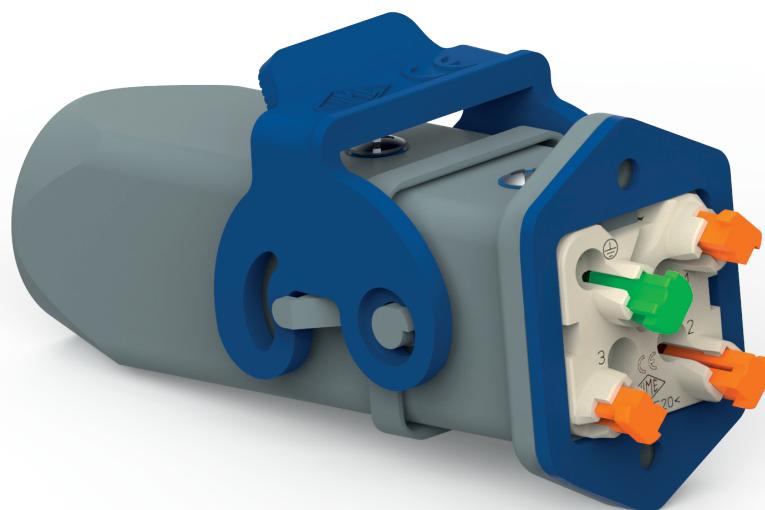


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## CKH - MKH HYGIENIC ENCLOSURES SIZE "21.21"

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Made by thermoplastic insulating materials suitable for splash area, qualified for resistance to cleaning agents by ECOLAB and in compliance with EHEDG Guideline no. 32



Find more information on our products at [www.ilme.com](http://www.ilme.com)

# TECHNICAL FEATURES

## CKH - MKH HYGIENIC ENCLOSURES

The new series **CKH - MKH HYGIENIC** size "21.21" enclosures, completes the offer of HYGIENIC connector enclosures of series T-TYPE HYGIENIC, by adding enclosures for the growing family of size "21.21" connector inserts, currently comprising the models listed in **Table 1** (power, signal and data connectors, including fibre optics).

The sealing gasket of those male inserts that include it (see **Table 1**, items marked with ●) has to be replaced with the special HYGIENIC sealing gasket **CR 21.21 GMH**, blue coloured, for easier detection in case of loss in the food path.

The **CR 21.21 GMH** gasket is included in each hood package, where specified in **Table 2**.

**Table 1 – "21.21" connector inserts suitable for CKH-MKH HYGIENIC enclosures**

CKF /M 03 /04 ●
CKSHF /M 03 /04 ●
CDF /M 07 ●
CDF /M 08 ●
CQF /M 05 ●
CQF /M 07 ●
CQF /M 12 ●
CQF /M 21 ●
CQ4F /M 03 ●
CQ4F /M 02 ●
CQ4F /M 02 H ●
CQ4F /M 03/2 ●
CX 1/2 BDF /M ○
CXL SF /SM, CXL 2/4 SF /SM, CXL 2/4 PF /PM, CXL 2/4 PFH /PMH, CXL PF /PM ○
CLK 04 SCF /SCF-H /SCM ○
CUK 2FT, CUK 3FT○
CJ KF /KM ○
CKJ 8M ○
CJK 8FT /8MT ○
CJK 8IFT, CJK 8BIFT, CJK 8PIFT, CJK 8 IMT ○
● The male insert of these models are provided with a standard sealing gasket. For HYGIENIC applications with CKH - MKH HYGIENIC enclosures this gasket must be replaced with the special HYGIENIC gasket <b>CR 21.21 GMH</b> .
○ The male inserts of these models are not provided with that sealing gasket on the male insert, hence for hygienic applications they are deemed to be used only in hygienic enclosures with glued hygienic gasket (identified by letter G in the first portion of their part No.).

The available models of CKH - MKH HYGIENIC enclosures are described in the following **Table 2**.

All of them are provided with both kits **CKRH 65** and **CKRH 65 D** (for CD 07 and CD 08 inserts), screw with food grade gasket (blue coloured). The kit corresponding to the insert (**CKRH 65** for all but CD 07 and CD 08 inserts, **CKRH 65 D** for CD 07 and CD 08 inserts) must replace either the standard screw or the screw with gasket provided with the insert.

**Table 2 – CKH - MKH Hygienic enclosures size "21.21"**

Part no.	Description
CKH 03 I	bulkhead mounting housing
CKH 03 IA	angled bulkhead mounting housing
MKH IAP20	angled bulkhead mounting housing with M20 cable entry
MKH V20	hood with pegs, top entry M20 <b>with CR 21.21 GMH HYGIENIC gasket included</b>
MKH V25	hood with pegs, top entry M25 <b>with CR 21.21 GMH HYGIENIC gasket included</b>
MKH VA20	hood with pegs, side entry M20 <b>with CR 21.21 GMH HYGIENIC gasket included</b>
MKH VG20	hood with lever, top entry M20
MKH VG25	hood with lever, top entry M25
CKH 03 C	cover with pegs and gasket, for female inserts (eyelet cord)
CKH 03 CS	cover with pegs and gasket, for female inserts (loop cord)
CKH 03 CA	cover with pegs, for male inserts (eyelet cord)
CKH 03 CAS	cover with pegs, for male inserts (loop cord)
CKH 03 CX	cover with lever and gasket, for female inserts (eyelet cord)
CKH 03 CXA	cover with lever, for male inserts (loop cord)
MKGH V20	hood with pegs and glued gasket, top entry M20
MKGH V25	hood with pegs and glued gasket, top entry M25
MKGH VA20	hood with pegs and glued gasket, angled entry M20

This new series offers three **bulkhead mounting housings** (the straight model and two angled models, one closed, the other with M20 side cable entry), five **hoods** differing by the size of cable entry (M20, M25) and either presence or absence of locking pegs or lever, e.g. for cable-to-cable joints, and the same **models with glued gasket** (letter G in the first portion of their part no.), for those inserts that by design do not include the sealing gasket on the male insert (models marked by ○ in the above table). The series is completed with all range of covers (6 models) matching the various applications.

- Series **CKH-MKH Hygienic** made (like T-Type Hygienic) by thermoplastic insulating materials compatible with the temperature range of standard hygienic applications and qualified for resistance to a wide set of cleaning agents by ECOLAB, and in compliance with the EHEDG Guideline no. 32. Same for the material of the locking lever and that of the sealing gaskets (flange, interface and under the head of fixing screw).
- Moving parts (locking lever) or parts that might be lost (sealing gaskets) blue coloured to be easily detectable by remote image detection systems.
- Locking lever detectable by metal detectors in case of accidental loss and fall inside the conveyor belt (food path).
- IP degree of protection: **IP66/IP67/IP69**.
- Upper and Lower Limiting Temperature (ULT – LLT): -40 °C ... +70 °C.

## CKH - MKH production lines HYGIENIC SERIES

## inserts

		pages:
CK	3 and 4 poles + ⊕	58
CKS	3 and 4 poles + ⊕	-
CKSH	3 and 4 poles + ⊕	63
CD	7 poles + ⊕	66
CD	8 poles	67
CQ4	2 poles + ⊕	182
CQ4 H	2 poles + ⊕	183
CQ4	3 poles + ⊕	184
CQ4	3+2 (aux) poles + ⊕	16 *
CQ	5 poles + ⊕	186
CQ	7 poles + ⊕	187
CQ	12 poles + ⊕	189
CQ	21 poles	190

only for I (straight) housings  
(if the counterpart has glued gasket):

CJ KF	223
CJK 8FT	226
CJK 8IFT	228
CUK 2FT, CUK 3FT	236
CLK 04 SC	239
CX 1/2 BD	243
CXL 2/4 SF, CXL 2/4 SM	250
CXL SF, CXL SM	250

refer to CN.19 pages  
refer to NEWS 2020 pages

## bulkhead mounting housings



## angled bulkhead mounting housings



## description

## part No.

## part No.

part No.  
(entry M20)

with lever 2)

CKH 03 I

without cable entry, with lever 1 2)

CKH 03 IA

with cable entry, lever 1 2)

MKH IAP20

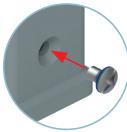
## 1) Not suitable for inserts:

- CQ4 2 poles + ⊕
- CQ4 H 2 poles + ⊕
- CQ4 3 poles + ⊕
- CQ4 3+2 (aux) poles + ⊕

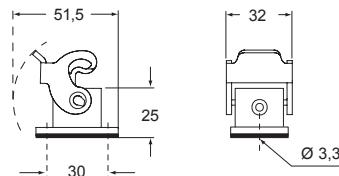
2) CKRH 65 and CKRH 65 D included with all hoods and housings, to replace the fixing screw provided with the insert: CKRH 65 D for CD 07 and CD 08 inserts, CKRH 65 all the others.

NOTE: The enclosure shown here is an example.

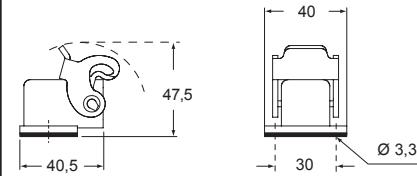
The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



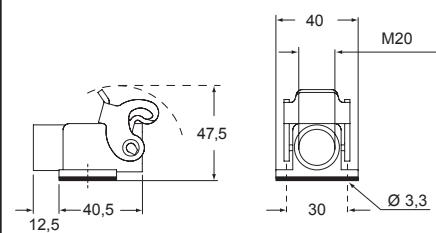
## CKH I



## CKH IA



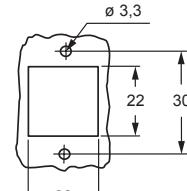
## MKH IAP



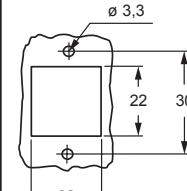
## HOUSING KIT EXAMPLE



## panel cut-out for enclosures



## panel cut-out for enclosures

c<sup>2</sup>A<sup>us</sup> (ECBT2.E115072, ECBT8.E115072)

Type 12, Type 4/4X only with CKRH 65 (D),

certified;

CQC, BV pending



## inserts

## pages:

CK	3 poles + ⊕	58
CK	4 poles + ⊕	58
CKS	3 poles + ⊕	-
CKS	4 poles + ⊕	-
CKSH	3 poles + ⊕	63
CKSH	4 poles + ⊕	63
CD	7 poles + ⊕	66
CD	8 poles	67
CQ4M	2 poles + ⊕	182
CQ4M H	2 poles + ⊕	183
CQ4M	3 poles + ⊕	184
CQ4M	3+2 (aux) poles + ⊕	16 *
CQ	5 poles + ⊕	186
CQ	7 poles + ⊕	187
CQ	12 poles + ⊕	189
CQ	21 poles	190

## hoods



## covers



refer to CN.19 pages

description	part No. (entry M20)	part No. (with eyelet)	part No. (with loop)
with pegs and CR 21.21 GMH gasket, top entry 1) 2)	<b>MKH V20</b>		
with pegs and CR 21.21 GMH gasket, side entry 1) 2)	<b>MKH VA20</b>		
with lever, top entry 1) 2)	<b>MKH VG20</b>		
with pegs and gasket, for female inserts		<b>CKH 03 C</b>	<b>CKH 03 CS</b>
with pegs, for male inserts		<b>CKH 03 CA</b>	<b>CKH 03 CAS</b>
with lever and gasket, for female inserts			<b>CKH 03 CX</b>
with lever, for male inserts			<b>CKH 03 CXA</b>

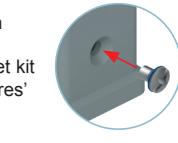
1) Not suitable for inserts:

- CQ4 2 poles + ⊕
- CQ4 H 2 poles + ⊕
- CQ4 3 poles + ⊕
- CQ4 3+2 (aux) poles + ⊕

2) CKRH 65 and CKRH 65 D included with all hoods and housings, to replace the fixing screw provided with the insert: CKRH 65 D for CD 07 and CD 08 inserts, CKRH 65 all the others.

NOTE: The enclosure shown here is an example.

The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



**CR 21.21 GMH**  
HYGIENIC gasket  
for male inserts  
"21.21" size  
included in the hoods,  
also available as spare  
parts (see page 114)

## HOOD KIT EXAMPLE



(ECBT2.E115072, ECBT8.E115072)

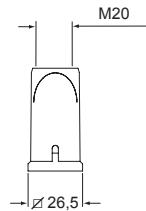
Type 12, Type 4/4X only with CKRH 65 (D),

certified;

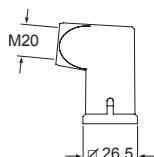
CQC, BV pending



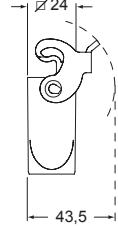
## MKH V



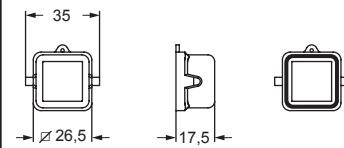
## MKH VA



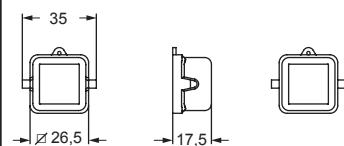
## MKH VG



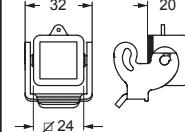
## CKH C - CKH CS



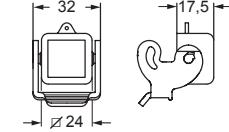
## CKH CA - CKH CAS



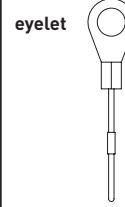
## CKH CX



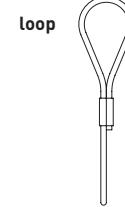
## CKH CXA



## For fixing on housings



## For fixing on hoods



## MKH production lines HYGIENIC SERIES

inserts		pages:
CK	3 and 4 poles + ⊕	58
CKS	3 and 4 poles + ⊕	-
CKSH	3 and 4 poles + ⊕	63
CD	7 poles + ⊕	66
CD	8 poles	67
CQ4	2 poles + ⊕	182
CQ4 H	2 poles + ⊕	183
CQ4	3 poles + ⊕	184
CQ4	3+2 (aux) poles + ⊕	16 *
CQ	5 poles + ⊕	186
CQ	7 poles + ⊕	187
CQ	12 poles + ⊕	189
CQ	21 poles	190

hood



refer to CN.19 pages

\* refer to NEWS 2020 pages

description

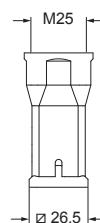
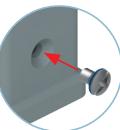
part No.  
(entry M25)with pegs and CR 21.21 GMH gasket, top entry <sup>1)</sup>

MKH V25

1) **CKRH 65 and CKRH 65 D included** with all hoods and housings, to replace the fixing screw provided with the insert: CKRH 65 D for CD 07 and CD 08 inserts, CKRH 65 all the others.

NOTE: The enclosure shown here is an example.

The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



CR 21.21 GMH  
HYGIENIC gasket  
for male inserts  
"21.21" size  
included in the hoods,  
also available as spare  
parts (see page 114)



HOOD KIT EXAMPLE

cNus (ECBT2.E115072, ECBT8.E115072)

Type 12, Type 4/4X only with CKRH 65 (D),

certified;

CQC, BV pending



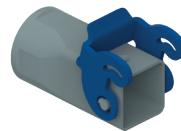
## MKH production lines HYGIENIC SERIES

inserts	pages:
CK	3 and 4 poles + Ⓛ
CKS	3 and 4 poles + Ⓛ
CKSH	3 and 4 poles + Ⓛ
CD	7 poles + Ⓛ
CD	8 poles
CQ4	2 poles + Ⓛ
CQ4 H	2 poles + Ⓛ
CQ4	3 poles + Ⓛ
CQ4	3+2 (aux) poles + Ⓛ
CQ	5 poles + Ⓛ
CQ	7 poles + Ⓛ
CQ	12 poles + Ⓛ
CQ	21 poles
CLK 04 SC	239
CX 1/2 BD	243
CXL 2/4 PF, CXL 2/4 PFH	251
CXL 2/4 PM, CXL 2/4 PMH	251
CXL PF, CXL PM	251

refer to CN.19 pages

\* refer to NEWS 2020 pages

## hood



## description

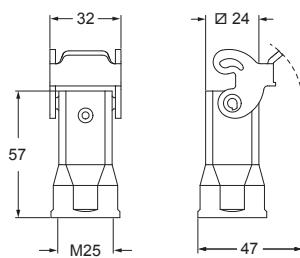
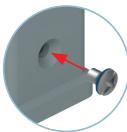
part No.  
(entry M25)with lever, top entry <sup>1)</sup>

MKH VG25

**1) CKRH 65 and CKRH 65 D included** with all hoods and housings, to replace the fixing screw provided with the insert: CKRH 65 D for CD 07 and CD 08 inserts, CKRH 65 all the others.

NOTE: The enclosure shown here is an example.

The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



## HOOD KIT EXAMPLE

cNus (ECBT2.E115072, ECBT8.E115072)

Type 12, Type 4/4X only with CKRH 65 (D),

certified;

CQC, BV pending



inserts	pages:
CJ KM	223
CJK 8MT	226
CJK 8IMT *	226, 228
CUK 2FT	236
CUK 3FT	236
CLK 04 SC *	239
CX 1/2 BD	243
CXL 2/4 PF	251
CXL 2/4 PFH	251
CXL 2/4 PM	251
CXL 2/4 PMH	251
CXL PF	251
CXL PM	251

\* cannot be used with angled enclosures  
(part No. MKGH VA20)

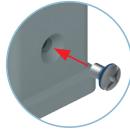
refer to CN.19 pages

description	part No. (entry M20)
with pegs and glued gasket, top entry <sup>1)</sup> with pegs and glued gasket, side entry <sup>1)</sup>	MKGH V20 MKGH VA20

▲ Suitable for DESINA® CXL inserts and male inserts without gasket.

1) CKRH 65 and CKRH 65 D included with all hoods and housings, to replace the fixing screw provided with the insert: CKRH 65 D for CD 07 and CD 08 inserts, CKRH 65 all the others.

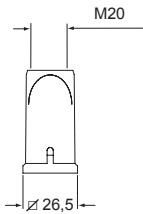
NOTE: The enclosure shown here is an example.  
The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



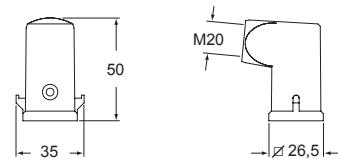
#### HOOD KIT EXAMPLE



MKGH V



MKGH VA



cNus (ECBT2.E115072, ECBT8.E115072)

Type 12, Type 4/4X,  certified;

CQC, BV pending



inserts	█ pages:
CJ KM	223
CJK 8MT	226
CJK 8IMT	226, 228
CJK 8M	233
CUK 2FT, CUK 3FT	236
CLK 04 SC	239
CX 1/2 BD	243
CXL 2/4 PF, CXL 2/4 PFH	251
CXL 2/4 PM, CXL 2/4 PMH	251
CXL PF, CXL PM	251

hood  
with glued gasket



█ refer to CN.19 pages

description

part No.  
(entry M25)

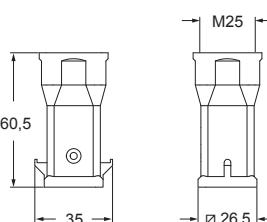
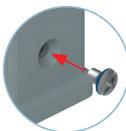
with pegs, top entry 1)

MKGH V25

▲ Suitable for DESINA® CXL inserts and male inserts without gasket.

1) CKRH 65 and CKRH 65 D included with all hoods and housings, to replace the fixing screw provided with the insert: CKRH 65 D for CD 07 and CD 08 inserts, CKRH 65 all the others.

NOTE: The enclosure shown here is an example.  
The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



HOOD KIT EXAMPLE



cNus (ECBT2.E115072, ECBT8.E115072)

Type 12, Type 4/4X, certified;

CQC, BV pending



## inserts

CKM	3 and 4 poles + ⊕	58
CKSM	3 and 4 poles + ⊕	-
CKSHM	3 and 4 poles + ⊕	63
CDM	7 poles + ⊕	66
CDM	8 poles	67
CQ4M	2 poles + ⊕	182
CQ4M H	2 poles + ⊕	183
CQ4M	3 poles + ⊕	184
CQ4M	3+2 (aux) poles + ⊕	16 *
CQM	5 poles + ⊕	186
CQM	7 poles + ⊕	187
CQM	12 poles + ⊕	189
CQM	21 poles	190

## pages:

HYGIENIC gasket  
for "21.21" male insertsgasket and screw kit  
for HYGIENIC

refer to CN.19 pages

\* refer to NEWS 2020 pages

## description

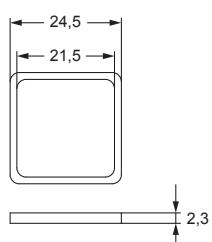
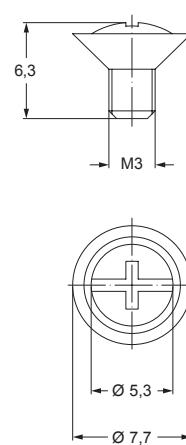
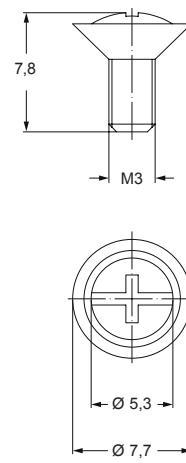
## part No.

## part No.

HYGIENIC gasket for male inserts "21.21" size

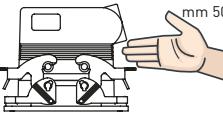
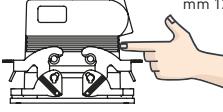
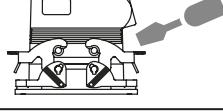
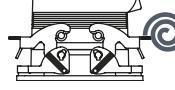
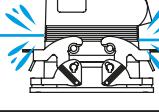
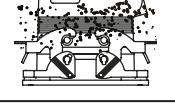
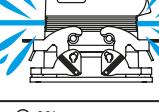
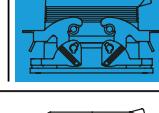
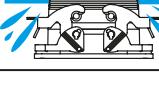
**CR 21.21 GMH****CKRH 65**gasket and screw kit  
for IP66/IP67/IP69gasket and screw kit for IP66/IP67/IP69  
specific for CD 07/08 inserts**CKRH 65 D****!CAUTION:**This gasket **CR 21.21 GMH** must replace the standard gasket on the male insert, that foresees a gasket.**NOTE:**Just in case of use of the housing or hood with lever together with the male insert, and without ordering the corresponding hood, it is necessary to require separately the **CR 21.21 GMH** HYGIENIC gasket for male insert.

For consistency, also the covers are supplied in single pack.

**CR 21.21 GMH****CKRH 65****CKRH 65 D**

## DIE SCHUTZARTEN

Gehäuse, Dichtungs- und Verriegelungsmechanismus des Steckverbinder schützen die Verbindung vor äußeren Einflüssen wie mechanischen Erschütterungen, Fremdkörpern, Feuchtigkeit, Staub, Wasser oder anderen Flüssigkeiten wie Reinigungs- und Kühlmitteln, Ölen usw. Die Schutzart des Gehäuses wird in den Normen IEC 60529 und DIN EN 60529, erläutert, die Gehäuse nach Fremdkörper- und Wasserschutz kategorisieren. Die folgende Tabelle zeigt den **Leitfaden für die Einstufung von IP (Ingress Protection)-Schutzarten**.

ERSTE Kennziffer	Schutzart <b>FREMDKÖRPER</b>	ZWEITE Kennziffer	Schutzart <b>WASSER</b>
<b>0</b>		<b>0</b>	kein Schutz
<b>1</b>	 Geschützt gegen feste Fremdkörper mit einem Durchmesser ab 50 mm (z. B. Zugang mit der Hand)	<b>1</b>	 Schutz gegen senkrecht fallendes Tropfwasser
<b>2</b>	 Geschützt gegen feste Fremdkörper mit einem Durchmesser ab 12,5 mm (z. B. Zugang mit einem Finger)	<b>2</b>	 Schutz gegen fallendes Tropfwasser, wenn das Gehäuse bis zu 15° geneigt ist
<b>3</b>	 Geschützt gegen feste Fremdkörper mit einem Durchmesser ab 2,5 mm (z. B. Zugang mit Werkzeug oder Drähten)	<b>3</b>	 Schutz gegen fallendes Sprühwasser bis 60° gegen die Senkrechte
<b>4</b>	 Geschützt gegen feste Fremdkörper mit einem Durchmesser ab 1,0 mm (z. B. Zugang mit kleinem Werkzeug oder feinen Drähten)	<b>4</b>	 Schutz gegen allseitiges Spritzwasser
<b>5</b>	 Staubgeschützt (keine schädigende Ablagerung)	<b>5</b>	 Schutz gegen Strahlwasser (Düse) aus beliebigem Winkel
<b>6</b>	 Vollständig staubdicht	<b>6</b>	 Schutz gegen starkes Strahlwasser (ähnl. Meereswellen)
<b>BEISPIEL</b>		<b>IP 6 5</b>	 Schutz gegen zeitweiliges Untertauchen in einer Tiefe bis zu max. 1 Meter für 30 min
		<b>7</b>	 Schutz gegen andauerndes Untertauchen in Dauer und Tiefe > Schutzart IPX7
		<b>8</b>	 Schutz gegen heißes Hochdruck-Strahlwasser aus allen Richtungen
		<b>9</b>	

Beschreibung gemäß IEC 60529

# ÜBERGANG VON PG-GEWINDEN ZU METRISCHEN M-GEWINDEN

Zum Stichtag 31. Dezember 1999 wurde die deutsche Richtlinie DIN VDE 0619 (1987-09) und die hierin enthaltenen Normen – DIN 46319 (Norm zu metrischen Gewinden), DIN 46320 (T1 – T4) sowie DIN 46255 und DIN 46259 (Bestimmungen zu den sog. "Pg" = Panzerrohrgewinden) zurückgezogen und durch die neue Europäische Norm EN 50262 „Metrische Verschraubungen für Elektroanlagen“ abgelöst.

Diese Norm legt den Schnitt der metrischen Gewinde für Verschraubungen (Norm 60423) sowie die entsprechenden Vorschriften zur Betriebssicherheit und zum Unfallschutz fest, macht jedoch im Gegensatz zu den aufgehobenen DIN-Normen für Pg-Verschraubungen keine Vorgaben hinsichtlich z. B. der Größe der Schlüsselweite, der Abmessungsdiagonale oder der Abmessungen der Dichtungen.

Die Norm trat mit der Aufhebung der anders lautenden nationalen Normen am 1. April 2001 definitiv in Kraft.

Sie gilt in allen Mitgliedsstaaten der CENELEC (Europäischer Ausschuss für Normierungen zu elektrischen Einrichtungen) und legt fest, dass das Angebot an mehrpoligen Steckverbindern für den industriellen Einsatz um neue Gehäuseversionen mit Kabelausgängen für metrische Gewinde erweitert werden muss.

**HINWEIS** – In 2016 löste die neue EN 62444:2013 „Kabelverschraubungen für elektrische Installationen“ den alten Standard ab. Enthalten sind nun metrische Gewindegrößen von M6 bis M110 (vorher bis M75).

Die Hersteller von Verschraubungen haben somit neben den Baureihen mit Pg-Gewinden, Ausführungen mit metrischen Gewinden auf den Markt gebracht, die die alten Pg-Verschraubungen schrittweise ersetzen sollen. Der in der Norm angegebene Übergangszeitraum sollte am 1. März 2001 enden. Damit sollte der Einsatz von Pg-Komponenten und somit Gehäusen mit Pg-Gewinden zu diesem Zeitpunkt bei allen neuen Anlagen eingestellt werden. Dennoch können Gehäuse mit Pg-Kabelausgang oder Verschraubungen mit Pg-Gewinden nach wie vor als Ersatzteile verwendet werden. Hinsichtlich der **CE**-Kennzeichnung dieser Komponenten ist die Tatsache ausreichend, dass sie der Niederspannungsrichtlinie entsprechen, jedoch setzt die Einhaltung der Sicherheitsanforderungen der EN 62444 eine anzunehmende Konformität voraus.

**☞ Um die beiden Gehäusetypen anhand der Artikelnummern unterscheiden zu können, beginnen bei ILME die Codes der metrischen Versionen mit einem "M" und die der Pg-Ausführungen mit einem "C". Die nachstehende Tabelle zeigt die von ILME angewandte Umschlüsselung der geläufigsten, metrischen- und Pg-Gewindegrößen:**

Pg	Metrisch
Pg 11	M20
Pg 13,5	M20
Pg 16	M20
Pg 21	M25
Pg 29	M32
Pg 36	M40
Pg 42	M50

Ø in mm	Metrisches Gewinde				
	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	—	—

(Weitere Informationen finden Sie in unserem Katalog für Kabelverschraubungen auf [www.ilme.de](http://www.ilme.de))