

T-TYPE enclosures

Standard & Aggressive environments,

Hygienic applications

T-TYPE STANDARD

for standard
applications



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T-TYPE/W

for aggressive
environments



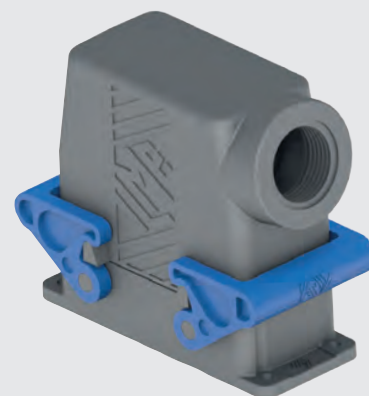
Pages 488 - 492

HYGIENIC T-TYPE/H

for food
& beverage

HYGIENIC T-TYPE/C

for low
temperatures



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ECOLAB®

T-TYPE general information

International standards

T-TYPE enclosures have been **successfully** tested in accordance with the following international standards, guaranteeing their usage for numerous applications:

- **EN 61984: Connectors - Safety requirements and tests.**
- **ANSI/UL 50 (Enclosures for Electrical Equipment)** equivalent to voluntary North American standard NEMA 250 (NEMA = National Electrical Manufacturers Association) and the corresponding Canadian standard CSA C22.2 No. 94 (Special Purpose Enclosures) for degrees of protection used in North America and required by local installation codes (e.g. NFPA 70 National Electrical Code in the USA, CSA plant standards for Canada). The current type approval was obtained after passing a series of tests carried out in accordance with the standard, in particular: **Type 12 (= NEMA 12)** for internal use, similar to degree of protection IP54 according to IEC/EN 60529. (Only standard T-TYPE enclosures).
- **EN 60529: Degrees of protection provided by enclosures (IP Code)** for ratings IP65, IP66 and IP69 (according to type).
- **EN 62262: Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK Code)** for ratings IK09 (enclosures with levers), IK10 (enclosures without levers).
- **IEC 60068-2-52: Environmental testing - Part 2-52: Salt mist, cyclic:** with 5% solution of sodium chloride (NaCl), solution Ph from 6,5 to 7,2;
ENVIRONMENTAL CONDITIONS: salt mist 35 °C for 2 hours; 40 °C for 168 hours with 93% relative humidity;
NO. OF CYCLES: 4;
TEST PASSED: maintaining the IP degree of protection and with a change of contact resistance $\leq 50\%$ of the initial value or $\leq 5 \text{ m}\Omega$.

- **IEC 60068-2-6: Environmental testing - Part 2-6: Vibration (sinusoidal):** with values 10Hz÷500Hz, 0,35 mm amplitude of displacement, 50m/s² (5g_n), crossover point 60,1 Hz;
NO. OF CYCLES: 10;
TEST PASSED: scanning 3 axes for 2 hours, with a change of contact resistance value $\leq 50\%$ of the initial value or $\leq 5 \text{ m}\Omega$ and no micro-interruption ($\geq 1 \text{ }\mu\text{s}$).
- **IEC 60068-2-3: Environmental testing - Part 2-3: Damp heat, steady state:** at 40 °C, 93% relative humidity, 504 hours;
TEST PASSED: with a change of contact resistance value $\leq 50\%$ of the initial value or $\leq 5 \text{ m}\Omega$ and no disruptive discharge (insulation resistance $> 100 \text{ G}\Omega$).
- **IEC 60068-2-30: Environmental testing - Part 2-30: Damp heat, cyclic:** 40 °C, 95% relative humidity, 12 hours at ambient temperature;
NO. OF CYCLES: 21;
TEST PASSED: with a change of contact resistance value $\leq 50\%$ of the initial value or $\leq 5 \text{ m}\Omega$ and no disruptive discharge (insulation resistance $> 100 \text{ G}\Omega$).

T-TYPE general information

Resistance to chemicals comparison table

	T-TYPE	T-TYPE/W	T-TYPE/H	T-TYPE/C
A				
Acetone (propanone)	x	x	x	x
Active chlorine	x	x	x	x
Alum	●	●	●	●
Ammonia, 10% aqueous solution	●	x	●	●
Ammonia, liquid	x	x	●	●
Ammonium acetate	●	x	●	●
Ammonium carbonate	●	●	●	x
Ammonium chloride	●	●	●	x
Ammonium nitrate	●	●	●	●
Ammonium phosphate	●	●	●	●
Ammonium sulphate	●	●	●	●
Amyl alcohol	□	□	□	x
Aniline	□	□	x	x
Aqua regia (1:3 nitric acid : hydrochloric acid)	x	x	x	x
Asphalt	□	□	□	x

B				
Beer	●	●	●	●
Benzene	x	□	x	x
Borax	□	□	□	□
Boric acid	●	●	●	●
Boric acid, 10% aqueous solution	●	●	●	●
Boric water (boric acid 3%)	●	●	●	●
Butane, gas	□	□	□	x
Butane, liquid	□	□	□	x

C				
Calcium chloride	●	●	●	●
Calcium chloride, 10% aqueous solution	●	●	●	●
Calcium chloride, diluted suspension	●	●	●	●
Calcium nitrate	●	●	●	●
Calcium sulphate	●	●	x	●
Caustic potash (potassium hydroxide) 10%	x	●	●	x
Citric acid 50% aqueous solution	x	x	●	●
Copper sulphate 10% aqueous solution	●	●	●	●
Cresol	□	□	x	x
Cresolic solution	□	□	x	x
Cutting oil	□	□	□	x
Cyclo-hexane	□	□	□	x

D				
Deca-hydro-naphtalene	x	x	x	x
Di-Ethylhexyl Phthalate	●	x	x	x
Di-isononyl Phthalate	●	x	x	x
Di-octyl Phthalate	●	●	x	x
Diesel Oil	□	□	□	□
Diluted Glucose	●	●	●	●

	T-TYPE	T-TYPE/W	T-TYPE/H	T-TYPE/C
D				
Diluted Glycerine	●	●	●	●
Diluted Glycol	●	●	●	●
Diluted Phenol	□	□	x	x
Diluted urea	●	●	●	●

E				
Ethanol (ethyl alcohol)	x	x	●	●
Ethyl alcohol, 10% aqueous solution	●	●	●	●
Ethylene-glycol or propylene-glycol	●	●	●	●

F				
Fatty acids	●	●	●	□
Ferric chloride, 10% aqueous solution	x	x	x	x
Formalin (formaldehyde 40% aqueous solution)	x	x	●	●
Fruit juices	●	●	●	●
Fuel oils	□	□	□	x

G				
Gaseous ammonia	□	x	●	●
Gaseous propane	x	●	●	x
Glycerine	●	●	●	●
Grinding oil	□	□	□	x
Gypsum (see calcium sulphate)	●	●	x	●

H				
Heptane	□	□	□	x
Hexane	□	□	□	x
Hydrochloric acid, <2% aqueous solution	x	x	●	□
Hydrogen sulphide	□	x	●	x

I				
Ink	●	●	●	●
IRM oil 901	●	●	●	●
IRM oil 902	□	●	●	x
IRM oil 903	x	□	□	□
Isopropyl alcohol	□	●	●	●

K				
Kitchen salt, aqueous solution	●	●	●	●

L				
Lactic acid	●	●	●	●
Linseed oil	●	●	●	●
Liquid soap	x	●	●	●
Lubricating engine oil	□	□	□	x
Lubricating oil	●	●	●	x

The classification herewith provided is only a generic reference guide in order to enable a first selection. It is based on literature data provided by the suppliers of the raw materials used, which are related to tests carried out on specimens under test conditions which are not always homogeneous and involving accelerating techniques, therefore not necessarily describing real operational conditions. The actual behaviour of products in the field may therefore be positively or negatively influenced by

several variable environmental parameters such as temperature, relative humidity, simultaneous presence of a plurality of substances and their concentration, exposure time, dynamic or static application condition, and so on. The accuracy of transferring the indications given herein to the actual conditions of use is therefore merely indicative and does not imply any guarantee or responsibility by ILME.

Q NOTE: As the characterizing element of the T-TYPE/W series is the different sealing gasket material, hoods and covers without sealing gaskets for this series are the same of T-TYPE Standard.

	T-TYPE	T-TYPE/W	T-TYPE/H	T-TYPE/C
M				
Mercury	●	●	●	●
Methanol (methyl alcohol)	x	x	●	●
Methyl alcohol, diluted 50%	□	□	●	●
Mineral based oil	●	●	●	●
Mineral oils (un-tasteful)	●	●	●	●
Mothballs (naphthalene, paradichlorobenzene)	□	□	x	x
Muriatic acid, concentrated	x	x	x	x

N				
n-Butanol (butyl alcohol)	●	●	●	●
Naphthalene	□	●	x	x
Normal (low octane) gasoline (petrol)	□	□	□	x

O				
Octane	□	□	□	x
Oleic acid	●	●	●	x
Oxalic acid	●	●	●	●
Ozone	x	x	x	□

P				
Paraffin oil	●	●	●	●
Petrol ether	□	□	□	□
Petroleum	●	●	●	●
Petroleum spirit (dry cleaning)	□	□	x	x
Potassium carbonate	●	●	●	●
Potassium chlorate	●	●	x	●
Potassium chloride	●	●	●	●
Potassium cyanide, aqueous solution	●	●	●	●
Potassium di-chromate	□	□	●	●
Potassium iodide	□	□	●	●
Potassium nitrate	□	x	x	●
Potassium persulphate	□	□	x	●
Potassium sulphate	□	□	●	●

S				
Sea water	●	●	●	●
Silicon oil	●	●	●	x
Soap solution	□	●	●	●
Sodium bicarbonate (oxide)	●	●	●	●
Sodium carbonate (washing soda)	●	●	●	●
Sodium chlorate	●	●	x	●
Sodium chloride (kitchen salt)	●	●	●	●
Sodium bisulphate, aqueous solution	●	●	●	●
Sodium hydroxide (caustic soda)	x	x	●	●
Sodium hydroxide 12,5% (liscivia)	□	x	●	●
Sodium Hypochlorite	x	x	●	●

	T-TYPE	T-TYPE/W	T-TYPE/H	T-TYPE/C
S				
Sodium nitrate	●	●	●	x
Sodium nitrite	□	□	●	x
Sodium perborate	●	●	●	●
Sodium phosphate	●	●	●	x
Sodium silicate	●	x	x	●
Sodium sulphate	●	●	●	●
Sodium sulphide	●	●	●	●
Sodium Thiosulphate (photographic fixer)	●	●	●	●
Solution for photographic processing	●	●	●	●
Starch, aqueous (amylum)	●	●	●	●
Stearic acid	●	●	●	●
Succinic acid (butanedioic acid)	●	●	●	●
Sulphur	●	●	x	x
Sulphur dioxide (sulphurous anhydride)	□	x	x	□
Sulphuric acid, 2% aqueous solution	x	x	□	□

T				
Tallow	●	●	●	●
Tar	□	□	x	□
Tartaric acid	●	●	●	●
Toluene	x	x	x	x
Transformer oil (dielectric)	●	●	●	●
Trichloroethylene	x	x	x	x
Tricresyl phosphate	●	●	x	x
Turpentine essence	x	□	□	x

U				
Urine	●	●	●	●

V				
Vegetable oil	●	●	●	●
Vinegar	x	□	●	□

W				
Water	●	●	●	●
White alcohol (isopropanol + ethanol)	□	●	●	●

X				
Xylene	x	x	x	x

Legend

● : Resistant □ : Limited resistance x : Not resistant

T-TYPE standard

For modular and standard inserts

Alongside the wide range of traditional metallic enclosures for multipole connectors, ILME first "pioneered" a **series of enclosures in self-extinguishing thermoplastic material** in the most common sizes "44.27", "57.27", "77.27" and "104.27".

Quality and money saving are the main features of these enclosures, as an outcome of careful product studies.

Valuable characteristics of these versions of enclosures:

- **significant structural solidity** and mechanical robustness by virtue of **substantial thickness**;
- **external dimensions** of the bulkhead mounting housings are **similar to those of the corresponding metallic enclosures**; **hole fixing centres are unchanged**;

- **pre-fastened gaskets** for easier installation;
- **wide space inside the enclosures** for cables, with mounted connector inserts, similar to the corresponding "high construction" versions;
- possibility of making **total insulation** constructions (equivalent to Class II) □ ;
- **absence of powder paint** for environments in which these are not recommended (e.g. to avoid food contamination).

STANDARD APPLICATIONS

SUM-UP

- ☑ Enclosures in thermoplastic material, dark grey RAL 7012 colour, with high thicknesses providing structural solidity and durability
- ☑ Built-in polyurethane gaskets
- ☑ Locking levers in thermoplastic material colour grey RAL 7001
- ☑ M25, M32 and M40 threaded cable entries
- ☑ IP65 degree of protection according to EN 60529
- ☑ UL TYPE 12 degree of protection according to ANSI/UL50
- ☑ Each enclosure carries its own part number, thread/size, conformity markings and UL type rating
- ☑ Ambient temperature range: -40 °C / +90 °C



Interchangeability with other ILME series

T-TYPE series housings can be coupled with metal hoods. Insulating hoods can be coupled with "V-TYPE" metal housings.

Hoods "57.27", "77.27" and "104.07" can be mounted on COB TCQ and COB BC frames simply by replacing the supplied levers with COB L levers (to be purchased separately).

Insulating enclosures are ideal for mounting of all ILME inserts with the exception of series models CT 40/ 64 and CTS 40/ 64 connector.

Inserts with 45° terminals of the CT series (screw-type terminals) and CTSE (spring terminals) are only insertable from the front (therefore not from the back) of the bulkhead mounting housings.

Being made by insulating material, they do not require a special reinforced insulation as metal ones do, for use with series CME higher voltage connector inserts (screw-type terminals).

With the exception of the limitations described below, it is generally possible to mount the MIXO series modular connectors and frames with the ground and screen anchors dedicated to this series.

Limitations

With respect to enclosures in metal alloy, ILME insulating enclosures have some limitations of use in combination with particular accessories:

- CRZ 06/ 10/ 16/ 24 reduction plates cannot be mounted with bulkhead mounting housings due to increased dimensions of the fastening flange of these insulating enclosures.
- The CYG 16 in-line joint cannot be mounted on the bulkhead mounting housings T-TYPE series because the gaskets of the latter do not fit together with the joint profile.
- The CYR 16.3 and CYR 24.4 round cable feed-throughs are difficult to position on their respective bulkhead mounting housings T-TYPE series.
- CPT 24 disposable protection cover cannot be mounted on insulating enclosures due to increased outer dimensions of these enclosures.
- MIXO series insert anchors cannot be mounted on TMAO 06/10 enclosures.
- CN insert anchors cannot be mounted on TMAO 06/10 enclosures.
- When using both cable entries of surface mounting housings, the conduit shall be of insulating type.

FOCUS ON:

1 Construction

By using the BC-MUL® moulding technique together with the use of MIL.BOX® material, **these enclosures are structurally solid and mechanically robust**, due to their increased thickness. They are particularly resistant to the main pollutants present in industrial environments. The lever enclosure pegs are built into the enclosures. The means for fastening the connector inserts to the enclosures consist of four M3 threaded metal inserts. Compared with metal construction enclosures, which – in order to comply with the electrical installation safety norms – must be earthed via a metal connection to the protective earth terminal of the inserts mounted inside the enclosures, this series of enclosures offers a solution for **total insulation constructions** □ (equivalent to class II) where necessary. The thermoplastic material used is RAL 7012 dark grey colour and **UL 94V-2** grade self-extinguishing and has passed the glow wire testing (GWEPT) in accordance with the EN IEC 60695-2-11 at **850 °C**, in excess of what required by the intended uses. The **surface mounting** high construction housings are supplied **with an open threaded entry** and diametrically opposite a closed threaded entry, which can be **opened** by the user, if required (with suitable tool). Manufactured from insulating material, they do not require **special reinforced insulation** as the metal versions do, for use with series **CME higher voltage** connector inserts (screw-type terminals), available only upon request.

2 Gaskets

T-TYPE standard sealing gaskets have been produced by means of the FIPFG technology (Formed-In-Place-Foam-Gasket). They have therefore been incorporated in the base flange on bulkhead mounting housings for easier installation.

🔒 **T-TYPE standard: Built-in polyurethane gaskets**

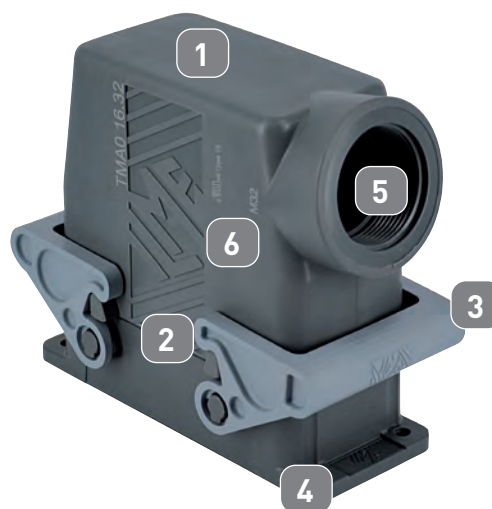
3 Levers

The locking levers have been produced in self-extinguishing thermoplastic material, grey RAL 7001 colour.

4 Dimensions

The internal dimensions allow mounting of all connector inserts in their relevant sizes. The external dimensions of the bulkhead mounting housings are similar to those of the corresponding metallic enclosures; hole fixing centres are unchanged.

Hoods offer an inner cabling space similar to that of the “high” construction models of the corresponding metal enclosures. Other characteristics are in compliance with the applicable safety standard for electrical connectors, IEC/EN 61984.



5 Cable entries

The housing and hood cable entries are available with metric thread, respectively:

Q **M25 or M32** for smaller sizes “44.27” and “57.27”.

Q **M32 or M40** for larger sizes “77.27” and “104.27”.

The recent standard IEC/EN 61076-7-100 regarding metric cable entries for multipole electrical connectors for heavy duty uses, which standardises some main dimensions for entries and their related accessories (gaskets, pressure nuts), have been carefully considered in the product design.

6 Markings

Each enclosure carries its own part number and conformity markings.

T-TYPE insulating STANDARD APPLICATIONS

inserts		page:
CDD	24 poles + ⊕	76
CDS	9 poles + ⊕	-
CDSH	9 poles + ⊕	86
CDSH NC	6 poles + ⊕	95
CNE	6 poles + ⊕	110
CSE	6 poles + ⊕	-
CSH	6 poles + ⊕	110
CSH S	6 poles + ⊕	122
CCE	6 poles + ⊕	130
CSS	6 poles + ⊕	148
CT, CTSE (16A) *	6 poles + ⊕	160
CQE	10 poles + ⊕	168
MIXO	2 modules	262 - 317

*) only for standard insulating version TCHI

housings with single lever

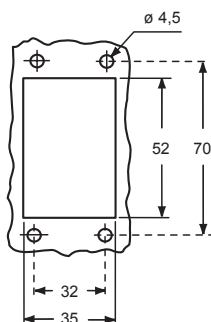


hoods with 2 pegs

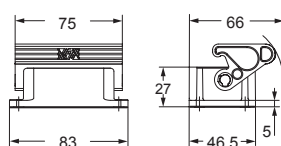


description	part No.	entry M	part No.	entry M
bulkhead mounting housing with thermoplastic lever	TCHI 06 L			
surface mounting housing with thermoplastic lever, high construction	TMAP 06 L25	25		
surface mounting housing with thermoplastic lever, high construction	TMAP 06 L32	32		
with pegs, side entry, high construction			TMAO 06 L25	25
with pegs, side entry, high construction			TMAO 06 L32	32
with pegs, top entry, high construction			TMAV 06 L25	25
with pegs, top entry, high construction			TMAV 06 L32	32

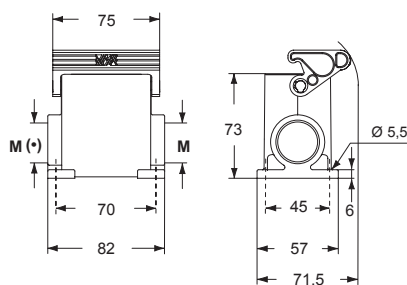
panel cut-out for bulkhead mounting housings



TCHI L

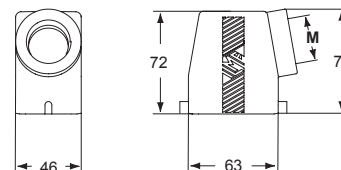


TMAP L

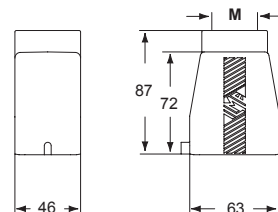


(*) The surface mounting, high construction housings are supplied with an open threaded entry (*) and diametrically opposite a closed threaded entry which can be opened by the user if required (with suitable tool).

TMAO L



TMAV L



CAUS Type 12



ambient temperature limits -40 °C / +90 °C



T-TYPE insulating STANDARD APPLICATIONS

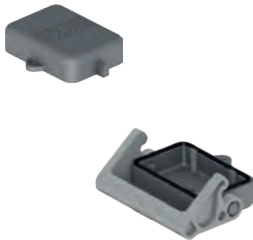
inserts		page:
CDD	24 poles + ⊕	76
CDS	9 poles + ⊕	-
CDSH	9 poles + ⊕	86
CDSH NC	6 poles + ⊕	95
CNE	6 poles + ⊕	110
CSE	6 poles + ⊕	-
CSH	6 poles + ⊕	110
CSH S	6 poles + ⊕	122
CCE	6 poles + ⊕	130
CSS	6 poles + ⊕	148
CT, CTSE (16A) *)	6 poles + ⊕	160
CQE	10 poles + ⊕	168
MIXO	2 modules	262 - 317

*) only for standard size “44.27” TCHI

hoods with single lever
top entry

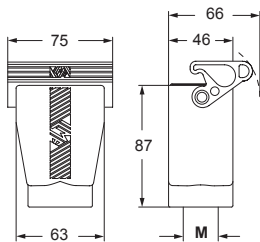


covers

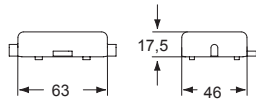


description	part No.	entry M	part No. (with eyelet)	part No. (with loop)
with thermoplastic lever and gasket, high construction	TMAV 06 LG25	25		
with thermoplastic lever and gasket, high construction	TMAV 06 LG32	32		
with pegs			TCHC 06 L	TCHC 06 SL
with thermoplastic lever and gasket				TCHC 06 LG

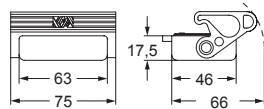
TMAV LG



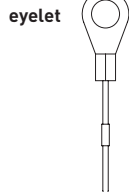
TCHC L (SL)



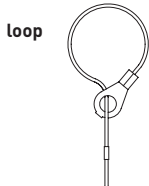
TCHC LG



For fixing
on housings



For fixing
on hoods



CAL[®]US Type 12



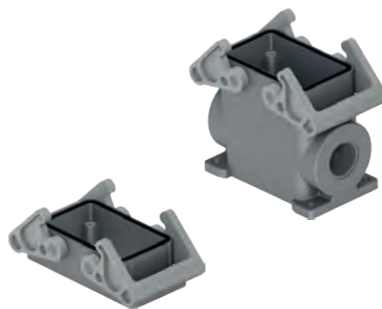
ambient temperature limits -40 °C / +90 °C

T-TYPE insulating STANDARD APPLICATIONS

inserts		page:
CDD	42 poles + ⊕	78
CDS	18 poles + ⊕	-
CDSH	18 poles + ⊕	87
CNE	10 poles + ⊕	111
CSE	10 poles + ⊕	-
CSH	10 poles + ⊕	111
CSH S	10 poles + ⊕	123
CCE	10 poles + ⊕	131
CMSH	3+2 (aux) poles + ⊕	136
CMCE	3+2 (aux) poles + ⊕	137
CSS	10 poles + ⊕	149
CT, CTSE (16A) *)	10 poles + ⊕	161
CQE	18 poles + ⊕	169
CX	8/24 poles + ⊕	194
MIXO	3 modules	262 - 317

*) only for standard insulating version TCHI

housings with double lever

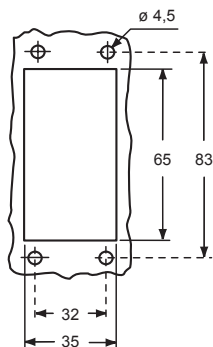


hoods with 4 pegs

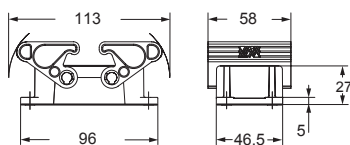


description	part No.	entry M	part No.	entry M
bulkhead mounting housing with thermoplastic levers	TCHI 10			
surface mounting housing, thermoplastic levers, high construction	TMAP 10.25	25		
surface mounting housing, thermoplastic levers, high construction	TMAP 10.32	32		
with pegs, side entry, high construction			TMAO 10.25	25
with pegs, side entry, high construction			TMAO 10.32	32
with pegs, top entry, high construction			TMAV 10.25	25
with pegs, top entry, high construction			TMAV 10.32	32

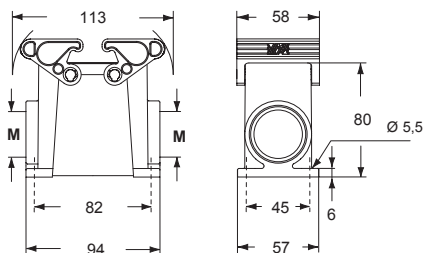
panel cut-out for bulkhead mounting housings



TCHI

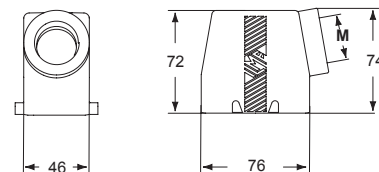


TMAP

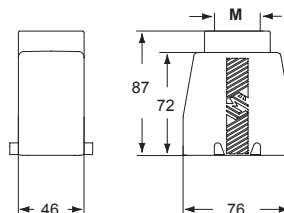


The surface mounting, high construction housings are supplied with an open threaded entry and diametrically opposite a closed threaded entry which can be opened by the user if required (with suitable tool).

TMAO



TMAV



CAUS Type 12



ambient temperature limits -40 °C / +90 °C



T-TYPE insulating STANDARD APPLICATIONS

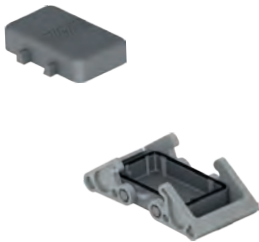
inserts		page:
CDD	42 poles + ⊕	78
CDS	18 poles + ⊕	-
CDSH	18 poles + ⊕	87
CNE	10 poles + ⊕	111
CSE	10 poles + ⊕	-
CSH	10 poles + ⊕	111
CSH S	10 poles + ⊕	123
CCE	10 poles + ⊕	131
CMSH	3+2 (aux) poles + ⊕	136
CMCE	3+2 (aux) poles + ⊕	137
CSS	10 poles + ⊕	149
CT, CTSE (16A) *)	10 poles + ⊕	161
CQE	18 poles + ⊕	169
CX	8/24 poles + ⊕	194
MIXO	3 modules	262 - 317

*) only for standard insulating version TCHI

hoods with double lever
top entry

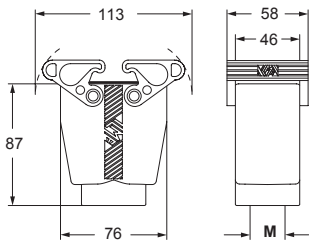


covers

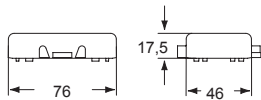


description	part No.	entry M	part No. (with eyelet)	part No. (with loop)
with thermoplastic levers and gasket, high construction	TMAV 10 G25	25		
with thermoplastic levers and gasket, high construction	TMAV 10 G32	32		
with 4 pegs			TCHC 10	TCHC 10 S
with 2 thermoplastic levers and gasket				TCHC 10 G

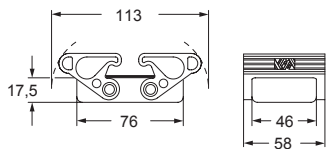
TMAV G



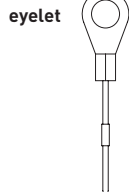
TCHC (S)



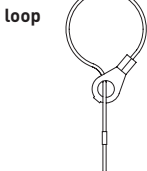
TCHC G



For fixing
on housings



For fixing
on hoods



CAV[®]US Type 12

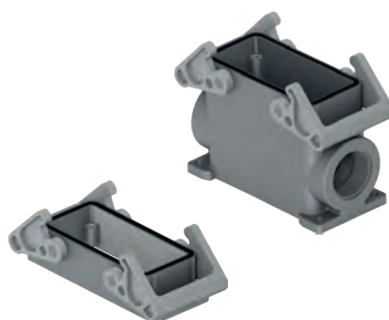


ambient temperature limits -40 °C / +90 °C

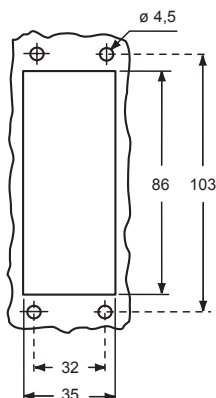
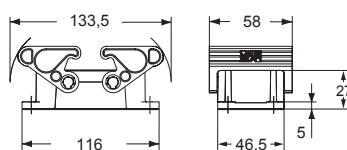
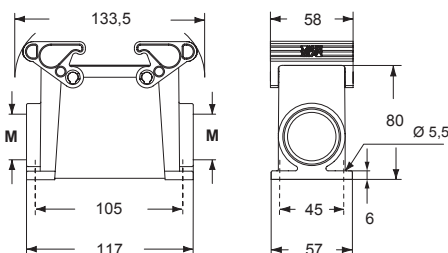
T-TYPE insulating STANDARD APPLICATIONS

inserts		page:
CD	40 poles + ⊕	70
CDD	72 poles + ⊕	79
CDS	27 poles + ⊕	-
CDSH	27 poles + ⊕	88
CNE	16 poles + ⊕	112
CSE	16 poles + ⊕	-
CSH	16 poles + ⊕	112
CSH S	16 poles + ⊕	124
CCE	16 poles + ⊕	132
CMSH, CMCE	6+2 (aux) poles + ⊕	138 - 139
CSS	16 poles + ⊕	150
CT, CTSE (16A) *)	16 poles + ⊕	162
CQE	32 poles + ⊕	170
CQEE	40 poles + ⊕	176
CP	6 poles + ⊕	178
CX	6/12, 6/36 and 12/2 poles + ⊕	197 - 199
CX	4/0 and 4/2 poles + ⊕	200 - 201
MIXO	4 modules	262 - 317

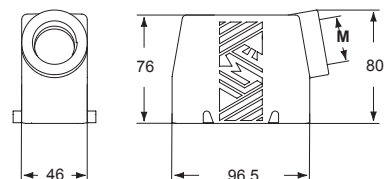
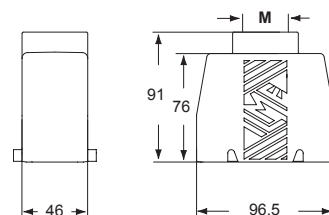
*) only for standard insulating version TCHI

housings with double lever**hoods with 4 pegs**

description	part No.	entry M	part No.	entry M
bulkhead mounting housing with thermoplastic levers	TCHI 16			
surface mounting housing, thermoplastic levers, high construction	TMAP 16.32	32		
surface mounting housing, thermoplastic levers, high construction	TMAP 16.40	40		
with pegs, side entry, high construction			TMAO 16.32	32
with pegs, side entry, high construction			TMAO 16.40	40
with pegs, top entry, high construction			TMAV 16.32	32
with pegs, top entry, high construction			TMAV 16.40	40

panel cut-out for bulkhead mounting housings**TCHI****TMAP**

The surface mounting, high construction housings are supplied with an open threaded entry and diametrically opposite a closed threaded entry which can be opened by the user if required (with suitable tool).

TMAO**TMAV****CAVUS** Type 12

ambient temperature limits -40 °C / +90 °C



T-TYPE insulating STANDARD APPLICATIONS

inserts		page:
CD	40 poles + ⊕	70
CDD	72 poles + ⊕	79
CDS	27 poles + ⊕	-
CDSH	27 poles + ⊕	88
CNE	16 poles + ⊕	112
CSE	16 poles + ⊕	-
CSH	16 poles + ⊕	112
CSH S	16 poles + ⊕	124
CCE	16 poles + ⊕	132
CMSH, CMCE	6+2 (aux) poles + ⊕	138 - 139
CSS	16 poles + ⊕	150
CT, CTSE (16A) *)	16 poles + ⊕	162
CQE	32 poles + ⊕	170
CQEE	40 poles + ⊕	176
CP	6 poles + ⊕	178
CX	6/12, 6/36 and 12/2 poles + ⊕	197 - 199
CX	4/0 and 4/2 poles + ⊕	200 - 201
MIXO	4 modules	262 - 317

*) only for standard insulating version TCHI

hoods with double lever
top entry

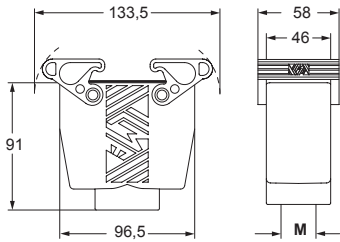


covers

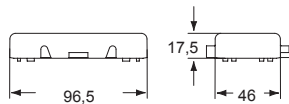


description	part No.	entry M	part No. (with eyelet)	part No. (with loop)
with thermoplastic levers and gasket, high construction	TMAV 16 G32	32		
with thermoplastic levers and gasket, high construction	TMAV 16 G40	40		
with 4 pegs			TCHC 16	TCHC 16 S
with 2 thermoplastic levers and gasket				TCHC 16 G

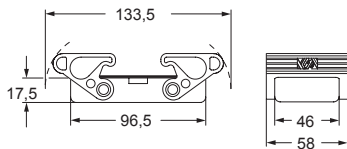
TMAV G



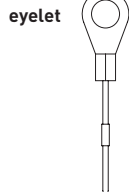
TCHC (S)



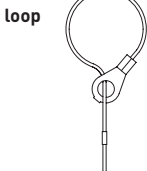
TCHC G



For fixing
on housings



For fixing
on hoods



CAUS Type 12

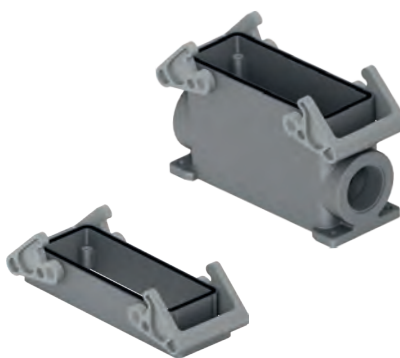


ambient temperature limits -40 °C / +90 °C

T-TYPE insulating STANDARD APPLICATIONS

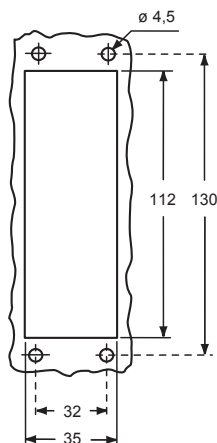
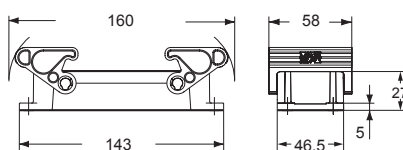
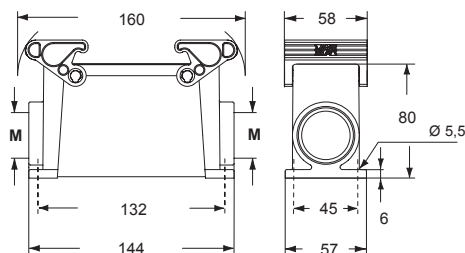
inserts		page:
CD	64 poles + ⊕	72
CDD	108 poles + ⊕	81
CDS	42 poles + ⊕	-
CDSH	42 poles + ⊕	89
CNE	24 poles + ⊕	113
CSE	24 poles + ⊕	-
CSH	24 poles + ⊕	113
CSH S	24 poles + ⊕	125
CCE	24 poles + ⊕	133
CMSH	10+2 (aux) poles + ⊕	140
CMCE	10+2 (aux) poles + ⊕	141
CSS	24 poles + ⊕	151
CT, CTSE (16A) *)	24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

*) only for standard insulating version TCHI

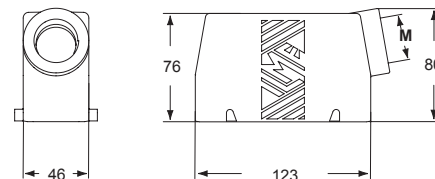
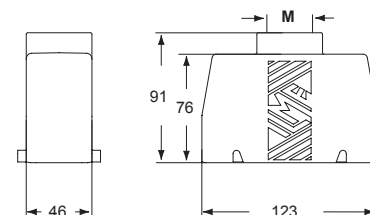
housings with double lever**hoods with 4 pegs**

description	part No.	entry M	part No.	entry M
bulkhead mounting housing with thermoplastic levers	TCHI 24			
surface mounting housing, thermoplastic levers, high construction	TMAP 24.32	32		
surface mounting housing, thermoplastic levers, high construction	TMAP 24.40	40		
with pegs, side entry, high construction			TMAO 24.32	32
with pegs, side entry, high construction			TMAO 24.40	40
with pegs, top entry, high construction			TMAV 24.32	32
with pegs, top entry, high construction			TMAV 24.40	40

panel cut-out for bulkhead mounting housings

**TCHI****TMAP**

The surface mounting, high construction housings are supplied with an open threaded entry and diametrically opposite a closed threaded entry which can be opened by the user if required (with suitable tool).

TMAO**TMAV****CAVUS** Type 12

ambient temperature limits -40 °C / +90 °C



T-TYPE insulating STANDARD APPLICATIONS

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
CT, CTSE (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

*) only for standard insulating version TCHI

hoods with double lever
top entry

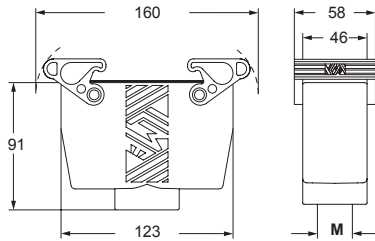


covers

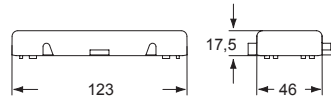


description	part No.	entry M	part No. (with eyelet)	part No. (with loop)
with thermoplastic levers and gasket, high construction	TMAV 24 G32	32		
with thermoplastic levers and gasket, high construction	TMAV 24 G40	40		
with 4 pegs			TCHC 24	TCHC 24 S
with 2 thermoplastic levers and gasket				TCHC 24 G

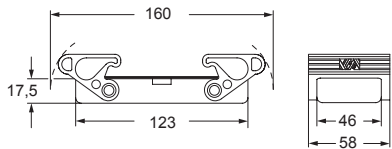
TMAV G



TCHC (S)

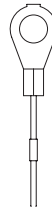


TCHC G



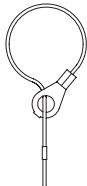
For fixing
on housings

eyelet



For fixing
on hoods

loop



CAUS Type 12



ambient temperature limits -40 °C / +90 °C

T-TYPE/W

Aggressive environments

AGGRESSIVE ENVIRONMENTS

SUM-UP

- ❑ Enclosures in thermoplastic material, dark grey RAL 7012 colour, with high thicknesses providing structural solidity and durability
- ❑ Built-in FKM fluoroelastomer sealing gaskets
- ❑ Locking levers in thermoplastic material colour grey RAL 7001
- ❑ M25, M32 and M40 threaded cable entries
- ❑ IP66/IP69 degree of protection according to EN 60529
- ❑ UL TYPE 12 degree of protection according to ANSI/UL50
- ❑ Each enclosure carries its own part number, thread size and conformity markings and UL type rating
- ❑ Ambient temperature range: -40 °C / +90 °C

Q NOTE: As the characterizing element of the T-TYPE/W series is the different sealing gasket material, hoods and covers without sealing gaskets for this series are the same of T-TYPE Standard.



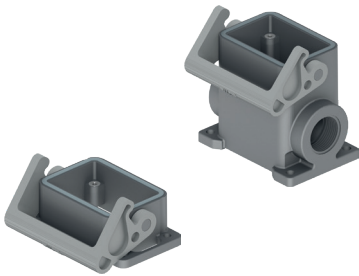


T-TYPE/W insulating AGGRESSIVE ENVIRONMENTS

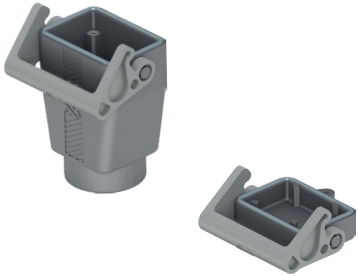
inserts		page:
CDD	24 poles + ⊕	76
CDS	9 poles + ⊕	-
CDSH	9 poles + ⊕	86
CDSH NC	6 poles + ⊕	95
CNE	6 poles + ⊕	110
CSE	6 poles + ⊕	-
CSH	6 poles + ⊕	110
CSH S	6 poles + ⊕	122
CCE	6 poles + ⊕	130
CSS	6 poles + ⊕	148
CT, CTSE (16A *)	6 poles + ⊕	160
CQE	10 poles + ⊕	168
MIXO	2 modules	262 - 317

*) only for standard insulating version THIW

housings with single lever
FKM gasket



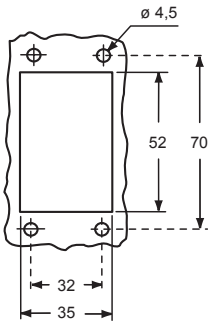
hoods with single lever, top entry
covers, FKM gasket



description	part No.	entry M	part No.	entry M	part No. (with loop)
-------------	----------	------------	----------	------------	-------------------------

bulkhead mounting housing with thermoplastic lever	THIW 06 L				
surface mounting housing, thermoplastic lever, high construction	TAPW 06 L25	25			
surface mounting housing, thermoplastic lever, high construction	TAPW 06 L32	32			
with thermoplastic lever and gasket, high construction			TAVW 06 LG25	25	
with thermoplastic lever and gasket, high construction			TAVW 06 LG32	32	
cover with thermoplastic lever and gasket					THCW 06 LG

panel cut-out for bulkhead mounting housings



TMA0
Hoods
(page 480)

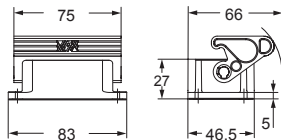


TMAV
Hoods
(page 480)

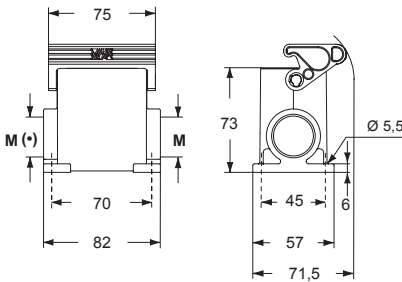
TCHC L
TCHC SL
Covers
with eyelet
(page 481)



THIW L

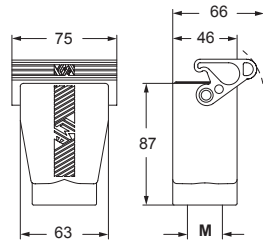


TAPW L

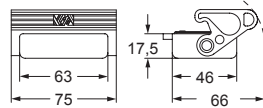


(+) The surface mounting, high construction housings are supplied with an open threaded entry (+) and diametrically opposite a closed threaded entry which can be opened by the user if required (with suitable tool).

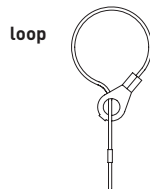
TAVW LG



THCW LG



For fixing on hoods



CE[®] US Type 12

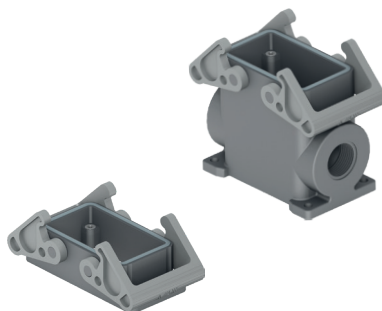
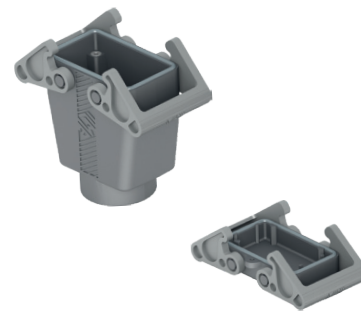


ambient temperature limits -40 °C / +90 °C

T-TYPE/W insulating AGGRESSIVE ENVIRONMENTS

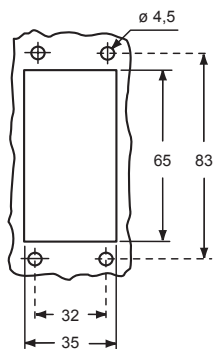
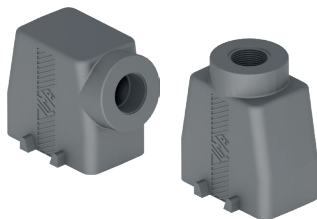
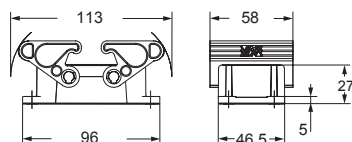
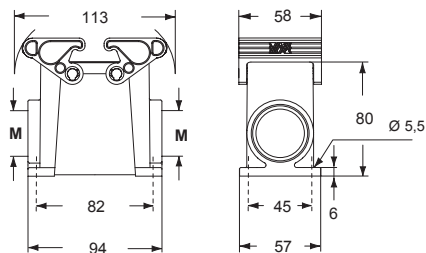
inserts		page:
CDD	42 poles + ⊕	78
CDS	18 poles + ⊕	-
CDSH	18 poles + ⊕	87
CNE	10 poles + ⊕	111
CSE	10 poles + ⊕	-
CSH	10 poles + ⊕	111
CSH S	10 poles + ⊕	123
CCE	10 poles + ⊕	131
CMSH	3+2 (aux) poles + ⊕	136
CMCE	3+2 (aux) poles + ⊕	137
CSS	10 poles + ⊕	149
CT, CTSE (16A) *)	10 poles + ⊕	161
CQE	18 poles + ⊕	169
CX	8/24 poles + ⊕	194
MIXO	3 modules	262 - 317

*) only for standard insulating version THIW

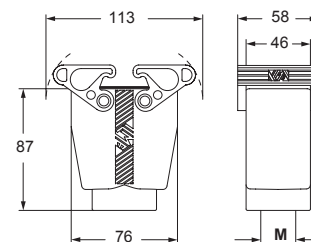
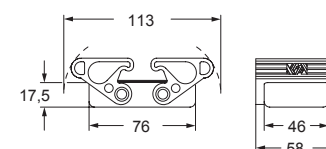
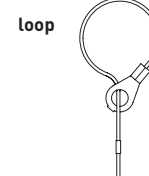
**housings with double lever
FKM gasket****hoods with double lever, top entry
covers, FKM gasket**

description	part No.	entry M	part No.	entry M	part No. (with loop)
bulkhead mounting housing with thermoplastic levers	THIW 10				
surface mounting housing, thermoplastic levers, high construction	TAPW 10.25	25			
surface mounting housing, thermoplastic levers, high construction	TAPW 10.32	32			
with thermoplastic levers and gasket, high construction			TAVW 10 G25	25	
with thermoplastic levers and gasket, high construction			TAVW 10 G32	32	
cover with 2 thermoplastic levers and gasket					THCW 10 G

panel cut-out for bulkhead mounting housings

**TMA0
Hoods
(page 482)****TMAV
Hoods
(page 482)****TCHC
TCHC S
Covers
with eyelet
(page 483)****THIW****TAPW**

The surface mounting, high construction housings are supplied with an open threaded entry and diametrically opposite a closed threaded entry which can be opened by the user if required (with suitable tool).

TAVW G**THCW G****For fixing on hoods****CAUS** Type 12

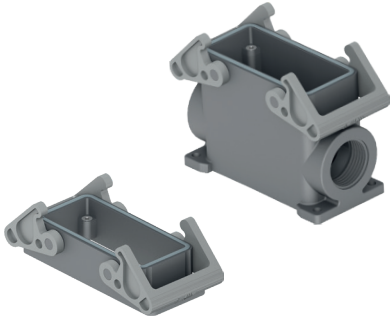
ambient temperature limits -40 °C / +90 °C

T-TYPE/W insulating AGGRESSIVE ENVIRONMENTS

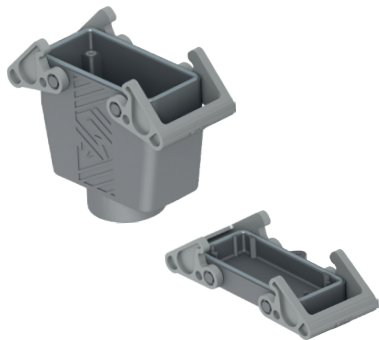
inserts		page:
CD	40 poles + ⊕	70
CDD	72 poles + ⊕	79
CDS	27 poles + ⊕	-
CDSH	27 poles + ⊕	88
CNE	16 poles + ⊕	112
CSE	16 poles + ⊕	-
CSH	16 poles + ⊕	112
CSH S	16 poles + ⊕	124
CCE	16 poles + ⊕	132
CMSH, CMCE	6+2 (aux) poles + ⊕	138 - 139
CSS	16 poles + ⊕	150
CT, CTSE (16A) *)	16 poles + ⊕	162
CQE	32 poles + ⊕	170
CQEE	40 poles + ⊕	176
CP	6 poles + ⊕	178
CX	6/12, 6/36 and 12/2 poles + ⊕	197 - 199
CX	4/0 and 4/2 poles + ⊕	200 - 201
MIXO	4 modules	262 - 317

*) only for standard insulating version THIW

housings with double lever
FKM gasket



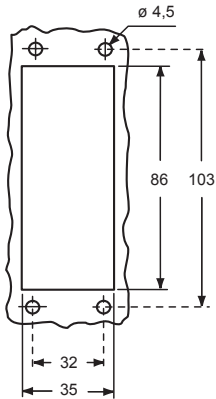
hoods with double lever, top entry
covers, FKM gasket



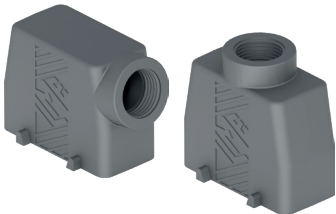
description	part No.	entry M	part No.	entry M	part No. (with loop)
-------------	----------	------------	----------	------------	-------------------------

bulkhead mounting housing with thermoplastic levers	THIW 16				
surface mounting housing, thermoplastic levers, high construction	TAPW 16.32	32			
surface mounting housing, thermoplastic levers, high construction	TAPW 16.40	40			
with thermoplastic levers and gasket, high construction			TAVW 16 G32	32	
with thermoplastic levers and gasket, high construction			TAVW 16 G40	40	
cover with 2 thermoplastic levers and gasket					THCW 16 G

panel cut-out for bulkhead mounting housings



TMAO
Hoods
(page 484)



TMAV
Hoods
(page 484)

TCHC
TCHC S
Covers
with eyelet
(page 485)

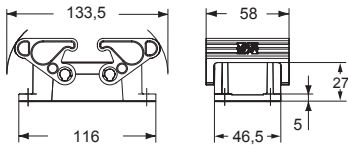


CEC® Type 12

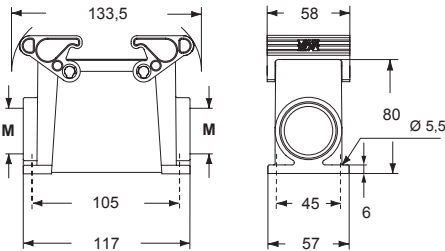


ambient temperature limits -40 °C / +90 °C

THIW

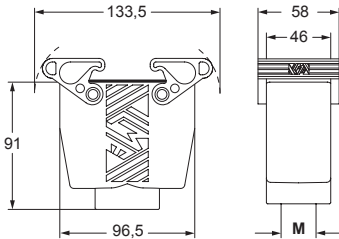


TAPW

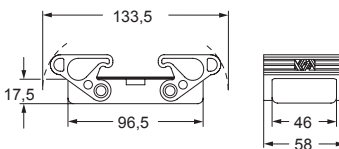


The surface mounting, high construction housings are supplied with an open threaded entry and diametrically opposite a closed threaded entry which can be opened by the user if required (with suitable tool).

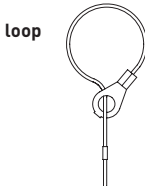
TAVW G



THCW G



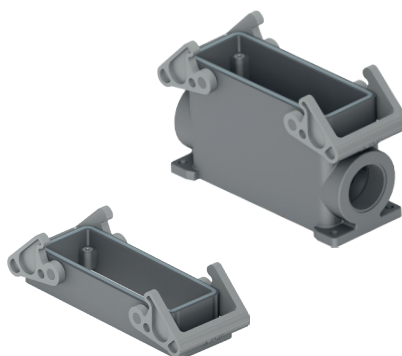
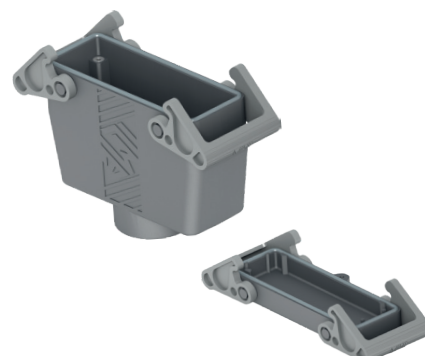
For fixing on hoods



T-TYPE/W insulating AGGRESSIVE ENVIRONMENTS

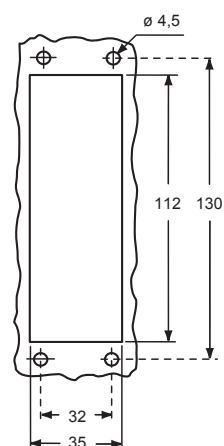
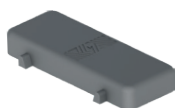
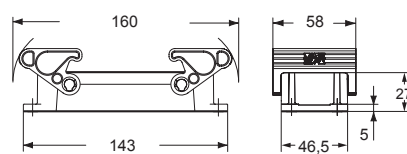
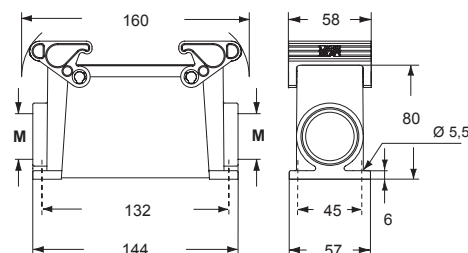
inserts		page:
CD	64 poles + ⊕	72
CDD	108 poles + ⊕	81
CDS	42 poles + ⊕	-
CDSH	42 poles + ⊕	89
CNE	24 poles + ⊕	113
CSE	24 poles + ⊕	-
CSH	24 poles + ⊕	113
CSH S	24 poles + ⊕	125
CCE	24 poles + ⊕	133
CMSH	10+2 (aux) poles + ⊕	140
CMCE	10+2 (aux) poles + ⊕	141
CSS	24 poles + ⊕	151
CT, CTSE (16A) *)	24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

*) only for standard insulating version THIW

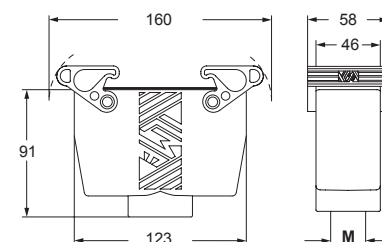
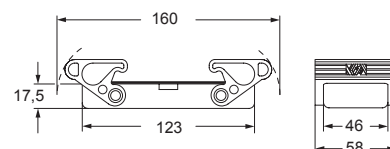
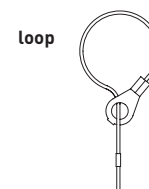
**housings with double lever
FKM gasket****hoods with double lever, top entry
covers, FKM gasket**

description	part No.	entry M	part No.	entry M	part No. (with loop)
bulkhead mounting housing with thermoplastic levers	THIW 24				
surface mounting housing, thermoplastic levers, high construction	TAPW 24.32	32			
surface mounting housing, thermoplastic levers, high construction	TAPW 24.40	40			
with thermoplastic levers and gasket, high construction			TAVW 24 G32	32	
with thermoplastic levers and gasket, high construction			TAVW 24 G40	40	
cover with 2 thermoplastic levers and gasket					THCW 24 G

panel cut-out for bulkhead mounting housings

**TMA0
Hoods
(page 486)****TMAV
Hoods
(page 486)****TCHC
TCHC S
Covers
with eyelet
(page 487)****THIW****TAPW**

The surface mounting, high construction housings are supplied with an open threaded entry and diametrically opposite a closed threaded entry which can be opened by the user if required (with suitable tool).

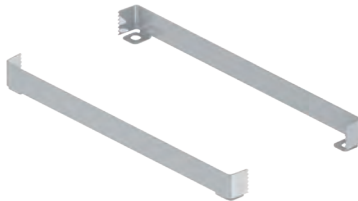
TAVW G**THCW G****For fixing on hoods****CAUS** Type 12

ambient temperature limits -40 °C / +90 °C

CR..BPE PE earth jumpers

inserts		page:
CD	40, 64 poles + ⊕	70, 72
CDD	24, 42, 72, 108 poles + ⊕	76 - 81
CDS	9, 18, 27, 42 poles + ⊕	-
CDSH	9, 18, 27, 42 poles + ⊕	86 - 89
CNE	6, 10, 16, 24 poles + ⊕	110 - 113
CSE	6, 10, 16, 24 poles + ⊕	-
CSH	6, 10, 16, 24 poles + ⊕	110 - 113
CSH S	6, 10, 16, 24 poles + ⊕	122 - 125
CCE	6, 10, 16, 24 poles + ⊕	130 - 133
CMSH	3, 6, 10 +2 (aux) poles + ⊕	136 - 140
CMCE	3, 6, 10 +2 (aux) poles + ⊕	137 - 141
CSS	6, 10, 16, 24 poles + ⊕	148 - 151
CT, CTSE	6, 10, 16, 24 poles + ⊕	160 - 163
CQE	10, 18, 32, 46 poles + ⊕	168 - 171
CQEE	40, 64 poles + ⊕	176 - 177
CP	6 poles + ⊕	178
CX	8/24, 6/36, 12/2 poles + ⊕	194 - 199

PE optional earth jumpers



description

part No.

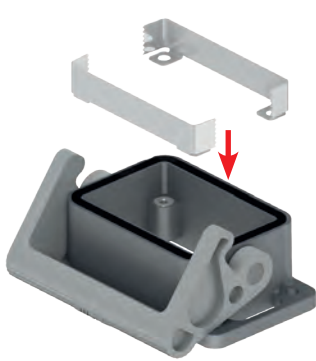
galvanized brass, to be optionally used with
T-TYPE enclosures series:
for inserts "44.27" size
for inserts "57.27" size
for inserts "77.27" size
for inserts "104.27" size

CR 06 BPE
CR 10 BPE
CR 16 BPE
CR 24 BPE

CR...BPE accessories PE (protective earth) jumpers
could be mounted under the connector inserts for the
connection of the two insert's PE plates.

To guarantee to proper alignment of the insert inside the
enclosure, it is necessary to use both jumpers supplied
(in the same housing or hood); the jumpers are not
usable individually.

Furthermore the user is responsible for verifying the
continuity of the PE connection ⊕ (male and female)
independently of using CR...BPE earth jumpers.



Optional
earth jumpers

T-TYPE ENCLOSURES WITH INTEGRATED PROTECTIVE EARTH JUMPERS




Special version of the T-TYPE enclosures
with pre-installed protective earth jumpers
to put remedy to undetected incorrect PE wiring



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

TECHNICAL FEATURES

T-TYPE ENCLOSURES WITH INTEGRATED PE JUMPERS

- Available **upon request** (product not managed on stock) for all version of T-TYPE enclosures (covers not included):
Standard, T-TYPE /W, Hygienic /H and Hygienic /C with pre-installed PE jumpers (also known as “bridges” hence the suffix B to identify such variants).
- Relieves the duty to install the optional CR 06 /10 /16 /24 BPE protective earth jumpers into the T-TYPE insulating enclosures.
- In case the wiring of the connectors is done by unskilled persons, the PE jumpers grants the continuity of the protective earth path between male and female connectors even in case of PE wiring mistake and omitted test for continuity of PE (which is nonetheless a legally obligatory test on wired devices and equipment prior to their put into service).
- Already covered by  approval with Type 1, 2, 12 ratings.

Series T-TYPE enclosures with optional protective earth jumpers CR...BPE preassembled

Enclosures with protective earth jumpers CR...BPE preassembled are available upon request from June 2020, with Part no. of base model plus **letter B** at the end.

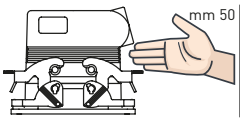
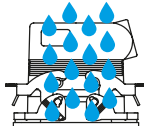
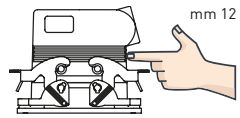
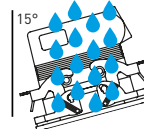
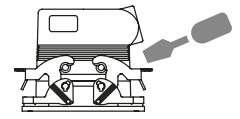
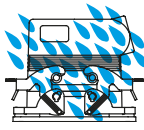
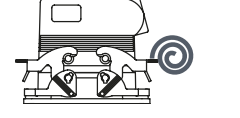
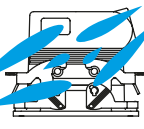
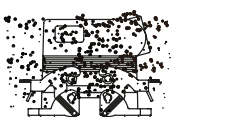
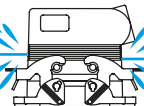
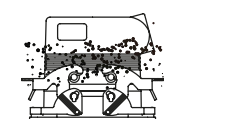
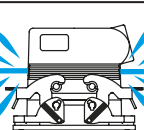
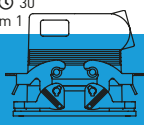
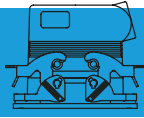
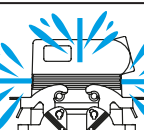
Size	Cable outlet	Locking lever	T-TYPE Standard Part no.	T-TYPE W Part no.	T-TYPE Hygienic Part no.	T-TYPE Hygienic Cold Part no.
44.27	-	single	TCHI 06 LB	THIW 06 LB	THIH 06 LB	THIC 06 LB
57.27	-	double	TCHI 10 B	THIW 10 B	THIH 10 B	THIC 10 B
77.27	-	double	TCHI 16 B	THIW 16 B	THIH 16 B	THIC 16 B
104.27	-	double	TCHI 24 B	THIW 24 B	THIH 24 B	THIC 24 B
44.27	M25	single	TMAP 06L25B	TAPW 06L25B	TAPH 06L25B	TAPC 06L25B
44.27	M32	single	TMAP 06L32B	TAPW 06L32B	TAPH 06L32B	TAPC 06L32B
44.27	2xM25*	single	TMAP06L225B	TAPW06L225B	TAPH06L225B	TAPC06L225B
44.27	2xM32*	single	TMAP06L232B	TAPW06L232B	TAPH06L232B	TAPC06L232B
57.27	M25	double	TMAP 10.25B	TAPW 10.25B	TAPH 10.25B	TAPC 10.25B
57.27	M32	double	TMAP 10.32B	TAPW 10.32B	TAPH 10.32B	TAPC 10.32B
57.27	2xM25*	double	TMAP10.225B	TAPW10.225B	TAPH10.225B	TAPC10.225B
57.27	2xM32*	double	TMAP10.232B	TAPW10.232B	TAPH10.232B	TAPC10.232B
77.27	M32	double	TMAP 16.32B	TAPW 16.32B	TAPH 16.32B	TAPC 16.32B
77.27	M40	double	TMAP 16.40B	TAPW 16.40B	TAPH 16.40B	TAPC 16.40B
77.27	2xM32*	double	TMAP16.232B	TAPW16.232B	TAPH16.232B	TAPC16.232B
77.27	2xM40*	double	TMAP16.240B	TAPW16.240B	TAPH16.240B	TAPC16.240B
104.27	M32	double	TMAP 24.32B	TAPW 24.32B	TAPH 24.32B	TAPC 24.32B
104.27	M40	double	TMAP 24.40B	TAPW 24.40B	TAPH 24.40B	TAPC 24.40B
104.27	2xM32*	double	TMAP24.232B	TAPW24.232B	TAPH24.232B	TAPC24.232B
104.27	2xM40*	double	TMAP24.240B	TAPW24.240B	TAPH24.240B	TAPC24.240B
44.27	M25	-	TMAO 06L25B	-	-	-
44.27	M32	-	TMAO 06L32B	-	-	-
57.27	M25	-	TMAO 10.25B	-	-	-
57.27	M32	-	TMAO 10.32B	-	-	-
77.27	M32	-	TMAO 16.32B	-	-	-
77.27	M40	-	TMAO 16.40B	-	-	-
104.27	M32	-	TMAO 24.32B	-	-	-
104.27	M40	-	TMAO 24.40B	-	-	-
44.27	M25	-	TMAV 06L25B	-	-	-
44.27	M32	-	TMAV 06L32B	-	-	-
57.27	M25	-	TMAV 10.25B	-	-	-
57.27	M32	-	TMAV 10.32B	-	-	-
77.27	M32	-	TMAV 16.32B	-	-	-
77.27	M40	-	TMAV 16.40B	-	-	-
104.27	M32	-	TMAV 24.32B	-	-	-
104.27	M40	-	TMAV 24.40B	-	-	-
44.27	M25	single	TMAV06LG25B	TAVW06LG25B	TAVH06LG25B	TAVC06LG25B
44.27	M32	single	TMAV06LG32B	TAVW06LG32B	TAVH06LG32B	TAVC06LG32B
57.27	M25	double	TMAV 10G25B	TAVW 10G25B	TAVH 10G25B	TAVC 10G25B
57.27	M32	double	TMAV 10G32B	TAVW 10G32B	TAVH 10G32B	TAVC 10G32B
77.27	M32	double	TMAV 16G32B	TAVW 16G32B	TAVH 16G32B	TAVC 16G32B
77.27	M40	double	TMAV 16G40B	TAVW 16G40B	TAVH 16G40B	TAVC 16G40B
104.27	M32	double	TMAV 24G32B	TAVW 24G32B	TAVH 24G32B	TAVC 24G32B
104.27	M40	double	TMAV 24G40B	TAVW 24G40B	TAVH 24G40B	TAVC 24G40B

* New versions with two cable entries opened are available upon request from June 2020 also in standard version without PE jumpers.

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)
RATING EXAMPLE IP 65			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 31st 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 1st 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 1st 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 1st 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
AS M..P	6 - 12,5	10 - 18	14 - 24	15 - 24	23 - 30
AS M..E	8 - 12,5	13,5 - 18	17 - 24	—	—
AG M..T	6 - 8 - 10	11 - 14 - 17	19 - 21 - 24	26 - 29 - 32	35 - 38 - 41
AG M..I	5 - 12,5	9 - 18	14 - 25	18 - 32	24 - 38,5
AG M..R	6 - 8 - 10	11 - 14 - 17	19 - 21 - 24	—	—

For more information, please refer to the technical catalogue on www.ilme.com