



Flame Tech Switch Gears

An ISO 9001:2015 Certified Company



**Safety is Our Responsibility & Commitment,
Not Just Slogan.**

Products Available With



PESO

www.flametech.co.in

...Safety First....

www.flametech.co.in



Fsg Profile

- We at Flame-Tech switch Gears, are leaders in development & Manufacture of high Technology Quality Products of various types of electrical equipments, which are meant for sale application in hazardous location.
- Explosion Protected equipments are meant for installation and use in these Hazardous location for ensure safety of Plant, equipment and Personal and to ensure safety and reliability of Operation in Explosible as well as explosive atmosphere, our products are already recognized in various industries such as petrochemicals, refinery, oil and gas oil mines, pesticides, chemicals, Fertilizers, Bulk Drugs, Pharmaceuticals and Ordnance Factories.
- Flame-Tech switch Gears Offer a comprehensive & technologically innovative range of Explosion Protected Equipments Complying with all common international Standards.
- Flame-Tech switch Gears Manufacturing unit is equipped with state of art machine shop, paint shop, assembly layout, with cad and design facilities makes it one of the best source in India.
- Our aim is to Assist our esteemed customers in Selection of appropriate equipment. If you desire to know more about our Products.

Our Vision

Providing State of the art cost effective Exproof Solution to Customers through Continuous improvement in Quality & Services.

Our Commitment:

Our Focus on supporting 'Go Green-Energy Management' i.e. designing & fostering products which Protect, Control & Comprehensively manage Mankind's greatest asset by serving a Class, Wide Variety of Flameproof product ranges across the world.

Certifications

1. ISO 9001-2015
2. CIMFR: Central Institute of Mining & Fuel Research
3. PESO: Petroleum and Safety Organization
4. BIS: Bureau of Indian Standards



RANGE OF PRODUCTS



FLAMEPROOF CLEAN ROOM FITTING



CLEAN ROOM PUSH BUTTON

TYPE NO. FSGCS 32

DESCRIPTION:

Ex-d IIA/IIB/IIC



CLEAN ROOM SWITCH SOCKET

Upto 32A,415V

TYPE NO. FSGCS 32

DESCRIPTION:

Ex-d IIA/IIB/IIC



CLEAN ROOM ROTARY SWITCH

Upto 32A,415V

TYPE NO. FSGCS 32

DESCRIPTION:

Ex-d IIA/IIB/IIC



LED BOTTOM OPENABLE

2x20W/2x30W/2x40W

TYPE NO. FSGBHL 60

DESCRIPTION:

Ex-d IIA/IIB/IIC



CLEAN ROOM BULKHEAD

160W MLL/30W/45W/60W

TYPE NO. FSGBHL 30

DESCRIPTION:

Ex-d IIA/IIB/IIC



CLEAN ROOM LED BOTTOM OPENABLE

2x20W/2x30W/2x36W/2x40W

TYPE NO. FSGBHL 60

DESCRIPTION:

Ex-d IIA/IIB/IIC



CLEAN ROOM LED LIGHT TOP OPENABLE

2x20W/2x30W/2x40W

TYPE NO. FSGBHL 60

DESCRIPTION:

Ex-d IIA/IIB/IIC



LED BOTTOM OPENABLE

30W/45W/60W LED/2x18W

TYPE NO. FSGBHL 30

DESCRIPTION:

Ex-d IIA/IIB/IIC



RANGE OF PRODUCTS



FLAMEPROOF LED LIGHTTING FIXTURES



LED FLOOD LIGHT FITTING

90W/100W/120W/150W

TYPE NO. FSGLFL 250

DESCRIPTION:

Ex-d IIA/IIB/IIC



LED WELL GLASS FITTING

30W/45W/60W

TYPE NO. FSGWL 60

DESCRIPTION:

Ex-d IIA/IIB/IIC



LED FLOOD LIGHT FITTING

30W/45W/60W

TYPE NO. FSGLFL 250

DESCRIPTION:

Ex-d IIA/IIB/IIC



LED WELL GLASS FITTING

30W/45W/60W

TYPE NO. FSGWL 60

DESCRIPTION:

Ex-d IIA/IIB/IIC



WELL GLASS FITTING

160W MLL/125W HPSV/
70W MH

TYPE NO. FSGWG 125

DESCRIPTION:

Ex-d IIA/IIB/IIC



REACTION VESSEL LAMP

9W/15W LED/60W GLS

TYPE NO. FSGRVL 18

DESCRIPTION:

Ex-d IIA/IIB/IIC



LED TUBE LIGHT FITTING

1x18W/2x18W(SMD)

TYPE NO. FSGTL 36

DESCRIPTION:

Ex-d IIA/IIB/IIC



LED HAND LAMP FITTING

9W/15W LED/60W GLS

TYPE NO. FSGHL 60

DESCRIPTION:

Ex-d IIA/IIB/IIC



RANGE OF PRODUCTS



FLAMEPROOF SWITCH GEARS



SWITCH SOCKET

Upto 32A,415V
TYPE NO. FSGCS 32
DESCRIPTION:
Ex-d IIA/IIB/IIC



PUSH BUTTON STATION

Upto 32A,415V
TYPE NO. FSGCS 32
DESCRIPTION:
Ex-d IIA/IIB/IIC



ROTARY SWITCH

Upto 32A,415V
TYPE NO. FSGCS 32
DESCRIPTION:
Ex-d IIA/IIB/IIC



LOCAL CONTROL STATION

TYPE NO. FSGIBSERIES
DESCRIPTION:
Ex-d IIA/IIB/IIC



FIRE ALARM STATION

TYPE NO. FSGCS 32
DESCRIPTION:
Ex-d IIA/IIB/IIC



LIMIT SWITCH WITH ADJUSTABLE ROLLER

TYPE NO. FSGLS 10
DESCRIPTION:
Ex-d IIA/IIB/IIC



LIMIT SWITCH WITH TOP PUSH ROLLER

TYPE NO. FSGLS 10
DESCRIPTION:
Ex-d IIA/IIB/IIC



LIMIT SWITCH WITH ROLLER

TYPE NO. FSGLS 10
DESCRIPTION:
Ex-d IIA/IIB/IIC



RANGE OF PRODUCTS



FLAMEPROOF SWITCH GEARS



**HOOTER WITH PUSH
BUTTON INDICATING**

TYPE NO. FSGCS 32

DESCRIPTION:

Ex-d IIA/IIB/IIC



**REVERSE FORWARD STOP
PUSH BUTTON**

TYPE NO. FSGCS 32

DESCRIPTION:

Ex-d IIA/IIB/IIC



**PUSH BUTTON WITH
INDICATING REMOTE**

TYPE NO. FSGCS 32

DESCRIPTION:

Ex-d IIA/IIB/IIC



FLAMEPROOF TELEPHONE

TYPE NO. FSGTE 01

DESCRIPTION:

Ex-d IIA/IIB/IIC



**LIMIT SWITCH WITH
ROLLER**

TYPE NO. FSGLS 10

DESCRIPTION:

Ex-d IIA/IIB/IIC



**DIRECT ENTRY PUSH
BUTTON STATION**

TYPE NO. FSGCS 32

DESCRIPTION:

Ex-d IIA/IIB/IIC



**HOOTER WITH ACCEPT
PUSH BUTTON**

TYPE NO. FSGCS 32

DESCRIPTION:

Ex-d IIA/IIB/IIC



**SWITCH SOCKET WITH
SEPRET ROTARY SWITCH**

TYPE NO. FSGCS 32

DESCRIPTION:

Ex-d IIA/IIB/IIC



RANGE OF PRODUCTS



FLAMEPROOF JUNCTION BOXES



100 DIA JUNCTION BOX

Type No. FSGJB 100
DESCRIPTION:
Ex-d IIA/IIB/IIC



150 DIA JUNCTION BOX

Type No. FSGJB 150
DESCRIPTION:
Ex-d IIA/IIB/IIC



250 DIA JUNCTION BOX

Type No. FSGJB 250
DESCRIPTION:
Ex-d IIA/IIB/IIC



350 DIA JUNCTION BOX

Type No. FSGJB 350
DESCRIPTION:
Ex-d IIA/IIB/IIC



**500x500x250
JUNCTION BOX**

Type No. FSGJB 500
DESCRIPTION:
Ex-d IIA/IIB/IIC



JUNCTION BOX FAMILY

DESCRIPTION:
Ex-d IIA/IIB/IIC



**700x500x250
JUNCTION BOX**

Type No. FSGJB 700
DESCRIPTION:
Ex-d IIA/IIB/IIC



**400x400x250
JUNCTION BOX**

Type No. FSGJB 400
DESCRIPTION:
Ex-d IIA/IIB/IIC



RANGE OF PRODUCTS



FLAMEPROOF CONTROL PANELS



**300x500 CUSTOMIZED
PANEL**

DESCRIPTION:
Ex-d IIA/IIB/IIC



**MULTIWAY PLUG SOCKET
WITH RCCB/MCB**

DESCRIPTION:
Ex-d IIA/IIB/IIC



**20 WAY FLAMEPROOF
DISTRIBUTION BOARD**

DESCRIPTION:
Ex-d IIA/IIB/IIC



**12 WAY FLAMEPROOF
DISTRIBUTION BOARD**

DESCRIPTION:
Ex-d IIA/IIB/IIC



**FLAMEPROOF
DISTRIBUTION BOARD**

DESCRIPTION:
Ex-d IIA/IIB/IIC



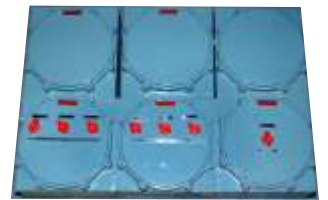
**MULTIWAY PLUG SOCKET
IN 350 DIA JUNCTION BOX**

DESCRIPTION:
Ex-d IIA/IIB/IIC



**500x500 CUSTOMIZED
PANEL**

DESCRIPTION:
Ex-d IIA/IIB/IIC



**FLAMEPROOF
DISTRIBUTION BOARD**

DESCRIPTION:
Ex-d IIA/IIB/IIC



RANGE OF PRODUCTS



FLAMEPROOF INSTRUMENTATION BOX



**FLP/WP INSTRUMENTATION
BOX 96x96 GLASS WINDOW**

TYPE NO. FSGIBSERIES

DESCRIPTION:

Ex-d IIA/IIB/IIC



**FLP/WP INSTRUMENTATION
BOX 96x48 GLASS WINDOW**

TYPE NO. FSGIBSERIES

DESCRIPTION:

Ex-d IIA/IIB/IIC



**FLP/WP CUSTOMIZED
INSTRUMENTATION BOX**

TYPE NO. FSGIBSERIES

DESCRIPTION:

Ex-d IIA/IIB/IIC



**FLP/WP CUSTOMIZED
INSTRUMENTATION BOX**

TYPE NO. FSGIBSERIES

DESCRIPTION:

Ex-d IIA/IIB/IIC



**FLP/WP CUSTOMIZED
RPM METER BOX**

TYPE NO. FSGIBSERIES

DESCRIPTION:

Ex-d IIA/IIB/IIC



**FLP/WP CUSTOMIZED
TEMP CONTROLLER BOX**

TYPE NO. FSGIBSERIES

DESCRIPTION:

Ex-d IIA/IIB/IIC



**FLP/WP 100 MM DIA
JB WITH GLASS WINDOW**

TYPE NO. FSGIBSERIES

DESCRIPTION:

Ex-d IIA/IIB/IIC



**FLP/WP 250 MM DIA
JB WITH GLASS WINDOW**

TYPE NO. FSGIBSERIES

DESCRIPTION:

Ex-d IIA/IIB/IIC



RANGE OF PRODUCTS



FLAMEPROOF FAN & ACCESSORIES



FLP/WP PEDESTAL FAN

DESCRIPTION:
Ex-d IIA/IIB/IIC



FLP/WP WALL MOUNTING FAN

DESCRIPTION:
Ex-d IIA/IIB/IIC



FLP/WP EXHAUST FAN

DESCRIPTION:
Ex-d IIA/IIB/IIC



FLP/WP CABLE GLANDS ACCESSORIES

DESCRIPTION:
Ex-d IIA/IIB/IIC



FLP/WP STOPPER/ REDUCER & ACCESSORIES

DESCRIPTION:
Ex-d IIA/IIB/IIC



FLP/WP SWITCH/ INDICATING LAMP & ACCESSORIES

DESCRIPTION:
Ex-d IIA/IIB/IIC



FLP/WP THERMOCUPLE HEAD WITH SENSOR

DESCRIPTION:
Ex-d IIA/IIB/IIC



FLP/WP DIGITAL WALL CLOCK

DESCRIPTION:
Ex-d IIA/IIB/IIC



RANGE OF PRODUCTS



PURGE PANEL





OUR STRENGTH





NOTES

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NOTES

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Markings and Ratings



Possible Ignition Sources

Hot Surfaces	Mechanically Generated Sparks	Stray Electric Current	Static Electricity	Exothermic Reactions
Flames & Hot Gases	Electrical Generated Sparks	Equalizing Current	Adiabatic Compression & Shock Waves	Radiation

Ingress Protection IEC 60529 (IPXY)

X	Solid Foreign Objects	Y	Water with Harmful Effects
0	Non - protected	0	Non - protected
1	Objects $\geq 50\text{mm}\varnothing$	1	Vertically dripping
2	Objects $\geq 12.5\text{mm}\varnothing$	2	Dripping (15 Degree tilted)
3	Objects $\geq 2.5\text{mm}\varnothing$	3	Spraying
4	Objects $\geq 1.0\text{mm}\varnothing$	4	Splashing
5	Dust - protected	5	Jetting
6	Dust - tight	6	Powerful Jetting
		7	Temporary immersion
		8	Continuous immersion
		9	High pressure/temperature waterjet

Applicable Standards

Type	Standard	Title
Gas Area Classification	IEC/EN 60079-10-1	Part 10-1: Classification of areas-Explosive gas atmospheres
Dust Area Classification	IEC/EN 60079-10-2	Part 10-2: Classification of areas-Explosive dust atmospheres
Installation	IEC/EN 60079-14	Part 14: Electrical installations design, selection and erection
Maintenance	IEC/EN 60079-17	Part 17: Electrical installations inspections and maintenance
Material Characteristics - Gas	IEC/EN 60079-20-1	Part 20-1: Material characteristics for gas and vapor classification
Material Characteristics - Dust	IEC/EN 60079-20-2	Part 20-2: Material characteristics for dust classification
Quality in Manufacturer	IEC/EN 80079-34	Part 34: Application of quality systems for equipment manufacturer
QMS	ISO 9001	Quality Management System

Group Subdivisions

Group II Subdivisions		Can Access
Propane	IIA	IIA
Ethylene	IIB	IIB, IIA
Hydrogen	IIC	IIC, IIB, IIA
Group III Subdivisions		Can Access
Combustible Flyings	IIIA	IIIA
Non - Conductive Dust	IIIB	IIIB, IIIA
Conductive Dust	IIIC	IIIC, IIIB, IIIA

Classification of Zones

Explosive Atmosphere Condition	Area Classification	Equipment Category	Zones		EPL	
			Gas	Dust	Gas	Dust
Energized	I	M1	N/A		Ma	
Not Energized	I	M2	N/A		Mb	
Always Present	II	1	0	20	Ga	Da
Present Regularly	II	2	1	21	Gb	Db
Rarely Present	II	3	2	22	Gc	Dc

Fuel Auto Ignition Temperatures (AIT)

Fuel Gas	AIT(°C)	AIT(°F)
Acetylene	305	581
Ethylene	490	914
Hydrogen	560	1040
Diesel	210	410
Methane	580	1076
Propane	470	878
H ₂ S	260	500
Carbon Disulfide	90	194

Atmospheric Groups

Equipment Grouping	Category	EPL	Zones	Zone Access	Malfunctions
Group I	M1	Ma	N/A	N/A	Rare Malfunctions- 2 Faults
	M2	Mb	N/A	N/A	Normal Operation Only
Group II	1G	Ga	0	0, 1, 2	Rare Malfunction - 2 Faults
	2G	Gb	1	1, 2	Expected Faults - 1 Faults
	3G	Gc	2	2	Normal Operation Only
Group III	1D	Da	20	20, 21, 22	Rare Malfunction - 2 Faults
	2D	Db	21	21, 22	Expected Faults - 1 Faults
	3D	Dc	22	22	Normal Operation Only

Temperature Classification

	Temperature Class	Can Access	AIT(°C)	Max Surface Temp (°C)	Example Fuel
	T1	T1	> 450	450	Methane
	T2	T2, T1	> 300 < 450	300	Acetylene
	T3	T3, T2, T1	> 200 < 300	200	Hydrogen Sulfide H ₂ S
	T4	T4, T3, T2, T1	> 135 < 200	135	Diethylether
	T5	T5, T4, T3, T2, T1	> 100 < 135	100	No Known Gases
	T6	T6, T5, T4, T3, T2, T1	> 85 < 100	85	Carbon Disulfide



Area of Operation

- Petrochemicals
- Refineries
- Oil And Gas
- Oil Mines
- Pesticides

- Chemicals
- Fertilizers
- Bulk Drugs
- Pharmaceuticals
- Ordnance Factories



Flame Tech Switch Gears

An ISO 9001:2015 Certified Company

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