The Institute of Materials Handling

Client logo

Data sheet Dust suppression unit

Project name	Document no.
Project no.	Revision no.
Tag no.	P&ID no.
Tag description	Status

	Originator	Date	Checked by	Date
Process				
Mechanical				
Electrical				
	Approved by	**Date**	**Professional registration no.**	
Client (if applicable)				
Lead engineer				

General information

Corrosion protection	Reference drawing no.
Engineering specifications	Service
Installation	
Remarks	

Site

Altitude(AMSL)	m	Location		
Ambient temperature maximum	°C	Rainfall		mm/y
Ambient temperature minimum	°C	Wind velocity		km/h
Barometric pressure	kPa	Humidity		%
Underground atmospheric classification		Class	Division	

Process

Feed stream			
Solids concentration	%m/m	Solids type	
Moisture content	% m/m	Bulk density	kg/m^3
Solids flow rate (dry) normal	kg/h	Particle density	kg/m^3
Solids flow rate (dry) minimum	kg/h	Angle of repose	degree
Gas data			
Gas type		Inlet pressure	kPa(g)
Molecular mass	kg/mol	Inlet temperature	°C
Moisture content	% m/m	Pressure drop allowable	kPa(g)
Gas viscosity	mPa.s	Relative humidity	%
Gas density @ normal temperature & pressure		kg/m^3	
Filter design data			
Filter type		Sound intensity	dB
Filtration velocity	m/min	Cleaning method	
Dust load	t/h	Emission level	mg/m^3
Air flow rate @ normal temperature & pressure		m^3/h	

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Material particle size distribution				
Component	Size		Cumulative % passing	
Size 1		mm		%
Size 2		mm		%
Size 3		mm		%
Size 4		mm		%
Size 5		mm		%
Size 6		mm		%
Size 7		mm		%
Size 8		mm		%
Size 9		mm		%
Size 10		mm		%
Size 11		mm		%
Size 12		mm		%
Material characteristics				
Abrasive	yes/no		Friable	yes/no
Adhesive	yes/no		Granular	yes/no
Combustible	yes/no		Hygroscopic	yes/no
Corrosive	yes/no		Pellitised	yes/no
Dusty	yes/no		Powdered	yes/no
Explosive	yes/no		Sticky	yes/no
Fibrous	yes/no		Toxic	yes/no
Flowability	g/free flowing/average f			
Operating Conditions				
Operating days per year		day	Operating hours per day	hr
Availability		%	Operating hours per year	hr

Mechanical

Scope of supply				
Access ladders	yes/no		Explosion panels	yes/no
Access platform	yes/no		Filter housing	yes/no
Ducting system complete	yes/no		Housing supports	yes/no
Dust hopper	yes/no		Insulation	yes/no
Dust scrubber	yes/no		Pressure differential indicator	yes/no
Electrostatic precipitator	yes/no		Refractories	yes/no
Exhaust fan & drive	yes/no		Rotary plate feeder	yes/no
Exhaust stack	yes/no		Screw conveyor	yes/no
Information to be supplied by vendor				
Cyclone dust collector				
Type			Model number	
Diameter		mm	Efficiency	%
Hopper volume		m^3	Total mass	kg
Dust disposal method			Maximum pressure drop	kPa(g)

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Dust bags			
Quantity		Bag width	mm
Material		Bag length	mm
Allowable pressure drop	kPa(g)	Operating temperature	°C
Design life	year	Area per bag	m^2
Auxiliaries - refer to individual datasheet			
Screw conveyor tag no.			
Electrostatic precipitator tag no.			
Exhaust stack tag no.			
Exhaust fan tag no.			
Dust scrubber tag no.			
Rotary plate feeder tag no.			

Nozzle data			
	Size	Rating	Facing
Inlet	mm		
Outlet	mm		

Materials of construction		
	Material	Thickness
Filter unit		mm
Flanges		mm
Gaskets material		mm
Supports material		mm

Electrical

System information			
Supply voltage	V	Type of system earthing	
Voltage variations	V	Area classification (SABS 0108)	
Maximum voltage unbalance	%	Hazardous gas/dust	
Total voltage harmonic content	%	Cable size	mm^2
Supply frequency	Hz	Cable type	
Temperature classification of gas/dust			
Data to be supplied by vendor			
Manufacturer		Equivalent circuit	
Frame size		Winding connection	
Year of manufacture		Insulation class	
Serial number		Insulation type	
Rating	kW	Method of cooling (IC Code)	
Full load current	A	Method of mounting (IM Code)	
Class of rating (IEC 60034-1 class 4 2)		Lubricant type/grade	
Enclosure classification IP code		Type of explosion protection	

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Data to be supplied by vendor			
Power factor at 100% load		Efficiency at 100% load	%
Power factor at 75% load		Efficiency at 75% load	%
Power factor at 50% load		Efficiency at 50% load	%
Temperature rise	^{o}C	Break away torque	Nm
Locked rotor current	A	Pull out torque	Nm
Locked rotor power factor		Pull up torque	Nm
Locked rotor withstand time cold	s	Full load torque	Nm
Locked rotor withstand time warm	s	Moment of inertia of load (MIL)	kg/m^2
Allowable no. of starts per hour cold		Moment of inertia of motor rotor	kg/m^2
Allowable no. of starts per hour warm		MIL referred to motor shaft	kg/m^2
Maximum thrust continuous (down)		Temperature rating	
Maximum thrust momentary (down)		Sound intensity	db
Type of bearing non-drive end		Type of bearing drive end	
Direction of rotation viewed from non-drive end			
Terminal box position viewed from non-drive end			
Speed vs. torque curve at full volts required			
Speed vs. torque curve at 85% full volts required			
Speed vs. current curve at full volts required			
Speed vs. current curve at 85% full volts required			
Speed vs. power curve at full volts required			
Speed vs. power curve at 85% full volts required			

Inspection & testing

Mechanical	**Electrical**
Standard shop running test	Shop inspection required
Dismantle & inspect after test	Routine test thermal detectors
Non-witnessed performance certificate	Routine test witnessed
Witnessed performance	Type test thermal detectors

Shipping & installation

Information to be supplied by vendor			
Heaviest lift	kg	Overall height	mm
Heaviest maintenance lift	kg	Overall length	mm
Weight driver	kg	Overall width	mm
Maximum foundation loading	kg	Total shipping weight	kg
Net weight	kg	Total shipping volume	m^3
Operating weight	kg		