 8525-1		
		Starting system and ability	11 of SANS 8528-2	Refer Part 4 Clause 18.14 above.	
		Heat balance	9 of SANS 8525-2		
		Air consumption			

No	Term	Item	Reference	C	M
4.3	Generator	Nature and type of excitation and voltage regulation	14.7.2 of SANS 8528-1 a and 12 of SANS 8525-3nd 8	Class G2	
		Required mechanical protection	IEC 34-5	IP 22	
		Required electrical protection	7.3 of SANS 8525-4	Over current, underspeed, control circuit protection	
		Nature of generator cooling	IEC 34-5	Air	
		Heat balance	9 of SANS 8525-3		
		Unsymmetrical load (unbalanced load current)	10.2 of SANS 8525-3	As given in Clause 10.2	
		Construction and mounting arrangement	IEC 34-7	Refer Clause 18.13 of Part 4 above.	
		Grade of telephone and radio interference suppression	10.5 and 10.6 of SANS 8528-3	As given in Clauses 10.5 & 10.6.	
4.4	Mode of operation	Continuous	6.1 of SANS 8525-1	No	N/A
		Limited time operation (emergency generating set, peak load generating set)		As 6.1.5	N/A
		Expected operating hours per year		150	N/A
4.5	Power rating classification	Continuous power	13.3 of SANS 8525-1		
		Prime power			
		Limited-time running power			

No	Term	Item	Reference	C	M
4.6	Site criteria	Land use	6.2.1 of SANS 8525-1	Yes	N/A
		Marine use	6.2.2 and 11.5 of SANS 8525-1	No	N/A
4.7	Performance class		7 of SANS 8525-1	G2	
4.8	Single and parallel operation	Parallel operation with other generating sets	6.3 of SANS 8525-1	No	N/A
		Parallel operation with mains		No	N/A
		Type and execution of synchronising		N/A	N/A
4.9	Mode of start-up and control	Manual	6.4 of SANS 8525-1 and 6 of SANS 8525-4	No	N/A
		Automatic		Refer Clause 18.4 of Part 4 above.	N/A
		Semi-automatic		No	N/A
		Additional control device proposed by the generating set manufacturer			
4.10	Start-up time	Generator set with no specified start-up time	6.5 of SANS 8525-1	No	
		Long-break set		Yes. Refer Clause 18.4 of Part 4 above.	
		Short-break set		No	
		No-break set		No	
4.11	Installation features	Installation configuration	8.2 of SANS 8525-1	Fixed	
		Set configuration	8.3 of SANS 8525-1	Base frame Type C	
		Type of mounting	8.4 of SANS 8525-1	Rigid	
		Weather effects	8.6 of SANS 8525-1	Outdoor	
4.12	Site conditions	Ambient temperature	11 of SANS 8528-1	31°C	
		Altitude		1260 m above sea level	
		Humidity		55%	
		Sand and dust		No	
		Marine		No	
		Shock and vibration		N/A	
		Chemical pollution		No	
		Type of radiation		No	
		Cooling water/liquid		N/A	

No	Term	Item	Reference	C	M
4.13	Emissions	Noise limitation	9 of SANS 8528-1		
		Exhaust gas limitations			
		Vibrations			
		National legislation		RSA	
4.14	Test methods	Standard	4 of SANS 8528-6	Yes	
		Special requirements		No	
4.15	Maintenance intervals	Routine (e.g. oil changes)		3 monthly	
		Mechanical (e.g. filters)			
		Electrical (e.g. controls)			
		Service life to major overhaul			
4.16	Auxiliaries	Power consumption of the auxiliary devices (e.g. fan, compressor)			
		Pre-heating			
		Pre-lubricating			
		Auxiliary and starting battery			
4.17	Controlgear and switchgear	Rated current capacity	4.5 of SANS 8528-4	300 A	
		Neutral earth scheme	7.3.7 of SANS 8528-4	N/A	
		Fault-current rating	5.3 of SANS 8528-4	20 kA at changeover	
		Nature of protection device	7.3 of SANS 8528-4	Circuit breaker	
		Nominal operating voltage for control circuit.	4.6 of SANS 8528-4	48 V	

No	Term	Item	Reference	C	M
4.18	Factors affecting generating set's performance	With respect to power	9.2 of SANS 8528-5 and 14.2 of SANS 8528-1	Automatic starting of motors	
		With respect to frequency and voltage	9.2 of SANS 8528-5 and 14.2 of SANS 8528-1	Automatic starting of motors	
4.18	Other regulations and requirements		3 of SANS 8528-7	N/A	