


Technical Data Sheet for AvK-Alternators
FM 7.3-5

Date:	24/07/19	Customer:	GENERIC DATASHEET only
Project No.:		AvK Reference:	DIG130k_6_60_4160

Object data:	
Site:	Prime Mover:
Application: Stationary Power Plant	Manufacturer:

Generator data:					
Generator:	DIG 130 k/6	Poles:	6	Standards: IEC 60034	
Rated power:	2950 kVA	2360 kWe	2458 kWm		
Power factor:	0.80				
Power at pf 1,0	2387 kVA	2387 kWe	2458 kWm		
Rated voltage:	4.16 kV				
Speed:	1200 1/min				
Frequency:	60 Hz	Voltage range / frequency range:			
Rated current:	409.4 A	Zone A according IEC 60034-1 (dU = +/-5%, df = +/-2%)			
Winding pitch:	ca. 5/6				
Insulation class:	Stator: Class F	Rotor: Class F	Temperature rise:	F	
Ambient temperature:	40 ° C	Environment:	Standard environment		
Site altitude:	1000 m				
Enclosure:	IP23	Filter:			
Cooling:	IC 01 - Open-circuit ventilation				
Coolant:	Ambient Air	Temperature	40 ° C	Temperature Air inlet	40 ° C
		Coolant:		generator:	
		Cooling air vol.:	3.0 m ³ /s	Cooling water quantity:	n/a
Moment of inertia (I)*:	144 kgm ²	Weight*:	7500 Kg	Losses (environment):	98 KW
				Losses (cooling):	n/a

Connections and regulators:	
Wires:	4 terminals, starpoint connected in terminal box
Operation mode:	Single mode
Regulators:	
Voltage regulator:	DECS 100

Electrical data: (acc. IEC)					
Efficiencies:	110%	100%	75%	50%	25%
Power factor 0.8	95,8	96	96	95,7	93,4
Power factor 0.9	96,38	96,55	96,5	96	93,65
Power factor 1.0	96,96	97,1	97	96,3	93,9

Reactances and time constants											
	unsaturated		saturated			unsaturated		saturated			
X _d	1.80	1.62	p.u.	X _q	0.90	0.88	p.u.	T _{d0'}	2.1 s	T _{d0''}	0.02583 s
X _{d'}	0.310	0.310	p.u.	X _{q'}	0.90	0.88	p.u.	T _{d'}	0.36 s	T _{q0'}	0.3 s
X _{d''}	0.198	0.180	p.u.	X _{q''}	0.198	0.198	p.u.	T _{d''}	0.015 s	T _{q0''}	0.13636 s
X ₂	0.208	0.189	p.u.	X ₀	0.059	0.054	p.u.	T _a	0.06 s	T _{q'}	0.3 s
X _{1s}	n.a.	0.108	p.u.							T _{q''}	0.03 s
Short circuit ratio saturated: 0.62					Base Impedance (Z _N) 5.866 Ohm						

Short circuit data:		
Initial short circuit current (3-phase):	I _{k'} 2275 A	
Max. peak current (3-phase):	I _s 5791 A	
Sustained short circuit current:	I _k 1228 A	Minimum 3 x rated current for max.10 s
Initial short circuit torque:	M _{k2} 169.5 kNm	
	M _{k3} 101.7 kNm	
Max. faulty synchron moment:	M _f 364.4 kNm	
Rated kVA torque:	M _{SN} 23.48 kNm	
Rated torque	M _N 18.78 kNm	
Shaft torque	M _{Sh} 19.56 kNm	

Load application:	
max. load application: 1427 kVA (corresponds to 48,39 % from 2950 kVA)	Power: 2950 kVA
for Power factor 0.4	Power factor: 0.8
15% transient voltage drop	transient voltage drop: -23.7 %

Remarks:
*Preliminary values. For exact values please see valid mechanical arrangement drawing.