

Flame Proof Thruster (IIA, IIB) 23/5,30/5



Introduction

Flame-proof Thrusters are specially designed for operation in hazardous atmosphere (Zonal areas) Gas groups IIC. Construction of Flame Proof Thruster is modified to meet the requirements as specified on IS/IEC-60079-0-2007 & IS/IEC-60079-1-2007. The Terminal box is also re-designed to provide for the molded terminal studs to most of the industrial applications.

Features

- Compact and Light weight.
- Elegant design.
- Reliable and maintenance free operation.
- Low noise, does not emit electrical disturbances.
- Suitable for out-door installation.
- Low power input.
- Up to 720 operations per hour.
- Easy Mounting and dismounting.
- Bi-direction operation.

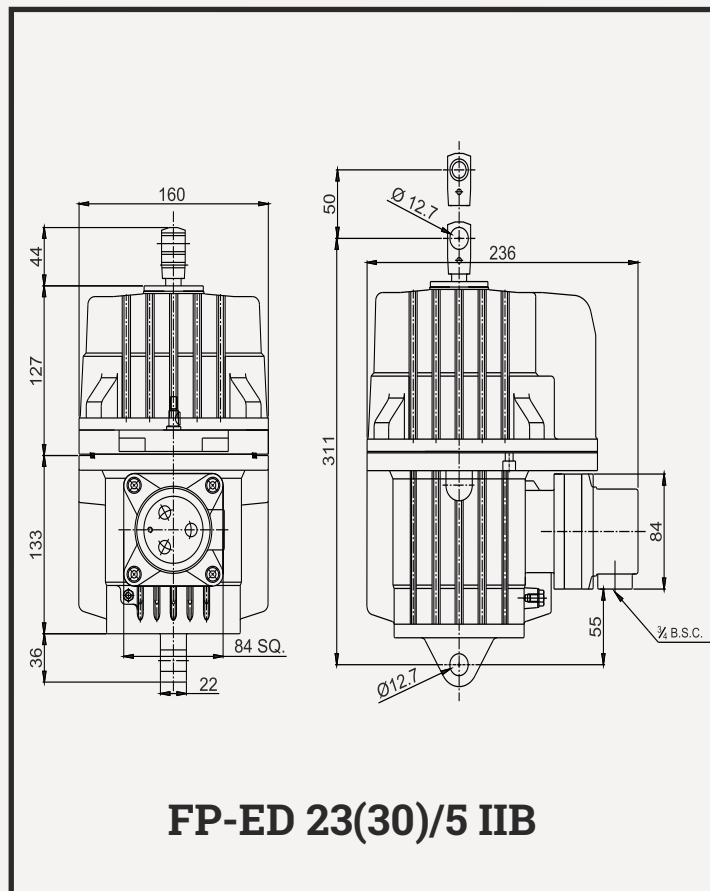


Flame Proof Electro Hydraulic Thrusters Type - FLP 23/5 & 30/5 (IIA, IIB)

Petroleum & Explosive Safety Organization Approved

Technical Data

Explosive Atmosphere Part I Equipment Protection by Flameproof Enclosures "d"	
Product	Thruster
Zone	IIA, IIB
Model	FLP-23/5 & FLP-30/5
Voltage	415 VAC
Phase/Frequency	3 Φ , 50 c/s
Ambient Temperature	-20°C + 40°C
Enclosure	Aluminium Alloy LM 4
Ingress Protection	IP-55 IS/IEC 600529:2001
Cable Entry	M 20 Single
IS -	IS/IEC 60079-0-2004 IS/IEC 60079-1-2007
BIS License No.	CM/L-7200042490 as per IS/IEC 60079-1-2007
Certificate No.	CIMFR/TC/P/1438 Date: 22-02-2011 CENTRAL INSTITUTE OF MINING FUEL RESEARCH
Petroleum & Explosive Safety Organization (PESO)	A/P/HQ/GJ/104/5528(P406232) Date: 17/07/2017



Speed-O-Controls Pvt. Ltd.

H. O. Unit - I: C-15/16, Nand Jyot
Industrial Estate, Andheri-Kurla
Road, Mumbai - 400072,
Tel.: (022) 42469700-30
Fax: (022) 42469797
E-mail: sales@socgroup.in

Unit - II: Plot No. 4912, G. I. D. C.,
Phase IV, Vatva,
Ahmedabad - 382445
Tel.: (079) 40083201/2/3/4,
Fax: (079) 25841056,
E-mail: sales.amd@socgroup.in

Visit us at :
www.speedocontrols.com
www.socremote.com

Oct, 2017

Speed-O-Controls P/L Ltd.

ALUMINUM TRANSISTERS
GAS GROUPS USA AND MD

TYPE	P/P Bt. SWS	NW	Q12	THROAT 300 N	P-55
FOAME	71	1	2000	RSS	F TEMP CO.
SUPPLY	415 V / 50 HZ / 3 PH	AMP	64	DUTY	CONT.
AWS -D-M-D-S-					
CANFR CERT. NO.					

CENTRAL INSTITUTE OF MINING & FUEL RESEARCH
 DHANBAD
 (INDIA)
 FLAME & EXPLOSION LAB
 CERTIFIED VOTE TEST REPORT
 No. CMFR/CP/14/38
 DATED 22/2/11
 For
 Head of the Department
 Coal Testing Center

GENERAL NOTES AND DECLARATIONS

1. Length of Flareproof Joints are nominal values and are as per IS-IEC60079-1 (2007) and general requirements IS/IEC 60079-0 (2004).
2. Dimensions and materials of Hex Hd / Soc Hd Screws are as per ISO-965 1,3 with tolerance class 6g/6h.
3. All fixing screws are of property Class 8.8 (Tensile strength 800 MPa) as specified in IEC 60079-0 (2004) AND ISO-965 - 1 & 3 (1980).
4. Tolerances and limits of fits are as per ISO-286 Part 2.
5. All dimensions are in millimeters.
6. Metal thickness around fasteners and blind holes will be greater than 3 mm
7. The surface finish of contact surfaces of flip joints shall be at least 6.3 μ m
8. Empty weight of Thruster - 8.00 kg (approx)
9. All components are subjected to over pressure of 10^5 kg/cm² sq.
10. Terminal bush moulded DMC with M4 X 60L Brass stud, the cementing compound and the moulding material are as per IEC- 60079- 0 (2004)
11. The Thruster is suitable for ambient Temperature between -20° TO +40°C.
12. Torque Test on the Terminal stud is conducted at our manufacturing site as per clause no. 26.6 in accordance with IEC-60079- 0 (2004).
13. Two Nos. M5 X 10 L earthing terminals are provided

VOLUME STATEMENT (COMPUTED)

1. Gross free volume for motor housing	1050 C.C.
2. Max. free volume (at 40 mm C.V.)	680 C.C.
3. Net free volume inside terminal box	90 C.C.

IMPLICATIONS

THRUSTER (Non-Flameproof)

THRUSTER TYPE	FP - E6-21.5	FP - E6-3
THRUST FORCE	230 N (-23 mN)	300 N (-30 mN)
STROKE	50 mm	50 mm
MOUNTING PIN SIZE (C.D.)	Ø12.7 H8	Ø19 H8
MOUNTING DISTANCE	549 ±1	444 ±1
MOTOR (Flameproof)		

MOTOR (Flameproof)

THRUSTER TYPE	FP ED 23 (20/5 IN.)
SUPPLY	415 V - 3-PHASE A.C. 50 HZ
INSULATION CLASS	F CLASS
ENCLOSURE/PROTECTION	IP-55 AS PER IS:12003-1107 (IEC 60529)
CAS CASQUING	BL ALUM. ER
MOUNTING	4 EYE LUG, 20000 POUND

MOTOR
FLAMEPROOF

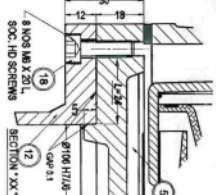
SUBASSEMBLY		MATERIAL		SIZE	QTY
S/N	DESCRIPTION				
01	SHAFT	EN8	Ø 22 X 715	1	
02	KEY WOODRUFF		Ø 10 - 3 (W) X 4 (H)	1	
03	Oil SEAL	STD	Ø 12 X Ø 22 X 7	1	
04	GLAND BUSH	BRASS		1	
05	DE ENDWHEEL	LM - 4	Aluminium LM Cast	1	
06	PRE-LOAD WASHER	SPRING STEEL (ø 32)		1	
07	DEEP GROOVE BALL BEARING	STD	6202 Z2	1	
08	STATOR STATOR WOUND	SL-SH	Ø 106 X Ø 62 MM CL	1	
09	ROTOR PLACKET (DE CAST)	SL-SH	Ø 61.5 X Ø 17 MM CL	1	
10	DEEP GROOVE BALL BEARING	STD	6202 Z2	1	
11	EXTERNAL CIRCUIT	SPRING STEEL	Ø 12 - 1.1 THICK	1	
12	MOTOR BODY	LM - 4	Aluminium LM Cast	1	
13	INTERNAL WINDING	STD	W6 X 20 L 100	3	
14	TERMINAL STUD	M4 BRASS	M4 X 60 L	4	
15	TERMINAL PLATE	LM - 4	Aluminium LM Cast	1	
16	TERMINAL CABLE BOX	LM - 4	Aluminium LM Cast	1	
17	EARTHING SCREW	BRASS/SS	M5 X 12 L	2	
18	ENDWHEEL FIXING SCREWS	STD	M6 X 20 L 40C, HD	3	
19	MOULDED TERMINAL BUSH	DMC	Ø 6.8 X Ø 17 X 40	3	
20	SCREWS FOR 1. CABLE BOX	STD SOC. HD	M6 X 20 LONG	4	
A	MIDDLE FLANGE	LM - 4	Aluminium LM Cast	1	
B	IMPELLER	LM - 4	Aluminium LM Cast	1	
C	PISTON	LM - 4	Aluminium LM Cast	1	
D	PISTON ROD	EN 8	Ø 16 X 145	1	
E	CYLINDER	MS	Ø 108 X Ø 100 X Ø 75	1	
F	CASING	LM - 4	Aluminium LM Cast	1	
G	Oil SEAL	STD	Ø 16 X Ø 28 X 7	3	

COMPOSITION OF ALUMINUM ALLOY - LM4 (By weight)

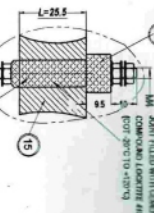
Copper, Cu	Titanium, Ti	Tin, Sn	Iron, Fe	Nickel, Ni	Silicon, Si	Lead, Pb	Magnesium, Mg	Zinc, Zn	Manganese, Mn	Aluminum, Al
2.0-4.0%	0.2%	0.10%	0.80%	0.30%	4.0-6.018%	0.10%	0.20%	0.50%	0.30-0.50%	87.0-91.4%

DETAILS OF FAMEPROOF JOINTS

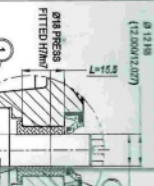
DET 1. BODY/D.E. ENDSHIELD



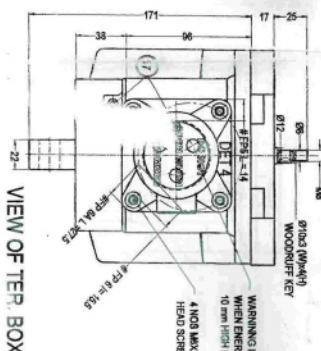
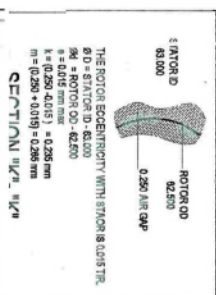
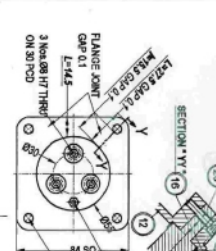
DET 2. - TER. BUSH / TER. PLATE



DET. J. SHAFT / BRASS BUSH



DET 4. BODY / TER. PLATE, CABLE BOX



VIEW OF TER. BOX

WARNING INSTRUCTION "DO NOT OPERATE WHEN ENERGISED" CAST INTEGRALLY BY 10 mm HIGH LETTERS, 1 mm RAISED

Speed-O-Controls Pvt. Ltd
MUMBAI - 400 072

DRG NO. :	FP-Ed-23 (30) / 5 - II B	Sheet
-----------	--------------------------	-------