

## 180 °C

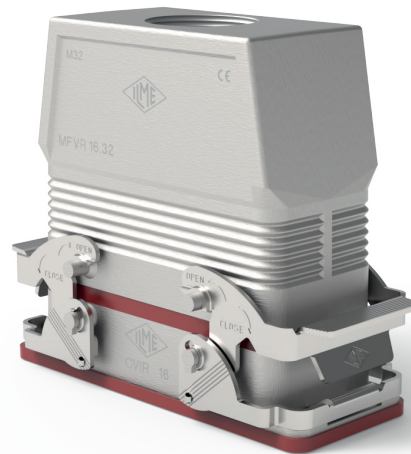
## The heat shield

Series specifically developed for industrial applications where the temperatures can reach up to **180 °C**.

The aluminium die-cast unpainted enclosures are equipped with stainless steel V-Type levers and FKM red gaskets\*.

Available in the sizes "21.21", "44.27", "57.27", "77.27", "104.27", "77.62" and "104.62", to be used in combination with the ILME high-temperature connector inserts made by self-extinguishing thermoplastic material (>PPS< polyphenylene sulphide).

\* Except MKAXR IF, MKAXXR IF Ø 32 mm O-ring and MHPR 48 L40 /LS40 Ø 40 mm O-ring.



✓ **cULus** certified for USA and Canada for **Type 12** (indoor use) and **Type 4** protection ratings, marked on the packaging label. **IP44** (size "21.21"), **IP65** (other sizes) degree of protection according to **EN IEC 60529**.

#### SUM-UP OF MATERIALS USED

- ☐ Enclosure body made of die cast aluminium alloy
- ☐ Flange and interface sealing gaskets (as applicable) in FKM, anti-aging heat resistant fluoroelastomer
- ☐ Stainless steel V-Type locking mechanism
- ☐ Single-block locking lever handles in stainless steel (for "21.21" sized CKA..R /MKA..R, "44.27" sized CV..R /MV..R, "77.62" sized CH..R 32.. /MHP..R 32.. and "104.62" sized CH..R 48.. /MHP..R 48.. versions).



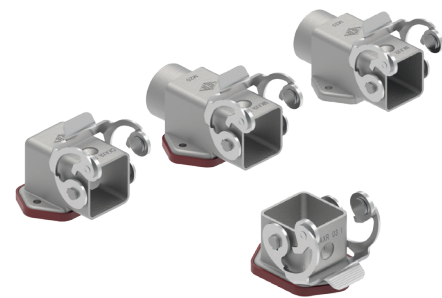
Find out  
more



CKA and MKA 180 °C version

inserts		page:
CK RY	3 poles + ⊕	60
CK RY	4 poles + ⊕	60

bulkhead mounting housings  
straight and angled



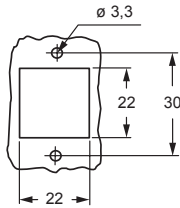
hoods



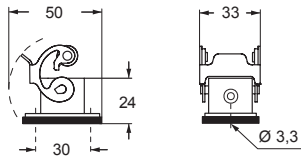
description	part No.	part No. (entry M20)	part No.	part No. (entry M20)
with stainless steel lever and gasket <sup>1)</sup>	CKAXR 03 I			
without cable entry, with stainless steel lever and gasket <sup>1)</sup>	CKAXR 03 IA			
with cable entry, with stainless steel lever and gasket <sup>1)</sup>		MKAXR IAP20		
with cable entry, with stainless steel lever, bulkhead hole closed <sup>1)</sup>		MKAXR AP20		
with pegs, top entry <sup>1)</sup>			MKAR V20	
with pegs, side entry <sup>1)</sup>			MKAR VA20	
with stainless steel lever, top entry <sup>1)</sup>			MKAXR VG20	

1) Enclosures with IP44 protection rating

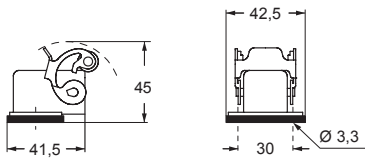
panel cut-out for bulkhead mounting housings



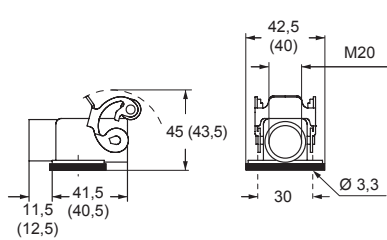
CKAXR I



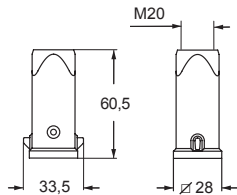
CKAXR IA



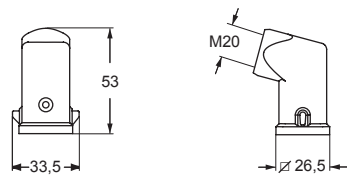
MKAXR IAP (MKAXR AP)



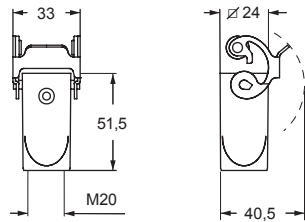
MKAR V



MKAR VA



MKAXR VG



CU<sup>®</sup> Type 12



MKAX - MKAXX 180 °C version

inserts

CK RY 3 poles + ⊕  
CK RY 4 poles + ⊕

page:

60  
60

bulkhead mounting housings  
with stainless steel lever



bulkhead mounting housings  
with stainless steel rigid lever



description

part No.  
(entry M32)

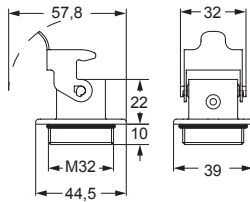
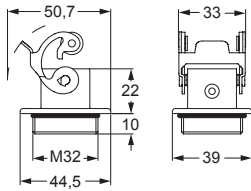
part No.  
(entry M32)

M32 fixing thread <sup>(\*)</sup>

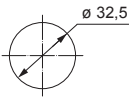
MKAXR IF

MKAXXR IF

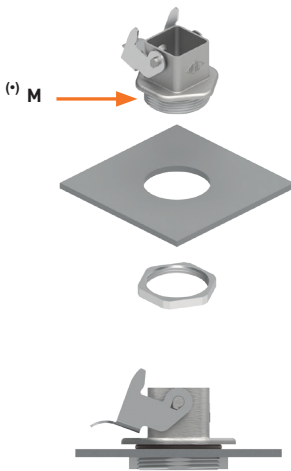
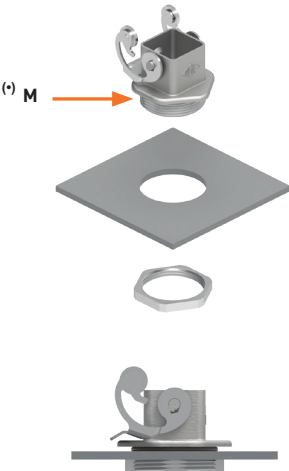
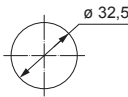
<sup>(\*)</sup> Locknut supplied on request, see Cable glands catalogue (article AS M32N metallic)



panel cut-out for enclosures



panel cut-out for enclosures



**CAUS**® Type 12



CV - MV - MVA and MH - MF 180 °C version

inserts  
CNE RY 6 poles + ⊕  
page: 116

bulkhead and surface mounting housings and cover

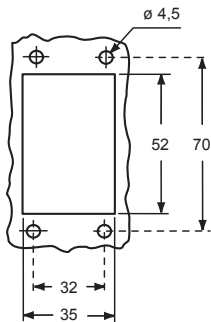
hoods

cover with lever (for hoods)  
available upon request

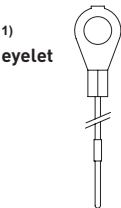
description	part No.	entry	part No.	entry M	part No.	entry	part No.	entry M
bulkhead mounting housing with lever and gasket	CVIR 06 L							
surface mounting housing, with lever			MVPR 06 L20	20				
surface mounting housing, with lever, high construction			MVAPR 06 L32	32				
cover with pegs (for enclosures) <sup>1)</sup>	CHCR 06 L							
enclosure with pegs, side entry							MHOR 06 L20	20
enclosure with pegs, side entry, high construction							MFOR 06 L32	32
enclosure with pegs, top entry <sup>2)</sup>							MHVR 06 L20	20
enclosure with pegs, top entry, high construction							MFVR 06 L32	32
enclosure with pegs, to be drilled, high construction							CACR 06 L	

<sup>2)</sup> can only be used with a complete cable gland  
(to be purchased separately)

panel cut-out for bulkhead mounting housings



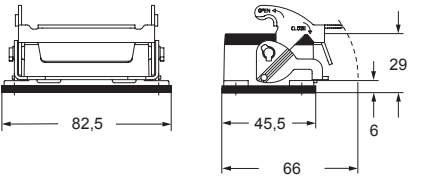
For fixing  
on housings



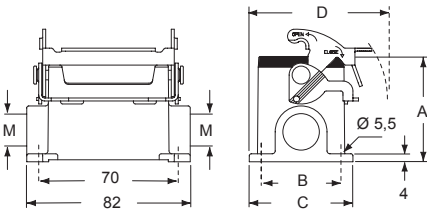
**CU<sup>®</sup>US** Type 4/12



CVIR L



MVPR L and MVAPR L

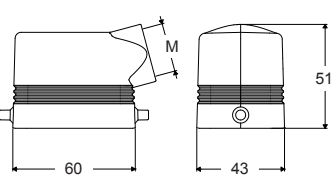


type	A	B	C	D
MVPR L	53	40	52	70
MVAPR L	74	45	57	72.5

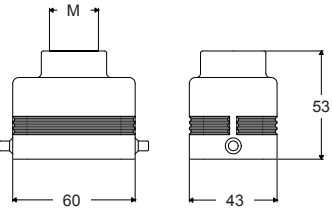
CHCR L



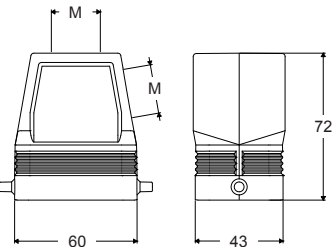
MHOR L



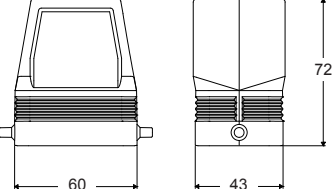
MHVR L



MFOR L and MFVR L



CACR L



inserts

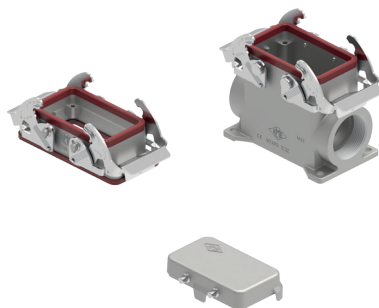
CNE RY

10 poles + ⊕

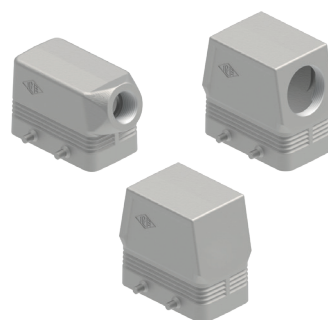
page:

117

bulkhead and surface mounting housings and cover



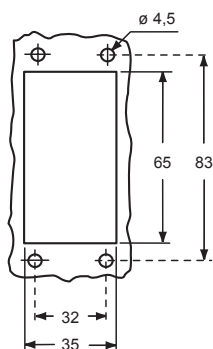
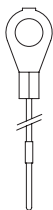
hoods

cover with 2 levers (for hoods)  
available upon request

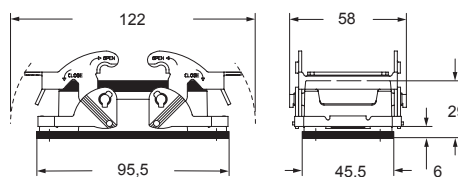
description	part No.	entry	part No.	entry M	part No.	entry	part No.	entry M
bulkhead mounting housing with levers and gasket	<b>CVIR 10</b>							
surface mounting housing, with levers			<b>MVPR 10.20</b>	20				
surface mounting housing, with levers, high construction			<b>MVAPR 10.32</b>	32				
cover with 4 pegs (for enclosures) <sup>1)</sup>	<b>CHCR 10</b>							
enclosure with pegs, side entry							<b>MHOR 10.20</b>	20
enclosure with pegs, side entry, high construction							<b>MFOR 10.32</b>	32
enclosure with pegs, top entry <sup>2)</sup>							<b>MHVR 10.20</b>	20
enclosure with pegs, top entry, high construction							<b>MFVR 10.32</b>	32
enclosure with pegs, to be drilled, high construction							<b>CACR 10</b>	

<sup>2)</sup> can only be used with a complete cable gland  
(to be purchased separately)

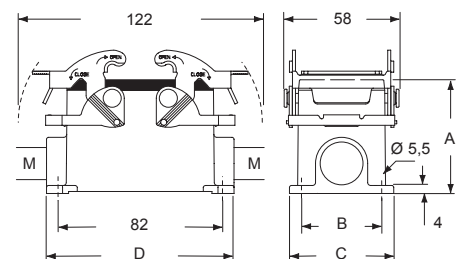
panel cut-out for bulkhead mounting housings

For fixing  
on housings1)  
eyeletC<sup>®</sup>ALUSType  
4/12

CVIR



MVPR and MVAPR

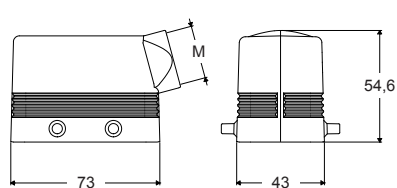


type	A	B	C	D
MVPR	57	40	52	93,5
MVAPR	74	45	57	94

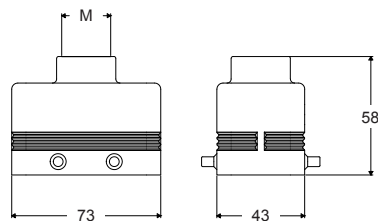
CHCR



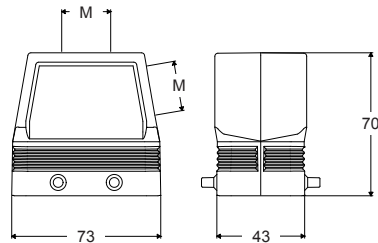
MHOR



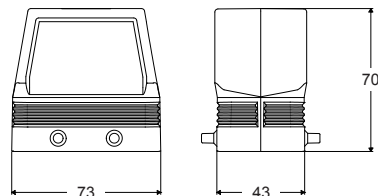
MHVR



MFOR and MFVR



CACR

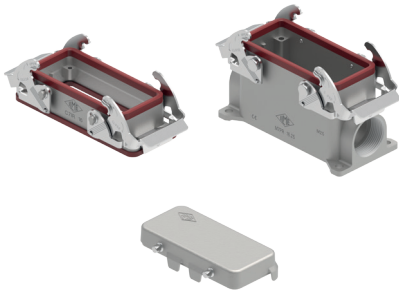


CV - MV - MVA and MH - MF 180 °C version

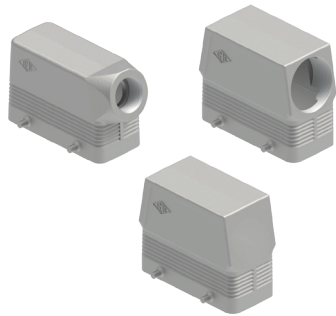
inserts		page:
CNE RY	16 poles + ⊕	118
CP RY	6 poles + ⊕	178
CX RY	4/0 and 4/2 poles + ⊕	202 - 203

cover with 2 levers (for hoods)  
available upon request

bulkhead and surface mounting housings  
and cover

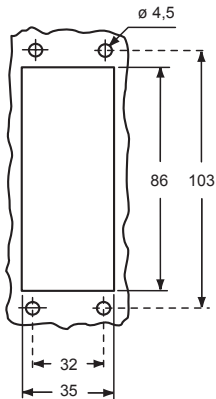


hoods

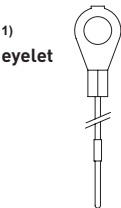


description	part No.	entry	part No.	entry M	part No.	entry	part No.	entry M
bulkhead mounting housing with levers and gasket	<b>CVIR 16</b>							
surface mounting housing, with levers			<b>MVPR 16.25</b>	25				
surface mounting housing, with levers, high construction			<b>MVAPR 16.32</b>	32				
cover with 4 pegs (for enclosures) 1)	<b>CHCR 16</b>							
enclosure with pegs, side entry							<b>MHOR 16.25</b>	25
enclosure with pegs, side entry, high construction							<b>MFOR 16.40</b>	40
enclosure with pegs, top entry							<b>MHVR 16.25</b>	25
enclosure with pegs, top entry, high construction							<b>MFVR 16.40</b>	40
enclosure with pegs, to be drilled, high construction								

panel cut-out for bulkhead mounting housings



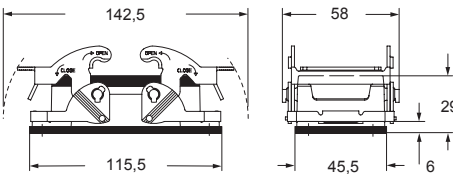
For fixing  
on housings



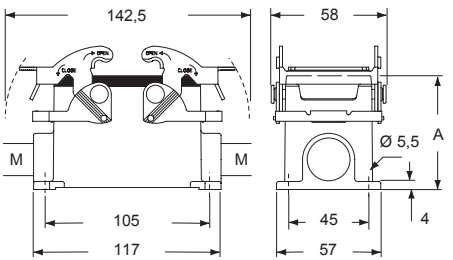
**CALUS** Type 4/12



CVIR

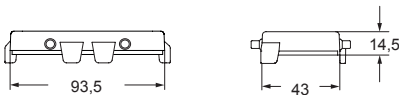


MVPR and MVAPR

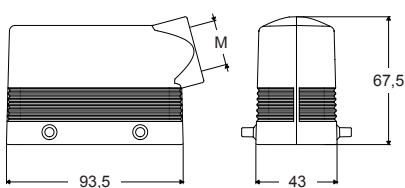


type	A
MVPR	63
MVAPR	81

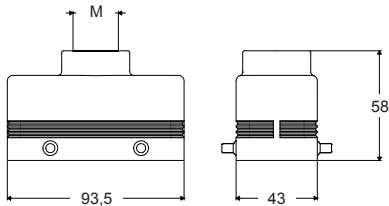
CHCR



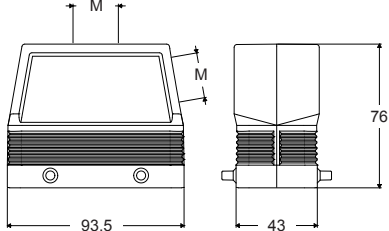
MHOR



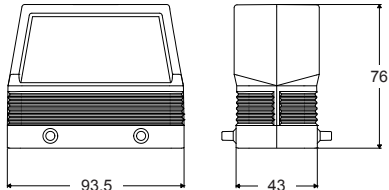
MHVR



MFOR and MFVR



CACR



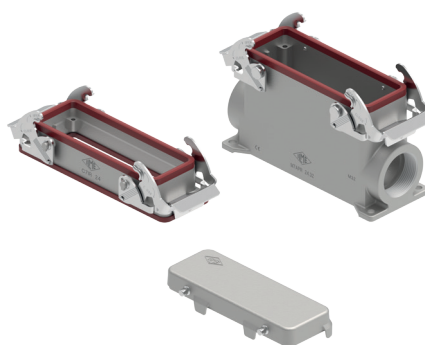
## inserts

CNE RY  
CX RY24 poles + ⊕  
4/8 poles + ⊕

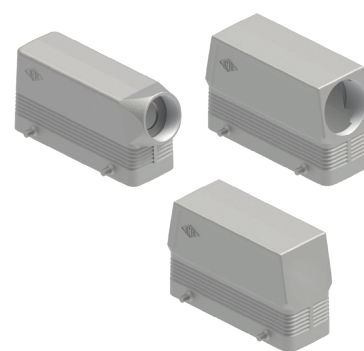
## page:

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204

## bulkhead and surface mounting housings and cover

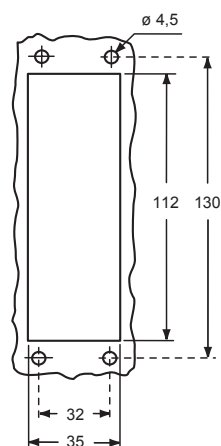
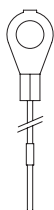


## hoods

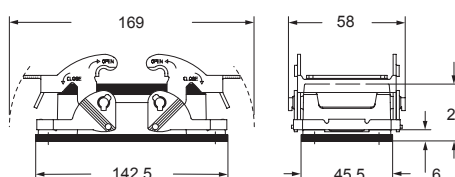
cover with 2 levers (for hoods)  
available upon request

description	part No.	entry	part No.	entry M	part No.	entry	part No.	entry M
bulkhead mounting housing with levers and gasket	<b>CVIR 24</b>							
surface mounting housing, with levers			<b>MVPR 24.25</b>	25				
surface mounting housing, with levers, high construction			<b>MVAPR 24.32</b>	32				
surface mounting housing, with levers, high construction			<b>MVAPR 24.40</b>	40				
cover with 4 pegs (for enclosures) <sup>1)</sup>	<b>CHCR 24</b>							
enclosure with pegs, side entry							<b>MHOR 24.25</b>	25
enclosure with pegs, side entry							<b>MHOR 24.32</b>	32
enclosure with pegs, side entry, high construction							<b>MFOR 24.32</b>	32
enclosure with pegs, side entry, high construction							<b>MFOR 24.40</b>	40
enclosure with pegs, top entry							<b>MHVR 24.25</b>	25
enclosure with pegs, top entry, high construction							<b>MFVR 24.40</b>	40
enclosure with pegs, to be drilled, high construction							<b>CACR 24</b>	

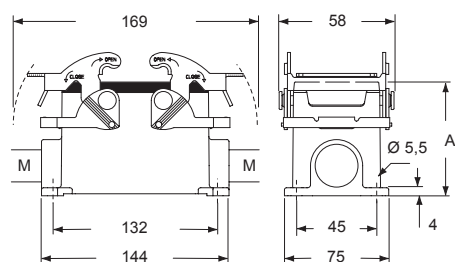
## panel cut-out for bulkhead mounting housings

For fixing  
on housings1)  
eyeletType  
4/12

## CVIR

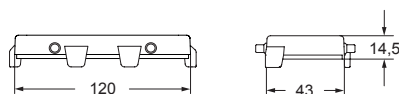


## MVPR and MVAPR

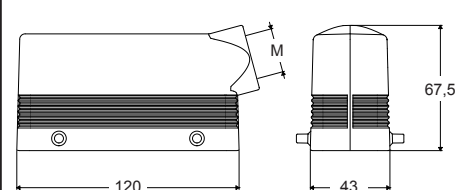


type	A
<b>MVPR</b>	63
<b>MVAPR</b>	81

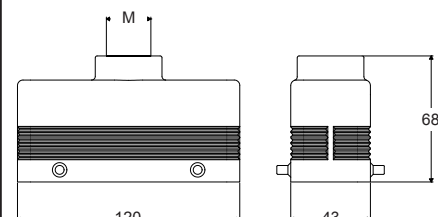
## CHCR



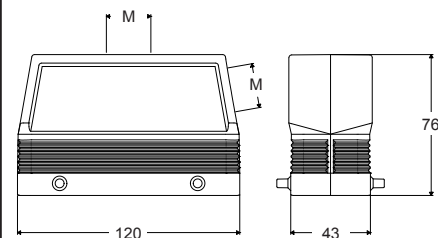
## MHOR



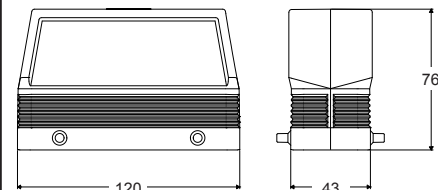
## MHVR



## MFOR and MFVR



## CACR



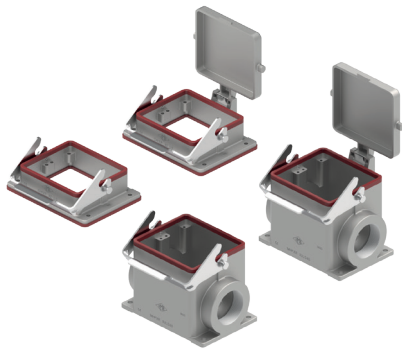


CH - MH and MF 180 °C version

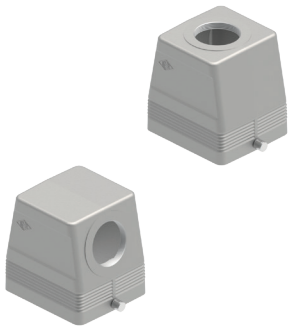
inserts		page:
CNE RY	2 × 16 poles + ⊕	118
CP RY	2 × 6 poles + ⊕	178
CX 4/0 RY	2 × 4/0 poles + ⊕	202
CX 4/2 RY	2 × 4/2 poles + ⊕	203

insert dimensions:  
2 × "77.27"

bulkhead and surface mounting housings

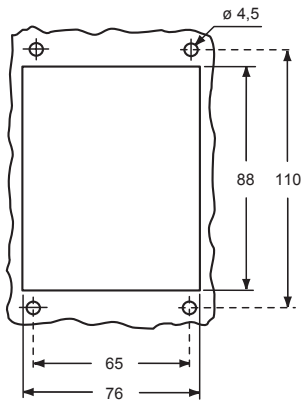


hoods

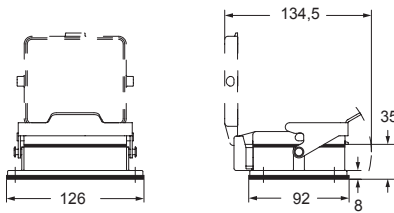


description	part No.	entry	part No.	entry M	part No.	entry	part No.	entry M
bulkhead mounting housing, with lever	CHIR 32 L							
bulkhead mounting housing, with lever and cover	CHIR 32 LS							
surface mounting housing, with lever	MHPR 32 L40	40						
surface mounting housing, with lever and cover	MHPR 32 LS40	40						
enclosure with pegs, side entry, high construction							MFOR 32 L40	40
enclosure with pegs, top entry, high construction							MFVR 32 L40	40

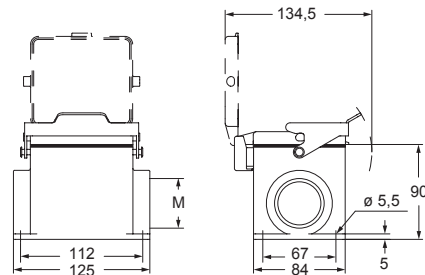
panel cut-out for bulkhead mounting housings



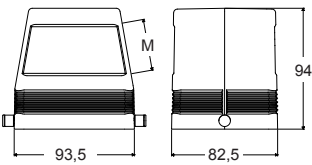
CHIR L and CHIR LS



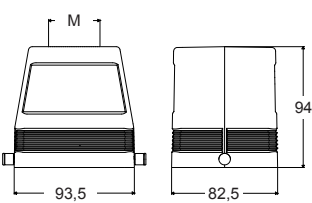
MHPR L and MHPR LS



MFOR L



MFVR L



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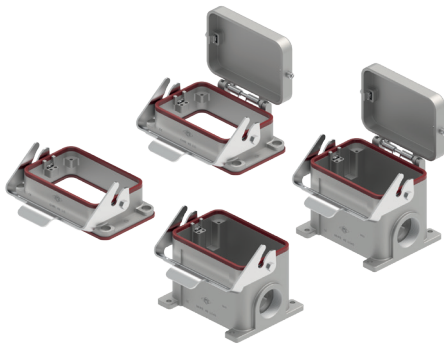
Enclosures size “104.62”

CH - MH and MF 180 °C version

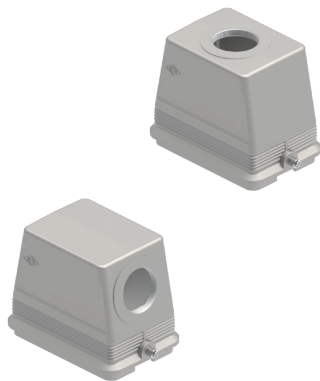
inserts		page:
CNE RY	48 poles + ⊕	120
CX 4/8 RY	2 × 4/8 poles + ⊕	204

insert dimensions:  
2 × “104.27”

bulkhead and surface mounting housings

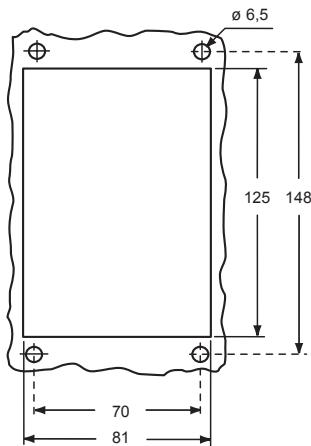


hoods

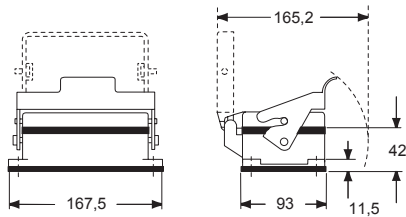


description	part No.	entry	part No.	entry M	part No.	entry	part No.	entry M
bulkhead mounting housing, with lever	CHIR 48 L							
bulkhead mounting housing, with lever and cover	CHIR 48 LS							
surface mounting housing, with lever	MHPR 48 L40	2 × M40						
surface mounting housing, with lever and cover	MHPR 48 LS40	2 × M40						
enclosure with pegs, side entry							MFOR 48 L40	1 × M40
enclosure with pegs, top entry							MFVR 48 L40	1 × M40

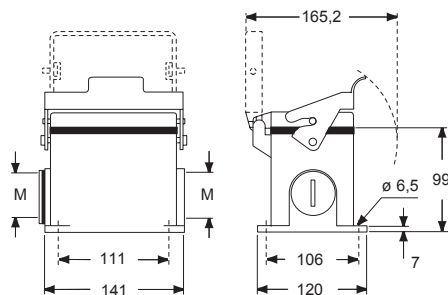
panel cut-out for bulkhead mounting housings



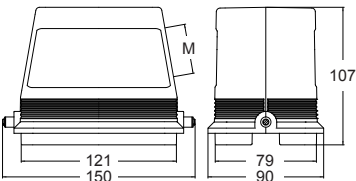
CHIR L and CHIR LS



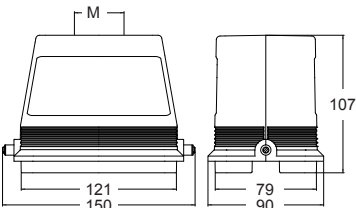
MHPR L and MHPR LS



MFOR L



MFVR L



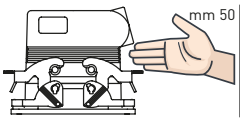
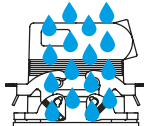
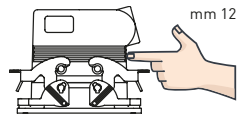
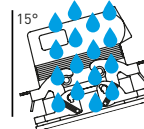
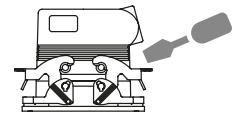
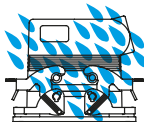
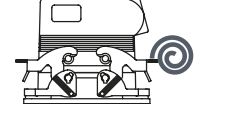
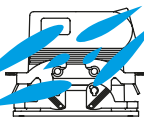
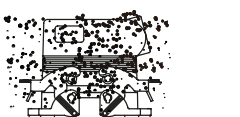
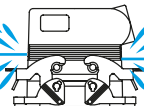
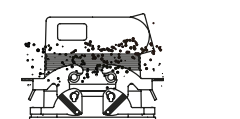
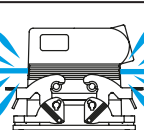
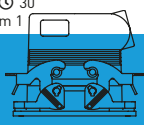
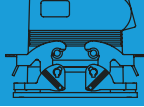
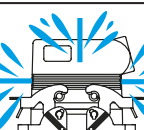
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## THE DEGREE OF PROTECTION

The connector's housing, sealing and locking mechanism protect the connection from external influences such as mechanical shocks, foreign bodies, humidity, dust, water or other fluids such as cleansing and cooling agents, oils, etc. The degree of protection the housing offers is explained in the IEC 60529, DIN EN 60529, standards that categorize enclosures according to foreign body and water protection.

The following table shows the **IP (Ingress Protection) Ratings Guide**.

FIRST Index figure	Degree of protection SOLIDS		SECOND Index figure	Degree of protection WATER	
0		No protection	0		No protection
1		Protected against access to hazardous parts with the back of a hand and protected against solid foreign objects of Ø 50 mm and greater	1		Protected against vertically falling water drops
2		Protected against access to hazardous parts with a finger - protected against solid foreign objects of Ø 12,5 mm and greater	2		Protected against vertically falling water drops when enclosure tilted up to 15° (on either side of the vertical)
3		Protected against access to hazardous parts with a tool - protected against solid foreign objects of Ø 2,5 mm and greater	3		Protected against spraying water (at an angle up to 60° on either side of the vertical)
4		Protected against access to hazardous parts with a wire - protected against solid foreign objects of Ø 1,0 mm and greater	4		Protected against splashing water from any direction
5		Protected against access to hazardous parts with a wire dust-protected (no harmful dust deposit)	5		Protected against water jets from any direction
6		Protected against access to hazardous parts with a wire dust-tight (total protection against dust)	6		Protected against powerful water jets from any direction (similar to sea waves)
<b>RATING EXAMPLE</b>  <b>IP 65</b>			7		Protected against the effects of temporary immersion in water at a maximum depth of 1 metre for 30 min
			8		Protected against the effects of continuous immersion in water at depth and/or duration upon agreement, more severe than for numeral 7
			9		Protected against high pressure and temperature water jets from any direction

Description according to IEC 60529

## CHANGEOVER FROM PG THREADS TO METRIC

After 31<sup>st</sup> December 1999, the German safety standard DIN VDE 0619 (1987-09) and the standards it refers to - DIN 46319 for dimensions with metric threads and DIN 46320 (T1-T4), DIN 46255 and DIN 46259 for dimensions with Pg threads (Pg = Panzerrohr-Gewinde: literally "threads for armoured pipes") - were withdrawn and European standard EN 50262 "Metric cable glands for electrical installations" has been in force since 1<sup>st</sup> January 2000.

This standard defines the new sizes with metric threads for cable glands according to EN 60423 and establishes the safety prescriptions.

Conversely, it does not specify the dimensions, such as the size of the tightening wrench, the diagonal dimension, or the dimensions of the tightness seals, as was the case in the withdrawn DIN for Pg cable glands.

The standard came definitively into force on 1<sup>st</sup> April 2001, when the contrasting national standards were withdrawn.

It is valid in all member countries of CENELEC (European Electrical Standardisation Committee) and its publication has led to a broadening of the supply of enclosures for multi-pole connectors for industrial use, to include new enclosure versions with cable entry suitable for metric cable glands.

NOTE – In 2016 the new EN 62444:2013 standard "Cable glands for electrical installations" replaced the former to cover only cable gland with metric thread whose range is now M6 through M110 (previously up to M75).

Cable gland producers have introduced the new metric series to add to the Pg size series, to gradually replace the latter type. The transitional period indicated in the new standard should have ended on 1<sup>st</sup> March 2001, after which date the use of cable entry devices with Pg thread and, as a result, enclosures with Pg thread, should have ended in new installations. Nevertheless, both the cable entry devices and the relevant enclosures with Pg thread, may continue to be used as spare parts. For the mandatory **CE** marking of these items, observance of the safety conditions specified by the Low Voltage Directive is sufficient, however adherence to the safety requirements of EN 62444 provides presumption of conformity.

**To distinguish hoods and surface-mounting housings with metric entries from the relevant Pg versions (identified with a C pre-code), the ILME metric types are identified with an M pre-code. The transposition table below indicates the correspondence rule adopted in most cases by ILME for creating the new metric versions.**

### Pg → metric transposition table

Pg	Metric
Pg 11	M20
Pg 13.5	M20
Pg 16	M20
Pg 21	M25
Pg 29	M32
Pg 36	M40
Pg 42	M50

### Cable diameter for use with ILME cable glands

Ø in mm	Metric thread				
Series	20	25	32	40	50
<b>AS M..P</b>	6 - 12,5	10 - 18	14 - 24	15 - 24	23 - 30
<b>AS M..E</b>	8 - 12,5	13,5 - 18	17 - 24	—	—
<b>AG M..T</b>	6 - 8 - 10	11 - 14 - 17	19 - 21 - 24	26 - 29 - 32	35 - 38 - 41
<b>AG M..I</b>	5 - 12,5	9 - 18	14 - 25	18 - 32	24 - 38,5
<b>AG M..R</b>	6 - 8 - 10	11 - 14 - 17	19 - 21 - 24	—	—

For more information, please refer to the technical catalogue on [www.ilme.com](http://www.ilme.com)