



HUBBELL ELECTRICAL PRODUCTS
 A Division of HUBBELL INCORPORATED (Delaware)
 2112 Fenton Logistics Park Blvd.
 Fenton, Missouri 63026 USA

**INSTALLATION, OPERATION &
 MAINTENANCE DATA SHEET**
**FITTINGS FOR USE IN ZONE
 CLASSIFIED HAZARDOUS LOCATIONS**

FITTINGS FOR USE IN ZONE CLASSIFIED HAZARDOUS LOCATIONS

SERIES BL, EYMF, FF, MF, MM, GUFs, GUMFs, GUML, and Y (Elbows)

SERIES GUF, GUM, GUMM, UNF and UNY (Unions)

CML 16ATEX1325X



Ex db IIC Gb or* Ex db IIB Gb
 Ex tb IIIC Db IP65 / IP66*
 T_{amb}= -50 °C to +100 °C

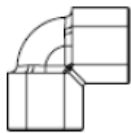
Operating Temperature Range:

-50°C to + 100°C or -50°C to + 400°C*

*** For Ex d Gas Group, IP Ratings, and Service
 Temperature Range (by Cat. No.), See Table 1 below**

IECEx QPS 16.0012X

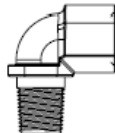
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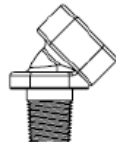
FF-90



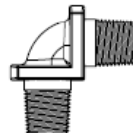
FF-45



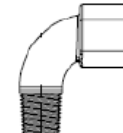
MF-90



MF-45



MM-90



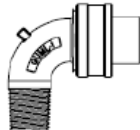
BL-90



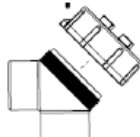
GUMM



EYMF



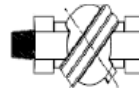
GUML



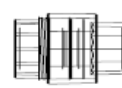
Y



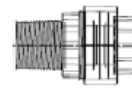
GUFs



GUMFs



GUF / UNF



GUM / UNY

1. General Safety Information:

CAUTION: Before installing, make sure you are compliant with area classifications, failure to do so may result in bodily injury, death and property damage. Do not attempt installation until you are familiar with the following procedures. All installation must comply with the applicable Electrical Code.

Make sure that the circuit is De-energized before starting installation or maintenance.

Verify that the installation is grounded. Failure to ground will create electrical shock hazards, which can cause serious injury and or death.

Important: Please read these instructions carefully before installing or maintaining this equipment. Good electrical practices should be followed at all times and this data should be used as a guide only

Technical information, advice and recommendations contained in these documents is based upon information that Killark believes to be reliable. All the information and advice contained in these documents is intended for use only by persons having been trained and possessing the requisite skill and know-how and to be used by such persons only at their own discretion and risk. The nature of these instructions is informative only and does not cover all of the details, variations or combinations in which this equipment may be used, its storage, delivery, installation, check out, safe operation and maintenance. Since conditions of use of the product are outside of the care, custody and control of Killark, the purchaser should determine the suitability of the product for his intended use, and assumes all risk and liability whatsoever in connection therewith.



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2. Application Information

UNIONS: Series GUM / GUF are the Killark Aluminum series and the UNF / UNY the steel / Iron series both used to join two opposing pieces of conduit or attach secure conduit pieces to junction boxes, devices or other fittings.

Series GUMFS male "swivel" elbows are GUFs female "swivel" elbows provided with a separate aluminum nipple.

3. Installation Instructions

CAUTION: THREAD TYPE and SIZE are marked on the fitting / adaptor and must be respected.

ONLY ONE threaded fitting / adaptor is permitted per cable entry. Never use reducers when installing fittings into an enclosure.

BLANKING ELEMENTS shall not be used with fittings / adaptors.

If the enclosure is already in operation, it must be **DISCONNECTED** from the supplying circuit **before** beginning installation.

Step 1

Ensure fitting thread type and size are compatible with enclosure thread. Where IPx5 or IPx6 ingress protection is required, the use of a suitable non-setting thread sealant on all flamepath joints is required (ie: apply thin layer of Killark LUBG).

Step 2

Tighten nipple into the enclosure/equipment with a wrench located on the center of the nipple. The nipple should be hand tight plus one wrench turn per ANSI/ASME B1.20.1-1983.

The number of threads engaged must be a minimum of 5.

Notes:

1. Nipples shall not be used for the direct inter-connection of enclosures.
2. Only one nipple is to be used with any single cable entry on the associated equipment.
3. GUFs and GUMFS swivel bolt is Zinc-plated Grade B steel, 5/16 x 18 at the threads. Recommended minimum bolt torque is 16.3 Nm (12 lb-ft.).

4. Conditions of Safe Use

1. With the exception of the IP66-rated Capped Elbows (Type Y*-EX), the standard operating temperature range for all listed fittings is from -50 °C to +400 °C. For the IP66-rated Capped Elbow (with gasketed, threaded cover-to-housing joint), the standard operating temperature range is from -50 °C to +100 °C.

2. A seal is not required between the fitting and a flameproof enclosure, provided::

- 1) volume up to 160 liters, and simple internal geometry, or
- 2) reference pressure up to 234 psi (for IIC), 196 (for IIB)

whichever of these two conditions is reached first.

** - A seal is required within 50 mm of the fitting/adaptor free end.

3. In application with larger flameproof enclosures (equal to and above 2/3 of the volume of 160 litres), or those with high reference pressure value (equal to and above 2/3 of the maximum reference pressure values stated above), a further investigation of the necessity of the use of seal may be required if :

- for group IIB - the enclosure has been populated on such a way that one or more cross-section areas do not remain minimum 20% free.
- for group IIC - the enclosure has been populated on such a way that one or more cross-section areas do not remain minimum 40% free.

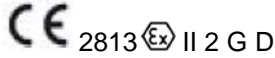


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5. Certification Information

CML 16ATEX1325X / IECEx QPS16.0012X



Ex db IIB Gb Ex db IIB Gb
 Ex tb IIIC Db IP65 or Ex tb IIIC Db IP66
 or
 Ex db IIC Gb Ex db IIC Gb
 Ex tb IIIC Db IP65 or Ex tb IIIC Db IP66

T_{amb} = -50 °C to +100 °C

Standards Applied: IEC/EN 60079-0; IEC/EN 60079-1; IEC/EN 60079-31

See Certificates for Editions of Standards used.

Table 1 - ATEX / IECEx RATINGS by Cat. No.

Killark

ELBOWS and UNIONS - Hazloc and IP Ratings

March 23, 2020

Service Temp. Range = -50°C to +400°C (-50°C to +100°C for gasketed Y-Series); All fittings may be installed on enclosures with Volumes ≤ 160 Liters with no seal required at the enclosure.

Elbows													
Std. Elbows - Ex db IIC Gb; Ex tb IIIC Db IP66			Capped Elbows - Ex db IIC Gb; Ex tb IIIC Db IP66			Swivel Elbows - Ex db IIB; Ex tb IIC IP65							
		IP Rating			IP Rating			IP Rating					
Alum.	Iron		Alum.	Iron		Alum.	Iron						
FF-30-1-EX	FF-30-1M-EX	IP66	Y-1-EX	Y-1M-EX	IP66*	GUFS-1-EX	GUFS-1M-EX	IP65					
FF-30-2-EX	FF-30-2M-EX	IP66	Y-2-EX	Y-2M-EX	IP66*	GUFS-2-EX	GUFS-2M-EX	IP65					
FF-30-3-EX	FF-30-3M-EX	IP66	Y-3-EX	Y-3M-EX	IP66*	GUMFS-1-EX	GUMFS-1M-EX	IP65					
FF-45-1-EX	FF-45-1M-EX	IP66	Y-4-EX	Y-4M-EX	IP66*	GUMFS-2-EX	GUMFS-2M-EX	IP65					
FF-45-2-EX	FF-45-2M-EX	IP66	Y-5-EX	Y-5M-EX	IP66*	90° Plugged Elbows - Ex db IIC Gb; Ex tb IIIC Db IP66							
FF-45-3-EX	FF-45-3M-EX	IP66	Y-Series Capped Elbows are rated Ex tb and IP66 (suitable for a Service Temperature range of -50°C to +100°C) when provided with the Silicon Cover Gasket. When gasket is not present, the Y-Series fittings are Flameproof (Ex d protection) only.								IP Rating		
FF-45-4-EX	FF-45-4M-EX	IP66									Alum.	Iron	
FF-45-5-EX	FF-45-5M-EX	IP66									EYMF-1-EX	-----	IP66
FF-45-6-EX	FF-45-6M-EX	IP66									EYMF-2-EX	-----	IP66
FF-45-8-EX	FF-45-8M-EX	IP66											
MF-30-1-EX	MF-30-1M-EX	IP66											
MF-30-2-EX	MF-30-2M-EX	IP66											
MF-45-1-EX	MF-45-1M-EX	IP66											
MF-45-2-EX	MF-45-2M-EX	IP66											
MM-30-1-EX	MM-30-1M-EX	IP66											
MM-30-2-EX	MM-30-2M-EX	IP66											
BL-30-1-EX	BL-30-1M-EX	IP66											
BL-30-2-EX	BL-30-2M-EX	IP66											
BL-30-3-EX	BL-30-3M-EX	IP66											

Unions											
Female to Female - Ex db IIC Gb; Ex tb IIIC Db IP65			Male to Female - Ex db IIC Gb; Ex tb IIIC Db IP65			90° Angle - Ex db IIC Gb; Ex tb IIIC Db IP65					
		IP Rating			IP Rating			IP Rating			
Alum.	Iron		Alum.	Iron		Alum.	Iron				
GUF-1-EX	UNF1-EX	IP65	GUM-1-EX	UNY1-EX	IP65	GUML-1-EX	GUML-1M-EX	IP65			
GUF-2-EX	UNF2-EX	IP65	GUM-2-EX	UNY2-EX	IP65	GUML-2-EX	GUML-2M-EX	IP65			
GUF-3-EX	UNF3-EX	IP65	GUM-3-EX	UNY3-EX	IP65	Male to Male - Ex db IIC Gb; Ex tb IIIC Db					
GUF-4-EX	UNF4-EX	IP65	GUM-4-EX	UNY4-EX	IP65						IP Rating
GUF-5-EX	UNF5-EX	IP65	GUM-5-EX	UNY5-EX	IP65				Alum.	Iron	
GUF-6-EX	UNF6-EX	IP65	GUM-6-EX	UNY6-EX	IP65				GUMM-1-EX	-----	IP65
GUF-7-EX	UNF7-EX	IP65	GUM-7-EX	UNY7-EX	IP65				GUMM-2-EX	-----	IP65
GUF-8-EX	UNF8-EX	IP65	GUM-8-EX	UNY8-EX	IP65				GUMM-3-EX	-----	IP65
GUF-9-EX	UNF9-EX	IP65	GUM-3-EX	UNY3-EX	IP65						
GUF-0-EX	UNF0-EX	IP65	GUM-0-EX	UNY0-EX	IP65						