# CR...DF self-centring floating frame

- Q CAUTION: As the frames are floating, the PE earthing connection of the metal surfaces on which they are mounted (mounting bases) must be performed separately and cannot be done by connecting the PE earthing contact to the corresponding connector inserts.
- NOTE: The supply includes 1 frame and 4 shoulder screws with cylindrical head and notch to fix the frame in place.

For use with MIXO inserts CX 04 X, please contact ILME S.p.A.

self-centring floating frame



#### description

part No.

in stainless steel, to be mounted on:

inserts size "44.27" \* and MIXO frames for 2 modular units inserts size "57.27" \* and MIXO frames for 3 modular units inserts size "77.27" \* and MIXO frames for 4 modular units inserts size "104.27" \* and MIXO frames for 6 modular units

\* Except CT, CTS and CTSE

#### **Technical specifications**

- materials
- floating frame, inserts: stainless steel
- fixing screws: zinc-plated steel
- mechanical endurance:  $\geq$  500 cycles
- compensation range:
- x axis: ± 1,5 mm
- y axis: ± 1,5 mm

#### Characteristics

- Suitable, depending on size, for all standard and MIXO connector inserts and frames, except series CT, CTS and CTSE.
- Designed to be used in the transportation, printing and power electronic industries (for example boxes for rack cabinets) and in all industrial applications that require, during assembly or maintenance, the connection of connectors without possibility of controlling the alignment.
- Enables the self-centring coupling of two corresponding connectors without the use of enclosures; they freely move on their base plate (± 1,5 mm on both axes) ensuring the alignment of the coupling.





- distance for electric and fibre optic contacts: max 27 mm distance for pneumatic contacts:
  - max 26,5 mm

#### panel cut-out



part No.	Α	в	С	D	E
CR 06 DF	86	69	69	54,5	84
CR 10 DF	99	82	82	67,5	97
CR 16 DF	119,5	102,5	102,5	88	117,5
CR 24 DF	146	129	129	114,5	144

# BIG HOODS WITH INTEGRATED SPECIAL SELF-CENTRING FLOATING FRAME



Size "104.27" BIG hoods available in 2x M40 top cable entries and 1x M40 top cable entry with integrated special self-centring floating frame



Find more information on our products at www.ilme.com

# TECHNICAL FEATURES MBV 24.240D, MBV 24.240DG, MBV 24.40D, MBV 24.40DG

- These special variants of the series BIG connector enclosures (a series which is proprietary ILME design), available in the largest size "104.27", consist of two hoods, one with edge gasket, the other without, both equipped with dedicated variant of robust stainless steel special self-centring floating frame.
- They are designed to allow electrical (power and signal) connection between two pieces of equipment (both fixed, one foreseen for frequent swap), guided by a dedicated special self-centring floating frame allowing up to ±1,5 mm off axis in both directions on a plane, to create an internal protected space for the wiring on both sides of the connection. This is particularly handy e.g. for the rapid change of the moulds on a moulding press machine.
- Thanks to the integrated *"key and keyway"* system (two sets of facing robust pin and contact tubes, one on each short side, mounted on custom-tailored robust stainless steel plates integrated in the mating face of the size "104.27" mating hoods) the connector inserts housed inside the hoods avoid mechanical damages during mating and take advantage of the protective large wiring space of the BIG enclosures.
- Thanks to the sealing gasket on the coupling, provided sufficient tight closure is ensured by the assembly on the machine (not possible to integrate any locking), the IP degree of protection up to IP66/IP67/IP69 may be achieved.

- Generously dimensioned stainless steel parts provide suitable mechanical robustness and resistance to corrosion.

IME

- Available parts:
- MBV 24.240D size "104.27" hood series BIG with 2x M40 top cable entries and integrated special selfcentring floating frame, to be exclusively mated with:
- MBV 24.240DG size "104.27" hood with gasket, series BIG, with 2x M40 top cable entries and integrated special self-centring floating frame;
- MBV 24.40D size "104.27" hood series BIG with 1x M40 top cable entry and integrated special selfcentring floating frame, to be exclusively mated with:
- **MBV 24.40DG** size "104.27" hood with gasket, series BIG, with **1x M40** top cable entry and integrated special self-centring floating frame.
- <u>These BIG special hoods are deemed to be used only in</u> <u>combination among themselves</u>: one part without gasket, the mating part with gasket.
- <u>Up to 10 000 matings</u> are achievable <u>once used with HNM</u> <u>inserts with HNM series R crimp contacts as applicable</u> <u>and MIXO HNM frames as applicable</u>, up to 500 matings guaranteed using standard components within these special BIG enclosures.
- Tolerance for off-axis displacement (allowed by the integral self-centring floating frame):  $x \pm 1,5$  mm,  $y \pm 1,5$  mm.

BIG special hoods with integrated special self-centring floating frame allow guided, frequent swops avoiding damages and ingress of contaminants



# MBV BIG hoods with integrated special self-centring floating frame

inserts			📕 page:
CD	64	poles + 🕀	72
CDD	108	poles + 🕀	81
CDS	42	poles + 🖶	-
CDSH	42	poles + 🖶	89
CNE	24	poles + 🕀	113
CSE	24	poles + 🕀	-
CSH	24	poles + 🕀	113
CSH S	24	poles + 🕀	125
CCE	24	poles + 🖶	133
CMSH	10+2 (aux)	poles + 🕀	140
CMCE	10+2 (aux)	poles + 🖶	141
CSS	24	poles + 🕀	151
<b>CT, CTSE</b> (16A)	24	poles + 🕀	163
CQE	46	poles + 🕀	171
CQEE	64	poles + 🕀	177
CX	4/8 and 6/6	poles + 🖶	204, 206
MIXO	6	modules	262 - 317

#### hoods with integrated special self-centring floating frame

hoods with integrated special self-centring floating frame and gasket



**FROM MAY 2020** 

■ refer to CN.19 pages	🛗 FROM N	1AY 2020	🛗 FROM
description	part No.	entry	part No.

MBV 24.40D

part No. entry part No. entry M M

40 x 1

1x M40 top entry

1x M40 top entry, with gasket





83

53

27

1



83

53

30

Ā

panel cut-out for enclosures



**CAUTION:** Due to the absence of locking means, the IP66/IP67/IP69 achievable degree of protection is demanded to the end-use application:

- Suitable pressure, in order to uniformly compress the sealing gasket and keep the connector coupling tight is required: this condition is satisfied when the self-centring guide pins and contact tubes reach their end-of-run and are kept constantly in this position;
- 2) Suitably rated cable entry devices (e.g. cable glands) are required to maintain the desired IP degree of protection.

Protection against undue opening under load (connectors without breaking capacity) and closing under voltage is demanded to the end-use application, e.g. by suitable detection of such conditions.

inserts

#### BIG hoods with integrated special self-centring floating frame **MBV**



83

53

30



# 🛗 FROM MAY 2020





# **FROM MAY 2020**

hoods with integrated special

description part No. entry part No. entry   M M M		-			
	description	part No.	entry M	part No.	entry M

66

43

83

53 A

27

40 x 2

MBV 24.240D

2x M40 top entries

refer to CN.19 pages

2x M40 top entries, with gasket

145 Α A 120 M40 ်ဝ e 160 175 198 ➡ 59 78





panel cut-out for enclosures



**CAUTION:** Due to the absence of locking means, the IP66/IP67/IP69 achievable degree of protection is demanded to the end-use application:

- 1) Suitable pressure, in order to uniformly compress the sealing gasket and keep the connector coupling tight is required: this condition is satisfied when the self-centring guide pins and contact tubes reach their end-of-run and are kept constantly in this position;
- 2) Suitably rated cable entry devices (e.g. cable glands) are required to maintain the desired IP degree of protection.

Protection against undue opening under load (connectors without breaking capacity) and closing under voltage is demanded to the end-use application, e.g. by suitable detection of such conditions.

panel cut-out for enclosures 76 22 M5 max. R5 175 182 155 max. R12 max. R5

59

# MBV BIG hoods with integrated special self-centring floating frame

## ASSEMBLY INSTRUCTIONS

## BIG HOODS WITH INTEGRATED SPECIAL SELF-CENTRING FLOATING FRAME



# MBV BIG hoods with integrated special self-centring floating frame

**4** INSTALLATION ON THE PANELS



**6** CLOSING DISTANCE BETWEEN PANELS TO ACHIEVE IP DEGREE OF PROTECTION





# PE modules for MIXO frames



## MIXO CX 01 PE

These single-sized modular inserts (male and female) can be combined with all modules requiring the transfer of the PE line in mating connector parts <u>only when mounted</u> in the **CX 02 /03 /04 /06 PDF /PDM** plastic docking frame corresponding part.

The module has a fool-proof keying in order not to allow its installation and use in a metallic frame of MIXO series. In fact, this PE module is not deemed to provide equipotential bonding between the power PE contact and the metallic frame. Not compatible with CX 01 GPE.

 "First-make, last-break" function versus any line contact in nearby.

The screw-type terminal can accept PE lines:

- unprepared flexible (class 5) or rigid (class 1) copper conductors: from 2,5 mm<sup>2</sup> / AWG 14 to 16 mm<sup>2</sup> / AWG 6;
- > prepared (ferruled) flexible (class 5) copper conductors: from 1,5 mm<sup>2</sup> / AWG 16 to 16 mm<sup>2</sup> / AWG 6.

## MIXO CX 01 GPE

The MIXO modular connector series can employ the 1-slot-sized PE module for series CG (100 A) crimp contacts, connecting protective earth lines with large conductor cross sectional areas ranging from 10 mm<sup>2</sup> / AWG 8 to 35 mm<sup>2</sup> / AWG 2.

This PE module is particularly suitable in combination with CX 01 GF /M (1-pole, 1-slot sized) and CX 02 GF /GM (2-pole, 2-slot sized) 100 A modules once keeping the same size for the PE wire and the power (phase/neutral) wires so that special multi-core cables with reduced PE size are no longer required.

- "First-make, last-break" function versus any line contact in nearby;
- integrated PE springs for bonding to MIXO frames (both sides).

С





# CX 01 GPE

# size **1 module** 1 PE pole

### **Crimp connection**

≤ 0,3 mΩ
-40 °C +125 °C
≥ 500

## CE UK (pending: EAC)

(pending: CQC, DNV and BV)

#### (pending: cURus)

Item	Description		Part No.		Dimensio	on			
	PE male insert fe	or male contact	<u>CX 01 GPE</u>	M	→ 14,7 ←	-	44,1		
	Without contact	(to be ordered separately)							
2	PE female insert	for female contact	<u>CX 01 GPE</u>	E	→ 14,7 <del>×</del>	-	43,7		
	Without contact	(to be ordered separately)							
and an	<b>100 A crimp co</b> section (mm <sup>2</sup> ) 8-10 16 25 35	ntacts section (AWG) 8-7 6-5 4-3 2	Male CGMA 10 CGMA 16 CGMA 25 CGMA 35	Female <u>CGFA 10</u> <u>CGFA 16</u> <u>CGFA 25</u> <u>CGFA 35</u>		- 39,5 - 15		37	
					Wiring in	formation	, CG conta	cts	
					conductor section (mm <sup>2</sup> )	conductor slot ø A (mm)	conductor slot ø B (mm)	conductor slot ø C (mm)	stripping length (mm)
					8-10	4,3	4,3	13	15
					16	5,5	5,5	13	15
					25	7,0	7,0	13	15
					35	7,9	8,2	12,5	15
					Wire diame	ter: up to 11,5	mm.		
					It is recom tools homo	mended to u blogated by l	se the crimp LME (please	ing tools and see page F.2	l removal :3)

## Watch our clip

MIXO

Materials	
Insert	polycarbonate (PC)
UL 94 flame rating	V-0
Colour	green, RAL 6011
Contacts	copper alloy, silver 🌑 plated

Accessories	Pages		
MIXO Frames			
Metal frames for modular units	C.94-95		
Thermoplastic docking frames	C.98-101		
Enclosures			
Insulating MIXO holder	C.103		
MIXO ONE	C.106-107		
ΜΙΧΟ ΤΨΟ	C.110-111		

Can be used in bulkhead mounting housings or in high construction housings or in high construction hoods.

# size **1 module** 1 PE pole

## **Screw connection**

**CX 01 PE** 

EN 61984 rating	
Rated voltage (UL / CSA)	
Insulation resistance	
Contact resistance	≤ 0,3 mΩ
Ambient temperature limit	-40 °C +125 °C
Mechanical life (cycles)	≥ 500

# CE K (pending: EAC)

(pending: CQC, DNV and BV)

(pending: cURus)

Item	Description	Part No.	Dimension
	PE male inserts with male contacts Screw terminal connection	<u>CX 01 PEM</u>	→ 14,7 → 54,6 → Ø 6 34 Ø 6
	PE female inserts with female contacts Screw terminal connection	<u>CX 01 PEF</u>	

Materials	
Insert	polycarbonate (PC
UL 94 flame rating	V-(
Colour	green, RAL 6012
Contacts	built-in, copper alloy, silver 🔵 plated

Wiring information	
Wire cross sectional area	
- unprepared	2,5 mm² - 16 mm² (AWG 14-6)
- prepared	1,5 mm <sup>2</sup> - 16 mm <sup>2</sup> (AWG 16-6)
Stripping length	14 mm
Terminal screw torque	2,5 Nm (22.2 lb.in)

Accessories	Pages
MIXO Frames	
Thermoplastic docking frames	C.98-101