

Spark Resistant Construction

Fan applications with airstreams of explosive or flammable particles or gases require spark resistant system components for the safe handling of such airstreams. Spark Resistant Construction (SRC) is intended to minimize the potential for any two or more fan components to generate sparks within the airstream by rubbing or striking during operation. We can offer fans to meet AMCA SRC specifications, NFPA containment standards, and ATEX requirements. The three most common types available are AMCA A, AMCA B, and AMCA C.

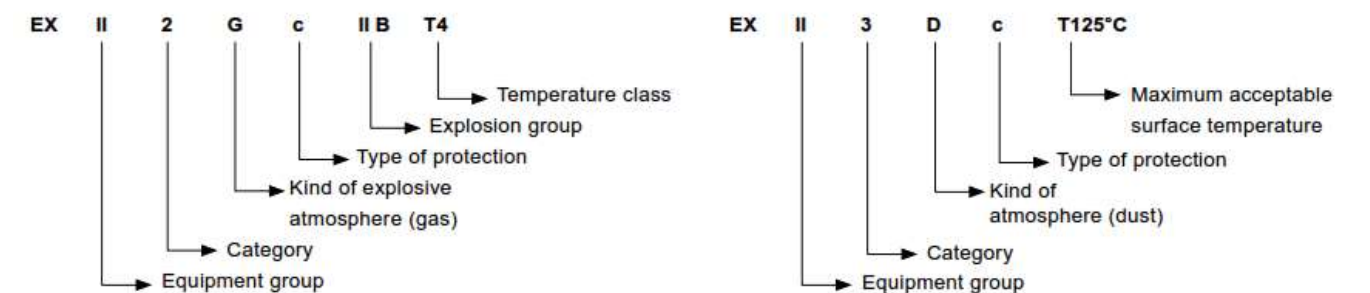
AMCA A (Airstream) SRC includes all airstream parts constructed of a spark-resistant alloy.

AMCA B (Wheel) SRC includes the fan wheel constructed of a spark resistant alloy and a buffer plate around the housing shaft-hole opening.

AMCA C (Buffer) SRC includes a spark resistant alloy buffer affixed to the housing interior adjacent to the wheel back-plate, a spark resistant alloy inlet cone, and a buffer plate around the housing shaft-hole opening.

Available materials of construction:	%Fe (Iron)
Aluminum 5052	0.45
Aluminum 6061	0.70
Brass CDA 360	0.00
Bronze CDA 958	4.75
Copper CDA 110 or 122	0.00
Monel 400 Shafting	2.50

The label for Explosion-Proof Fans



The application area for installation of Explosion-Proof Fans

Equipment group	II
Category	2 or 3
Type of potentially explosive atmosphere	G, D G/D (no hybrid mixtures)
Fan protection type	SRC-Type A, Type B or Type C
Motor protection type	de, e, na, tD, de/tD, nA/tD
gas explosion groups	IIA, IIB and hydrogen from IIC
Temperature classes	T1, T2, T3, T4
Maximum acceptable surface temperature with presence of dust	T125°C
intake temperature	min. -20°C; max. +60°C
Ambient temperature	min. -20°C; max. +40°C (up to +60°C on request)

Type HP Pressure Blower

Pressure Blower

RST Fan

AF Fan

Series GI Fan

Class IV Fan

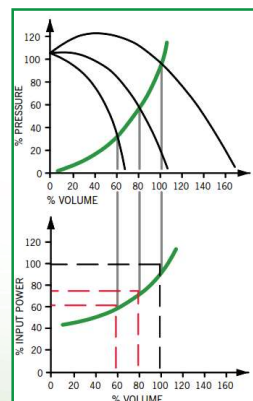
FRP Pressure Blower

FRP Fume Exhauster

PRODUCT LINE	DESCRIPTION	OPERATING MAXIMUM		
		Flow (m³/h)	SP (Pa)	Temp. (°C)
Type HP Pressure Blower	Centrifugal housed "Radial" wheel	34,000	31,900	315
Pressure Blower	Centrifugal housed "Radial" wheel	8,800	14,400	315
RST Fan	Centrifugal housed "Radial Tip" wheel	425,000	8,970	400
AF-25 Fans	Centrifugal housed "AF/BC" wheel	209,000	7,470	400
AF-40 Fans	Centrifugal housed "AF/BC" wheel	408,000	11,500	400
AF-50 Fans	Centrifugal housed "AF/BC" wheel	221,000	12,500	400
Series GI 20 Fans	Centrifugal housed "Radial" wheel	131,000	5,480	540
Series GI 25 Fans	Centrifugal housed "Radial" wheel	161,000	7,970	540
Series GI 45 Fans	Centrifugal housed "Radial" wheel	170,000	11,500	540
Series GI 60 Fans	Centrifugal housed "Radial" wheel	112,000	17,400	540
Class IV Fans	Centrifugal housed "AcF/PLR" wheel	425,000	4,980	540
FRP Pressure Blowers	Centrifugal housed "Radial" wheel	8,500	8,970	120
FRP Fume Exhausters	Centrifugal housed "BC" wheel	143,000	6,225	120

Flow control applications

Inlet-vane dampers affect the fan's output by spinning the air in the direction of wheel rotation. With this pre-spin, the wheel cannot develop its full output, yielding a reduced CFM at reduced horsepower. Each damper setting creates new pressure and horsepower curves. With inlet-vane dampers, reduced airflow always results in reduced horsepower.



Variable frequency motor speed controllers provide energy savings by directly controlling fan speed. From the fan laws, CFM varies directly with the change in fan speed and horsepower varies by the change in fan speed cubed. For example, a 20% reduction in fan speed yields a 20% reduction in airflow and a 49% reduction in BHP. Controllers must have lockouts to prevent operation beyond the maximum safe speed of the fan.

