

## GENERAL INFORMATION

NORMAG flange couplings are available to connect glass structural components as well as to connect glass structural components to apparatus or pipes made of different materials. The flange couplings and the appropriate sealing gaskets are

- available for both the PF and KF systems for all nominal diameter levels up to DN 600 and also optionally for coated piping
- made with securities in accordance with the approved operating conditions in chapter 10, although any necessary insulation of piping should be considered
- in conformity with Technical Instructions on Air Quality Control (TA-Luft) as a “high-quality coupling system” across all levels of nominal diameter both for the KF and PF systems
- combined with corrosion-proof and easy-to-assemble PTFE sealing gaskets
- very reliable and low-maintenance, in particular due to the corrosion-proof gasket design as well as due to the use of compression springs
- allows systems to be installed which are situated in a corrosive atmosphere provided a suitable coupling is selected
- suitable for non-explosive and potentially explosive areas with regard to the requirements in chapter 10
- possible combinations of standard flange couplings and pipe frames or column support flanges in pallet For details on this refer to chapter 9 “pallets”
- can be delivered as a special solution for GMP-conform and cleanroom standard use

Typical backing flanges and inserts which are key components of flange couplings are displayed in the following two images.



The entire selection of standard deliverable components is described on the following pages and an overview is presented in the following figure. In addition, we will be happy to offer special designs on top of the product selection on request.

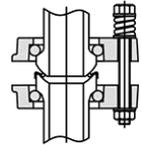
An overview of the various coupling parts is shown in the following:

Gaskets:

- O-ring gasket glass-glass, type CGR... 
- Flexible gasket for alignment, glass-glass, type CGH... 
- Universal transition gasket glass-KF-PF, type CGE... 
- Universal transition gasket glass-enamel/SS, type CGC... 
- Universal transition gasket glass-PTFE/SS, type CGS... 
- Flat gasket, glass KF plan - SS, type CGF... 
- Gasket for repeated opening and closing, CGP... 

Connections glass-glass, complete:

- Connection with plastic backing flange, type CP...
- Connection with cast backing flanges, type CC...
- Connection with stainless-steel flanges, type CS...
- Connection with Silumin-flanges, type CA...



Special connections:

- Clip caps, type CHC... 
- Screw caps, type CHT... 
- Quick release coupling, type CHQ ... 
- Special connections for fixtures (see "apparatus components", chap. 7)

Bolting accessories kit:

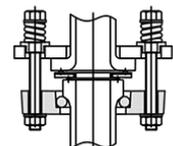
- Compression spring, type CPS... 
- Reducing washer, type CRS... 
- Splash guard, type CSP... 

Inserts:

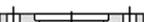
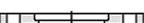
- Plastic, type CIP... 
- Stainless steel, type CIS... 

Connection flange coupling:

- Glass-glass/EN, type CAPG...
- Glass- ANSI, type CASA...
- Glass- special (unbored), type CASU...
- Bellows from glass to glass, EN 1092-1 or ANSI (see "Adapter", chap. 2)



Backing flanges:

- Plastic, type CFP... 
- Cast, type CFC... 
- Stainless steel, type CFS ... 
- Silumin, type CFA ... 
- Connection flange ANSI, CFSA ... 
- Unbored connection flange, CFSU ... 

Detailed facts and information on the flat safety flange and general information with regard to couplings can be found in chapter 10 “technical information”.

We recommend lubricating the stainless steel coupling bolts to avoid abrasion.

Sealing gaskets are not included in the delivery of a flange coupling and can be selected separately according to the options presented.

Couplings can be delivered as whole couplings consisting of two flange rings and two inserts in the material of your choice as well as stainless steel bolts, nuts, washers and compression springs. Additionally, the individual parts of a coupling can be ordered as well as accessories, such as splash guards, special solutions like quick releases and finally adaptor couplings to enable glass piping to be connected to other flange systems and materials.

### Flange couplings with glass connection

Flange couplings for forming joints between two glass structural components are available with flanges made of plastic, coated aluminium, stainless steel or silumin. Aside from the flange rings, the couplings include inserts made of plastic as well as stainless steel bolts, washers, compression springs and nuts.

The standard coupling design with plastic backing flanges is used up to a nominal diameter of 300. The advantages of having plastic couplings are the relatively low weight, the good chemical stability and the specific suitability for use in potentially explosive areas.

Important options for flange couplings are couplings with special lengths (option “L...”), for example for incorporating spacers.

Flange couplings are generally suitable for product-side operating temperatures of 200 °C and the operating pressures displayed in chapter 10. Please also observe that for plastic flange rings the product-side operating temperature must be limited to 150 °C in the insulated state.

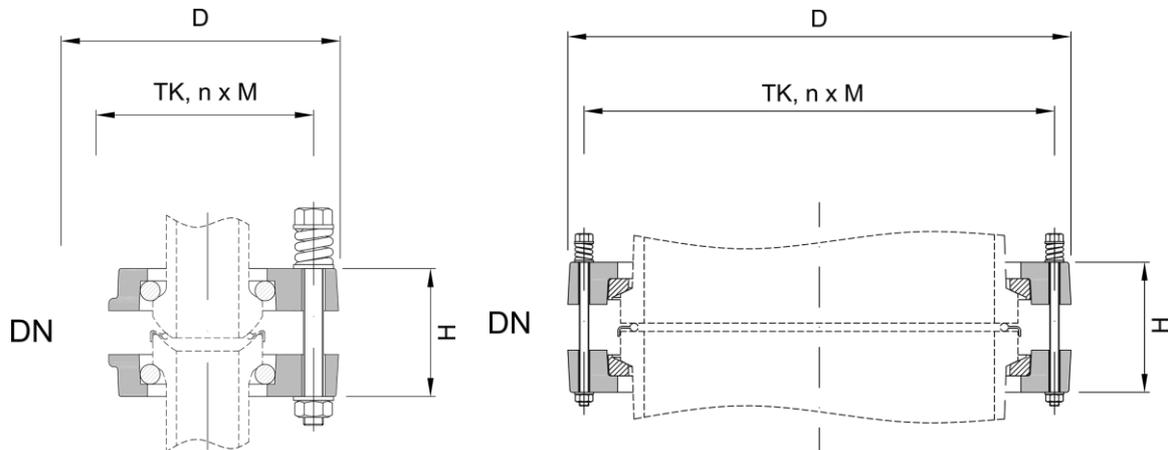


Plastic clamp coupling for KF system up to DN of 300

For nominal diameters of 400 to 600 the standard couplings made of coated aluminium are used. These were also constructed using appropriately light materials and in an effort to save space.

PLASTIC BACKING FLANGE COUPLINGS GLASS-GLASS FROM DN 15 TO DN 300

Type CP ...-K couplings with plastic backing flanges contain plastic inserts, as well as stainless steel bolts, washers, compression springs and nuts, in addition to the plastic backing flanges. The assembly of the backing flange couplings is displayed in the following figure. The backing flange couplings can be used for coated and uncoated KF glass structural components.



Type CP...-K flange coupling for glass-glass connection, plastic, up to DN 150

Type CP... flange coupling for glass-glass connection, plastic, DN 200 and 300

We will be happy to deliver optional extras such as couplings with special bolt lengths. For this you need to add the optional extra digits to the item number as given at the end of the chapter.

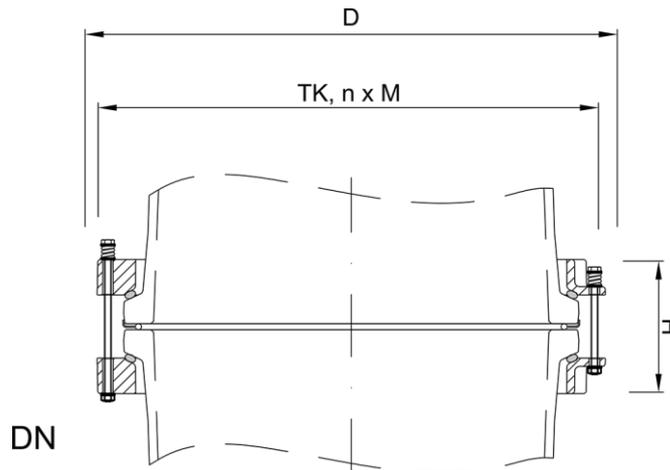
Product name:	Item number	Examples
Plastic flange coupling, glass-glass, KF system	CP DN -K	CP 025-K
Plastic flange coupling, KF system, 30 mm additional length	CP DN -K-L...	CP 025-K-L0030

DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
15	Ø70	38	Ø50	3 x M6 x 75	<b>CP 015-K</b>
25	Ø105	49	Ø85	4 x M8 x 85	<b>CP 025-K</b>
40	Ø132	72	Ø110	4 x M8 x 105	<b>CP 040-K</b>
50	Ø147	70	Ø125	4 x M8 x 105	<b>CP 050-K</b>
80	Ø184	95	Ø160	8 x M8 x 130	<b>CP 080-K</b>
100	Ø204	98	Ø180	8 x M8 x 140	<b>CP 100-K</b>
150	Ø266	102	Ø240	8 x M8 x 140	<b>CP 150-K</b>
200	Ø321	108	Ø295	8 x M8 x 150	<b>CP 200</b>
300	Ø428	115	Ø400	12 x M8 x 150	<b>CP 300</b>

## CAST COUPLINGS GLASS-GLASS FROM DN 400 TO DN 600

Couplings made of coated cast clamp rings are used for larger nominal diameters as a standard. The couplings are delivered with conductive and substantially chemically resistant coated aluminum cast backing flanges (DN 400 to DN 600), attached stainless steel wire braided fibre glass inserts as well as stainless steel bolts, washers, nuts and compression springs. They can also be used for coated and encapsulated glass structural components. Backing flanges for nominal diameters of 400 and above are divided and can therefore be used in column sections or pipes.

The assembly of the backing flange couplings is displayed in the following figure.



Type CC... flange coupling,  
for glass-glass connection, aluminium cast

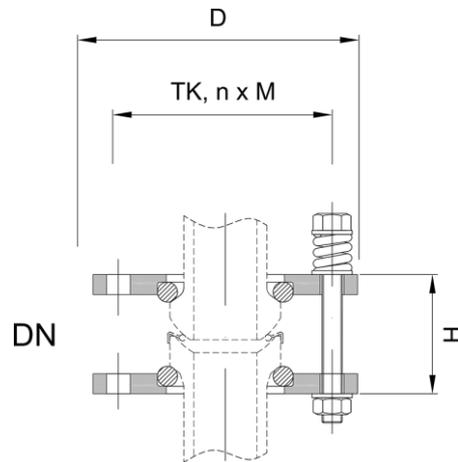
We gladly deliver optional extras such as couplings with special bolt lengths. For this you need to add the optional extra digits to the item number as given at the end of the chapter.

Product name:	Item number	Examples
Aluminium cast coupling, glass-glass	CC DN	CC 400
Aluminium cast coupling, glass-glass, 30 mm additional length	CC DN-L...	CC 400-L0030

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
400	Ø525	130	Ø495	16 x M8 x 180	<b>CC 400</b>
450	Ø615	140	Ø585	16 x M8 x 190	<b>CC 450</b>
600	Ø755	170	Ø710	20 x M12 x 260	<b>CC 600</b>

## STAINLESS STEEL CLAMP RING COUPLINGS GLASS-GLASS FROM DN 15 TO DN 600

The standard design for type CS ...-K stainless steel couplings for the KF system contains stainless steel flange rings, bolts, washers, nuts and compression springs. The inserts are made out of special plastic for nominal diameters up to 300 and out of fibre-glass for nominal diameters of DN 400 and over. The backing flange couplings can be used for coated and uncoated KF glass structural components.



Type CS...-K flange coupling,  
for glass-glass connection, stainless steel

We will be happy to deliver optional extras such as couplings with special bolt lengths. For this you need to add the optional extra digits to the item number as given at the end of the chapter.

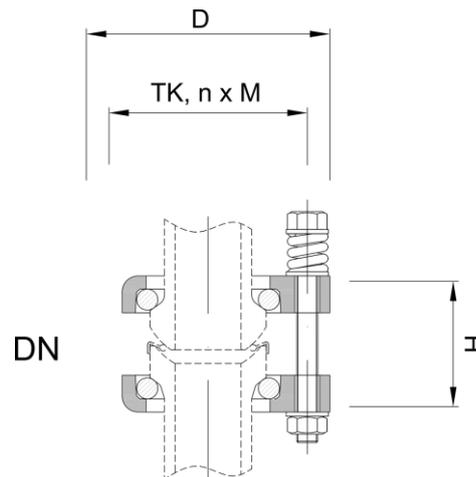
Product name:	Item number	Examples
Stainless steel flange coupling, glass-glass, KF system	CS DN -K	CS 025-K
Stainless steel flange coupling, KF system, 30 mm additional length	CS DN -K-L...	CS 025-K-L0030

DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
15	Ø64	38	Ø50	3 x M6 x 75	<b>CS 015-K</b>
25	Ø105	46	Ø85	4 x M8 x 80	<b>CS 025-K</b>
40	Ø130	66	Ø110	4 x M8 x 105	<b>CS 040-K</b>
50	Ø145	62	Ø125	4 x M8 x 100	<b>CS 050-K</b>
80	Ø180	79	Ø160	8 x M8 x 120	<b>CS 080-K</b>
100	Ø200	84	Ø180	8 x M8 x 120	<b>CS 100-K</b>
150	Ø260	86	Ø240	8 x M8 x 120	<b>CS 150-K</b>
200	Ø320	91	Ø295	8 x M8 x 130	<b>CS 200</b>
300	Ø425	98	Ø400	12 x M8 x 140	<b>CS 300</b>
400	Ø520	90	Ø495	16 x M8 x 135	<b>CS 400</b>
450	Ø615	102	Ø585	16 x M8 x 140	<b>CS 450</b>
600	Ø740	110	Ø710	20 x M12 x 180	<b>CS 600</b>

**SILUMIN CLAMP RING COUPLING GLASS-GLASS FROM DN 25 TO DN 300**

The standard design for type CA ...-K silumin couplings for the KF system contains silumin flange rings, as well as stainless steel bolts, washers, nuts and compression springs. The inserts are made out of special plastic for nominal diameters up to 100 and out of silumin with a soft insert for nominal diameters of DN 150 and over. The backing flange couplings can be used for coated and uncoated KF glass structural components.

For use in acid plants, the couplings can optionally be delivered with inserts made of stainless steel instead of the plastic inserts. These couplings contain a fabric base, which is placed between glass flange and insert, as a protection for the glass flange.



Type CA...-K flange coupling,  
for glass-glass connection, silium

We will be happy to deliver optional extras such as couplings with special bolt lengths. For this you need to add the optional extra digits to the item number as given at the end of the chapter.

Product name:	Item number	Examples
Silumin flange coupling, glass-glass, KF system	CA DN -K	CA 025-K
Silumin flange coupling, KF system, 30 mm additional length	CA DN -K-L...	CA 025-K-L0030
Silumin flange coupling, stainless steel spiral insert and base	CA DN -K-O3	CA 025-K-O3

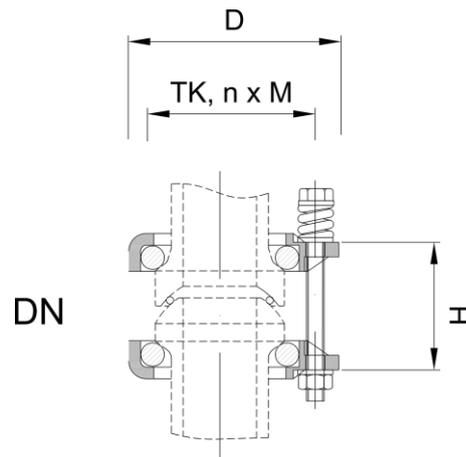
DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
25	Ø92	51	Ø75	3 x M8 x 65	<b>CA 025-K</b>
50	Ø131	69	Ø110	3 x M8 x 80	<b>CA 050-K</b>
80	Ø172	92	Ø150	6 x M8 x 110	<b>CA 080-K</b>
100	Ø192	93	Ø170	6 x M8 x 110	<b>CA 100-K</b>
150	Ø247	100	Ø225	8 x M8 x 120	<b>CA 150-K</b>
200	Ø307	103	Ø280	8 x M8 x 120	<b>CA 200</b>
300	Ø428	107	Ø395	12 x M8 x 120	<b>CA 300</b>

**COMPACT CLAMP RING COUPLING GLASS-GLASS FROM DN 15 TO DN 100**

Compact backing flanges have a far smaller outside diameter than plastic or stainless steel standard backing flanges. This makes the compact backing flanges particularly suitable when space is restricted, for example when trying to design hoods with the greatest possible number of connectors.

The standard design for type CAK...-K compact backing flange couplings contain aluminium flange rings and plastic inserts, whereas bolts, washers, nuts and compression springs are made of stainless steel.

The approved operating pressure is limited to vacuum and atmospheric operation, which deviates from the values in chapter 10.



Type CAK...-K compact flange coupling,  
for glass-glass connection, die-cast metal clamp ring

We will be happy to deliver optional extras such as couplings with special bolt lengths. For this you need to add the optional extra digits to the item number as given at the end of the chapter.

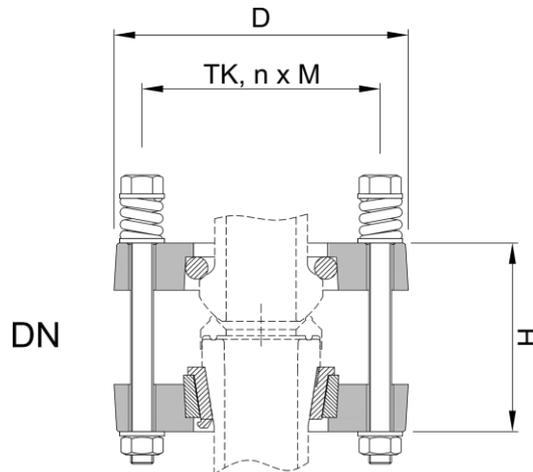
Product name:	Item number	Examples
Compact flange coupling, glass-glass, KF system	CAK DN -K	CAK 025-K
Compact flange coupling, KF system, 30 mm additional length	CAK DN -K-L...	CAK 025-K-L0030

DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
15	Ø66	37	Ø50	3 x M6 x 65	<b>CAK 015-K</b>
25	Ø81	44	Ø65	4 x M6 x 70	<b>CAK 025-K</b>
40	Ø101	47	Ø85	4 x M6 x 75	<b>CAK 040-K</b>
50	Ø116	57	Ø100	4 x M6 x 90	<b>CAK 050-K</b>
80	Ø160	70	Ø140	6 x M6 x 100	<b>CAK 080-K</b>
100	Ø184	75	Ø160	6 x M6 x 105	<b>CAK 100-K</b>

**PLASTIC CLAMP RING COUPLINGS GLASS-GLASS PF TO KF FROM DN 15 TO DN 150**

To form a joint between the PF and KF systems we are offering a type CP ...-PK transition coupling. The universal type CGE ...transition gasket is normally used to form the joint between the two flange systems, and can be used independently of the KF type flange.

The assembly of the backing flange couplings is displayed in the following figure.



Type CP ...-PK transition coupling  
for glass-glass flange,  
flat safety flange (PF) to grooved flange (KF)

We will be pleased to deliver optional extras such as couplings for coated glass structural components in the PF system or even couplings with special bolt lengths. For this you need to add the optional extra digits to the item number as given at the end of the chapter.

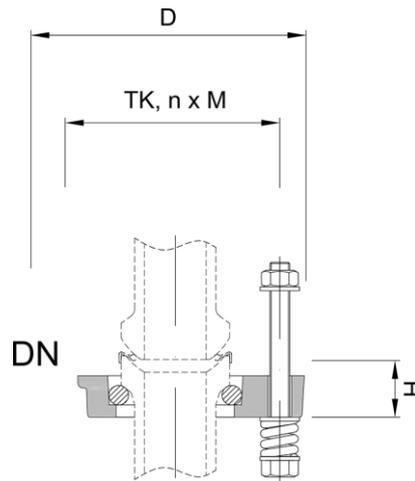
Product name:	Item number	Examples
Plastic flange coupling, glass-glass, PF to KF system	CP DN - PK	CP 025-PK
Plastic flange coupling, KF/PF system, 30 mm additional length	CP DN - PK-L...	CP 025-PK-L0030
Plastic flange coupling, KF/PF system, coated glass components	CP DN - PK-O1	CP 025-PK-O1

DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
15	Ø70	54	Ø50	3 x M6 x 70	<b>CP 015-PK</b>
25	Ø105	71	Ø85	4 x M8 x 100	<b>CP 025-PK</b>
40	Ø132	68	Ø110	4 x M8 x 110	<b>CP 040-PK</b>
50	Ø147	87	Ø125	4 x M8 x 115	<b>CP 050-PK</b>
80	Ø184	102	Ø160	8 x M8 x 135	<b>CP 080-PK</b>
100	Ø210	126	Ø180	8 x M8 x 155	<b>CP 100-PK</b>
150	Ø260	129	Ø240	8 x M8 x 170	<b>CP 150-PK</b>

CONNECTION FLANGE COUPLING GLASS-GLASS FROM DN 15 TO DN 300

Plastic flanges can generally be used to connect branches of glass piping to flanges in accordance with EN 1092-1, for example for measuring techniques or connecting pipelines. The delivery of a relevant adaptor coupling includes a plastic flange and flange-specific insert for the glass side as well as stainless steel bolts, nuts, flat washers, compression springs and reducing sleeves for connecting to the EN-flange. This ensures that the M8 bolts normally used in glass piping can form a joint with the larger EN flange bore diameter.

The transition gasket for the EN flange is not included in the delivery. In this chapter you will find a selection of sealing gaskets that correspond significantly to the form of the EN flange. The assembly of the adaptor couplings is displayed in the following figure.



Type CAPG...-K adaptor coupling for glass-glass, plastic flange

The bolt length needed will differ according to the type of EN connection flange. To adjust for varying lengths of bolt please enter the variation from the bolt length entered as option L... next to the bolt length entered.

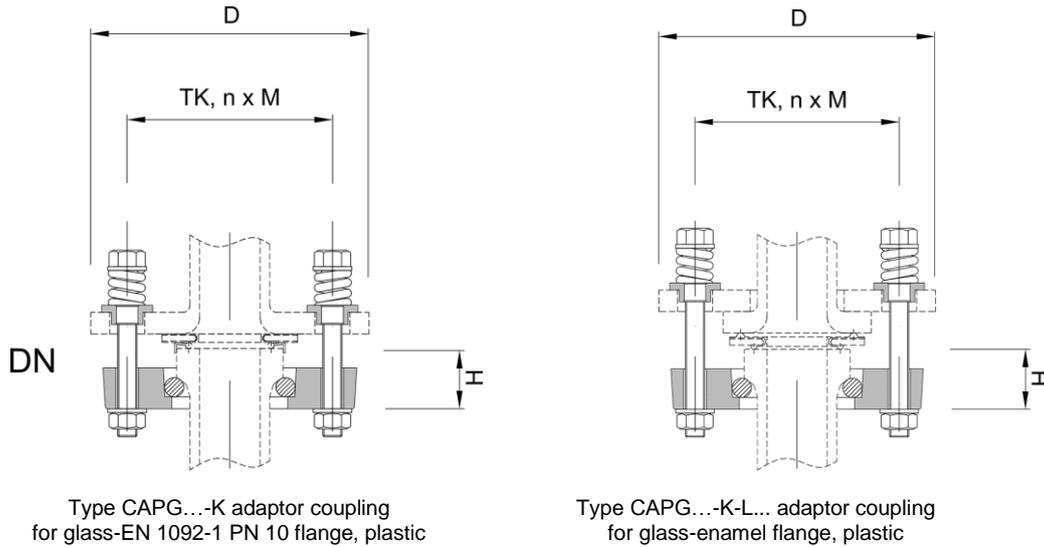
In addition, stainless steel flanges can be delivered instead of plastic flanges by selecting option "CASE..."

Product name:	Item number	Examples
Plastic flange coupling, glass-EN, KF system	CAPG DN-K	CAPG 025-K
Plastic flange coupling, KF system, 30 mm additional length	CAPG DN-K-L....	CAPG 025-K-L0030
Plastic flange coupling, KF system, 30 mm reduced length	CAPG DN-K-L-...	CAPG 025-K-L-030
Stainless steel flange coupling, KF system	CASE DN-K	CASE 025-K

DN	D [mm]	H [mm]	TK [mm]	n x M x length	Item no.	Item no. connecting bellows
15	Ø70	19	Ø50	3 x M6 x 75	<b>CAPG 015-K</b>	CAPB 015-K
25	Ø105	23	Ø85	4 x M8 x 85	<b>CAPG 025-K</b>	CAPB 025-K
40	Ø130	35	Ø110	4 x M8 x 105	<b>CAPG 040-K</b>	CAPB 040-K
50	Ø145	34	Ø125	4 x M8 x 105	<b>CAPG 050-K</b>	CAPB 050-K
80	Ø180	46	Ø160	8 x M8 x 130	<b>CAPG 080-K</b>	CAPB 080-K
100	Ø210	48	Ø180	8 x M8 x 140	<b>CAPG 100-K</b>	CAPB 100-K
150	Ø260	50	Ø240	8 x M8 x 140	<b>CAPG 150-K</b>	CAPB 150-K
200	Ø321	50	Ø295	8 x M8 x 150	<b>CAPG 200</b>	CAPB 200
300	Ø428	53	Ø400	12 x M8 x 150	<b>CAPG 300</b>	CAPB 300

CONNECTION FLANGE COUPLING GLASS-EN1092-1 FROM DN 25 TO DN 300

Plastic flanges can generally be used to connect branches of glass piping to flanges in accordance with EN 1092-1, for example for measuring techniques or connecting pipelines. The delivery of a relevant adaptor coupling includes a plastic flange and flange-specific insert for the glass side as well as stainless steel bolts, nuts, flat washers, compression springs and reducing sleeves for connecting to the EN-flange. This ensures that the M8 bolts normally used in glass piping can form a joint with the larger EN flange bore diameter. The transition gasket for the EN flange is not included in the delivery. In this chapter you will find a selection of sealing gaskets that correspond significantly to the form of the EN flange. The assembly of the adaptor couplings is displayed in the following figure.



The bolt length needed will differ according to the type of EN connection flange. To adjust for varying lengths of bolt please enter the variation from the bolt length entered as option L... next to the bolt length entered. In addition, stainless steel flanges can be delivered instead of plastic flanges by selecting option “CASE...”

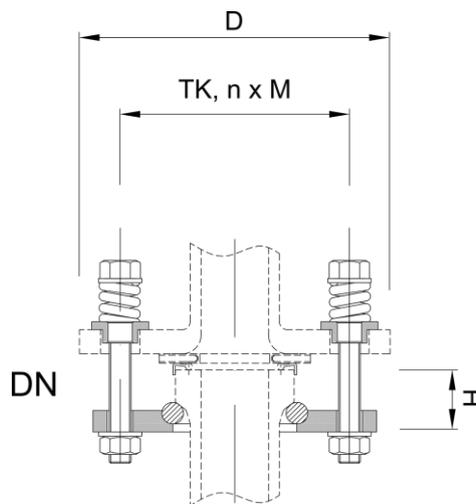
Product name:	Item number	Examples
Plastic flange coupling, glass-EN, KF system CAPG DN-K	CAPE 025-K	CAPE 025-K
Plastic flange coupling, KF system, 30 mm additional length	CAPG DN-K-L...	CAPE 025-K-L0030
Plastic flange coupling, KF system, 30 mm reduced length	CAPG DN-K-L-...	CAPE 025-K-L-030
Stainless steel flange coupling, KF system	CASE DN-K	CASE 025-K

DN	D [mm]	H [mm]	TK [mm]	n x M x length	Item no. EN 1092-1 PN 10	n x M x length	Item no. Enamel
25	Ø105	23	Ø85	4 x M8 x 85	<b>CAPE 025-K</b>	4 x M8 x 95	<b>CAPE 025-K-L0010</b>
40	Ø130	35	Ø110	4 x M8 x 95	<b>CAPE 040-K</b>	4 x M8 x 105	<b>CAPE 040-K-L0010</b>
50	Ø145	34	Ø125	4 x M8 x 95	<b>CAPE 050-K</b>	4 x M8 x 110	<b>CAPE 050-K-L0015</b>
80	Ø180	46	Ø160	8 x M8 x 110	<b>CAPE 080-K</b>	8 x M8 x 130	<b>CAPE 080-K-L0020</b>
100	Ø210	48	Ø180	8 x M8 x 115	<b>CAPE 100-K</b>	8 x M8 x 135	<b>CAPE 100-K-L0020</b>
150	Ø260	50	Ø240	8 x M8 x 130	<b>CAPE 150-K</b>	8 x M8 x 155	<b>CAPE 150-K-L0025</b>
200	Ø321	50	Ø295	8 x M8 x 130	<b>CAPE 200</b>	8 x M8 x 160	<b>CAPE 200-L0030</b>
300	Ø428	53	Ø400	12 x M8 x 140	<b>CAPE 300</b>	12 x M8 x 170	<b>CAPE 300-L0030</b>

CONNECTION FLANGE COUPLING GLASS - ANSI FROM DN 25 TO DN 150

Stainless steel flanges can generally be used to connect branches of glass piping to flanges in accordance with ANSI 150, for example for measuring techniques or connecting pipelines. The delivery of a relevant adaptor coupling includes a stainless steel flange, flange-specific insert and transition insert for the glass side and – for forming a joint with the ANSI flange – stainless steel bolts, nuts, flat washers, compression springs and reducing sleeves. This ensures that the M8 bolts normally used in glass piping can form a joint with the larger ANSI flange bore diameter.

The transition gasket for the ANSI flange is not included in the delivery. In this chapter you will find a selection of sealing gaskets that correspond significantly to the form of the ANSI flange. The assembly of the adaptor couplings is displayed in the following figure.



Type CASA...-K adaptor coupling for glass-ANSI, stainless steel flange

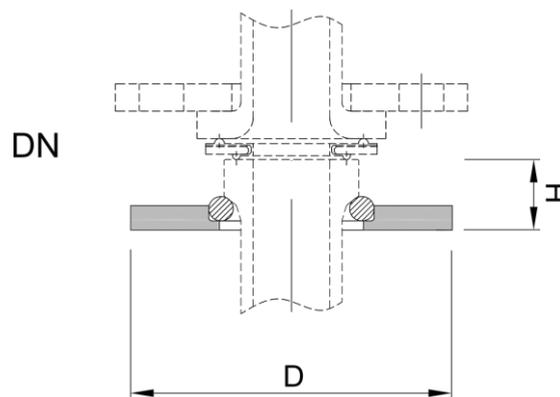
The bolt length needed will differ according to the type of ANSI connection flange. To adjust for varying lengths of bolt please enter the variation from the bolt length entered as option L... next to the bolt length entered.

Product name:	Item number	Examples
Stainless steel flange coupling, glass-ANSI, KF system	CASA DN -K	CASA 025-K
Stainless steel flange coupling, KF system, 30 mm additional length	CASA DN -K-L...	CASA 025-K-L0030

DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
25	Ø105	24	Ø79	4 x M8 x 85	<b>CASA 025-K</b>
40	Ø130	31	Ø98	4 x M8 x 95	<b>CASA 040-K</b>
50	Ø145	33	Ø121	4 x M8 x 100	<b>CASA 050-K</b>
80	Ø180	44	Ø152	4 x M8 x 120	<b>CASA 080-K</b>
100	Ø210	43	Ø190	8 x M8 x 120	<b>CASA 100-K</b>
150	Ø260	47	Ø241	8 x M8 x 135	<b>CASA 150-K</b>

**CONNECTION FLANGE COUPLING GLASS - UNDRILLED FLANGE DN 25 TO DN 150**

Couplings with undrilled stainless steel flanges can generally be used to connect branches of glass piping to special flanges, for example for measuring techniques or connecting pipelines. The delivery includes a stainless steel flange and a flange-specific insert for the glass side. The complete set of bolt connections and the transition gasket for the special flange are not included in the delivery. You will find options for this in this chapter. The assembly of the adaptor couplings is displayed in the following figure.



Type CASU...-K adaptor coupling for glass-undrilled connection, stainless steel

The bolt length needed will differ according to the type of connection flange. When adjusting bolt lengths please bear in mind the glass-side flange height (H) entered.

Type CAAU...-K undrilled silium backing flanges are also available as an option for the KF system.

Product name:	Item number	Examples
Stainless steel flange connection, glass-undrilled, KF system	CASU DN -K	CASU 025-K
Silium flange connection, glass-undrilled, KF system	CAAU DN -K	CAAU 025-K

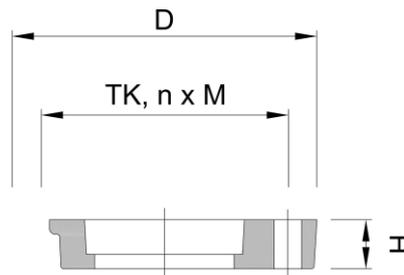
DN	D [mm]	H [mm]	Item no.
25	Ø105	24	<b>CASU 025-K</b>
40	Ø130	31	<b>CASU 040-K</b>
50	Ø145	33	<b>CASU 050-K</b>
80	Ø180	44	<b>CASU 080-K</b>
100	Ø210	43	<b>CASU 100-K</b>
150	Ø260	47	<b>CASU 150-K</b>

## BACKING FLANGES

backing flanges can be delivered as individual structural components for PF and KF systems with regard to the complete set of flange couplings in the various materials and nominal diameters described previously.

### PLASTIC BACKING FLANGES FOR GLASS AND EN CONNECTION FROM DN 15 TO DN 300

Plastic backing flanges are also available for the KF system in line with the following figure, item no. CFP ...-K. For nominal diameters of 200 and 300 the flange system is uniform and is therefore labelled CFP ...without index.



Type CFP...K and CFP... backing flange  
for glass-glass connection, plastic, up to DN 300

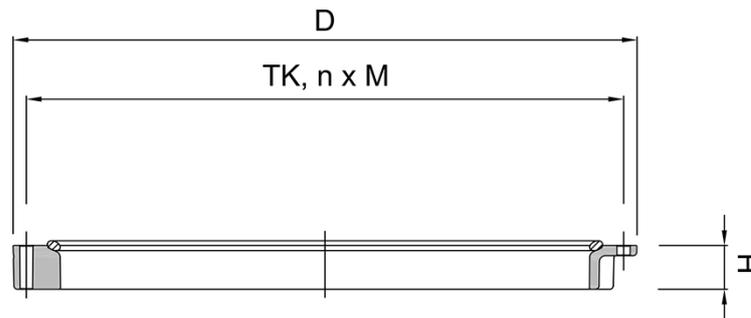
<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Plastic flange, glass side, glass-glass and glass-EN	CFP DN -K	CFP 025-K

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
15	Ø70	15	Ø50	3 x Ø7	<b>CFP 015-K</b>
25	Ø105	17	Ø85	4 x Ø9	<b>CFP 025-K</b>
40	Ø132	20	Ø110	4 x Ø9	<b>CFP 040-K</b>
50	Ø147	23	Ø125	4 x Ø9	<b>CFP 050-K</b>
80	Ø184	26	Ø160	8 x Ø9	<b>CFP 080-K</b>
100	Ø204	26	Ø180	8 x Ø9	<b>CFP 100-K</b>
150	Ø266	29	Ø240	8 x Ø9	<b>CFP 150-K</b>
200	Ø321	33	Ø295	8 x Ø9	<b>CFP 200</b>
300	Ø428	35	Ø400	12 x Ø9	<b>CFP 300</b>

**CAST BACKING FLANGES FOR GLASS AND EN CONNECTION FROM DN 400 TO DN 600**

For larger nominal diameters backing flanges are manufactured from die cast metal with a largely acid-proof and conductive coating, type CFC. For DN 400 and over, the backing flanges consist of two halves which are connected together with detachable clamping pins and bolts. These backing flanges are delivered complete with an attached glass flange form made of fibre-glass which is also conductive.

The assembly of the backing flange couplings is displayed in the following figure.



Type CFC...clamp ring  
for glass connection, die-cast metal.

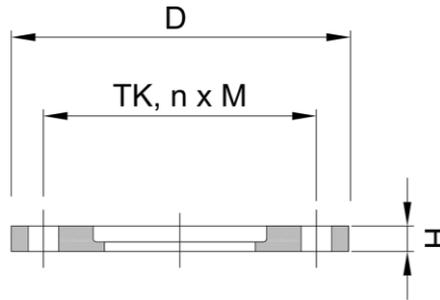
<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Cast backing flange, glass-glass and glass-EN	CFC DN	CFC 400

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
400	Ø525	36	Ø495	16 x Ø9	<b>CFC 400</b>
450	Ø615	36	Ø585	16 x Ø9	<b>CFC 450</b>
600	Ø755	45	Ø710	20 x Ø14	<b>CFC 600</b>

### STAINLESS STEEL BACKING FLANGES FOR GLASS AND EN CONNECTION FROM DN 15 TO DN 600

Stainless steel backing flanges the KF system are delivered as single units for DN 15 to DN 300, and for nominal diameters over 400 in a two-part design. For nominal diameters from 15 to 300 an insert must be ordered separately, for nominal diameters of DN 400 and over, attached inserts made of fibre-glass are included in the delivery.

Earthing holes are provided in each of the flanges.



Type CFS...K and CFS... clamp ring,  
for glass-glass connection, stainless steel, up to DN 600

#### Product name:

Stainless steel backing flange for glass and EN connection, KF system

#### Item number

CFS DN -K

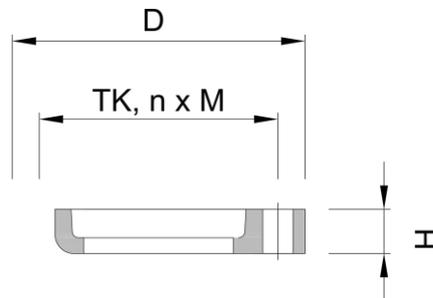
#### Examples

CFS 025-K

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
15	Ø64	8	Ø50	3 x Ø7	<b>CFS 015-K</b>
25	Ø105	8	Ø85	4 x Ø9	<b>CFS 025-K</b>
40	Ø130	9	Ø110	4 x Ø9	<b>CFS 040-K</b>
50	Ø145	9	Ø125	4 x Ø9	<b>CFS 050-K</b>
80	Ø180	11	Ø160	8 x Ø9	<b>CFS 080-K</b>
100	Ø200	11	Ø180	8 x Ø9	<b>CFS 100-K</b>
150	Ø260	12	Ø240	8 x Ø9	<b>CFS 150-K</b>
200	Ø320	14	Ø295	8 x Ø9	<b>CFS 200</b>
300	Ø425	14	Ø400	12 x Ø9	<b>CFS 300</b>
400	Ø520	15	Ø495	16 x Ø9	<b>CFS 400</b>
450	Ø615	15	Ø585	16 x Ø9	<b>CFS 450</b>
600	Ø740	15	Ø710	20 x Ø14	<b>CFS 600</b>

**SILUMIN BACKING FLANGES GLASS CONNECTION FROM DN 25 TO DN 300**

Silumin backing flanges are available exclusively for the KF system, item no. CFA...K and have been proven to withstand tests during special applications in corrosive environments. Inserts must be ordered separately.



Type CFA...K clamp ring,  
for glass-glass connection, silumin, up to DN 300

**Product name:**

Silumin backing flange, glass, KF system

**Item number**

CFA DN -K

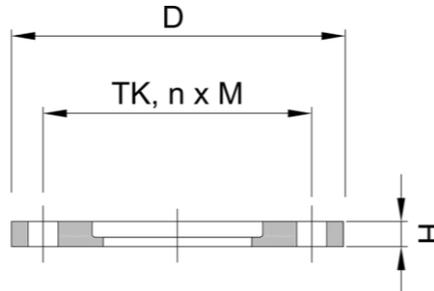
**Examples**

CFA 025-K

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
25	Ø92	14	Ø75	3 x Ø9	<b>CFA 025-K</b>
50	Ø131	18	Ø110	3 x Ø9	<b>CFA 050-K</b>
80	Ø172	24	Ø150	6 x Ø9	<b>CFA 080-K</b>
100	Ø192	24	Ø170	6 x Ø9	<b>CFA 100-K</b>
150	Ø247	24	Ø225	8 x Ø9	<b>CFA 150-K</b>
200	Ø307	26	Ø280	8 x Ø9	<b>CFA 200</b>
300	Ø428	26	Ø395	12 x Ø9	<b>CFA 300</b>

**STAINLESS STEEL BACKING FLANGE FOR ANSI CONNECTION FROM DN 25 TO DN 150**

Stainless steel backing flanges for connecting ANSI flanges are delivered as single units for DN 25 to DN 150. Inserts must be ordered separately. Earthing holes are provided in each of the flanges.



Type CFSA...-K clamp ring for glass--ANSI connection, stainless steel flange

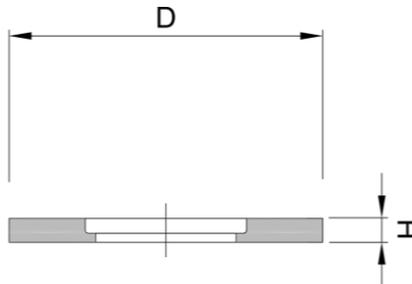
<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Stainless steel backing flange, glass-ANSI, KF system	CFSA DN -K	CFSA 025-K

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
25	Ø105	8	Ø79	4 x Ø9	<b>CFSA 025-K</b>
40	Ø130	9	Ø98	4 x Ø9	<b>CFSA 040-K</b>
50	Ø145	9	Ø121	4 x Ø9	<b>CFSA 050-K</b>
80	Ø180	11	Ø152	4 x Ø9	<b>CFSA 080-K</b>
100	Ø210	11	Ø190	8 x Ø9	<b>CFSA 100-K</b>
150	Ø260	12	Ø241	8 x Ø9	<b>CFSA 150-K</b>

## UNDRILLED STAINLESS STEEL FLANGE RINGS FOR SPECIAL CONNECTIONS, DN 15 TO DN 150

Couplings with undrilled stainless steel or silium flanges can generally be used to connect branches of glass piping to special flanges, for example for measuring techniques or connecting pipelines.

The relevant insert type CIP must be ordered separately.



Type CFSU...K and CFAU...-K clamp ring,  
for glass-undrilled connection, stainless steel/silium flange

**Product name:**

Connection flange, stainless steel, undrilled, KF-system

Connection flange, silumin, undrilled, KF-system

Connection flange, silumin drilled to EN1092-1 PN 10

**Item number**

CFSU DN -K

CFAU DN -K

CFAE DN-K

**Examples**

CFSU 025-K

CFAU 025-K

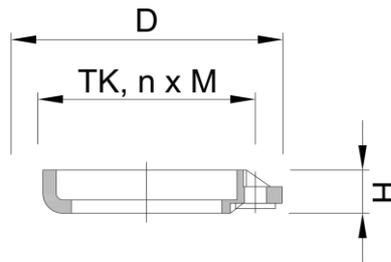
CFAE 025-K

DN	D	H	TK	n x M	Item no.	Item no.
	[mm]	[mm]	[mm]		Stainless steel	Silium
15	Ø70	8	-	-	<b>CFSU 015-K</b>	<b>CFAU 015-K</b>
25	Ø105	8	-	-	<b>CFSU 025-K</b>	<b>CFAU 025-K</b>
40	Ø130	9	-	-	<b>CFSU 040-K</b>	<b>CFAU 040-K</b>
50	Ø145	9	-	-	<b>CFSU 050-K</b>	<b>CFAU 050-K</b>
80	Ø180	11	-	-	<b>CFSU 080-K</b>	<b>CFAU 080-K</b>
100	Ø210	11	-	-	<b>CFSU 100-K</b>	<b>CFAU 100-K</b>
150	Ø260	12	-	-	<b>CFSU 150-K</b>	<b>CFAU 150-K</b>

DIE-CAST METAL COMPACT BACKING FLANGE FOR LIMITED CONSTRUCTION SPACE FROM DN 15 TO DN 100

Compact backing flanges have a far smaller outside diameter than plastic or stainless steel standard backing flanges. This makes the compact backing flanges particularly suitable when space is restricted, for example when trying to design hoods with the greatest possible number of connectors.

The approved operating pressure is limited to vacuum and atmospheric operation, which deviates from the values in chapter 10.



Type CFK... die-cast metal compact backing flange

<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Compact backing flange, glass-glass, KF system	CFK DN -K	CFK 025-K

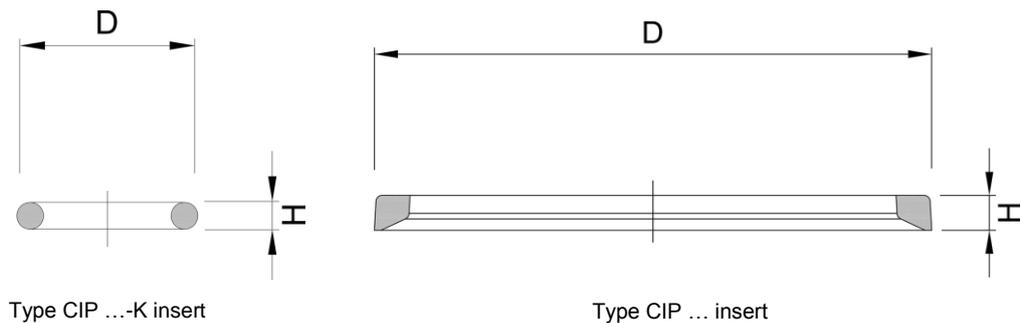
DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
15	Ø66	11	Ø50	3 x Ø8	<b>CFK 015-K</b>
25	Ø81	13	Ø65	4 x Ø8	<b>CFK 025-K</b>
40	Ø101	15	Ø85	4 x Ø8	<b>CFK 040-K</b>
50	Ø116	17	Ø100	4 x Ø8	<b>CFK 050-K</b>
80	Ø160	22	Ø140	6 x Ø8	<b>CFK 080-K</b>
100	Ø184	24	Ø160	6 x M6 x 105	<b>CFK 100-K</b>

**INSERTS FOR BACKING FLANGES**

Inserts are used for connecting backing flanges to the glass flanges. The inserts are two-part with a flexible coupling element.

The inserts are suitable for all plastic and stainless steel backing flange.

For use in acid plants, stainless steel spiral inserts for silumin backing flanges instead of the plastic ones are available up to DN 100. Inserts from DN 150 to DN 300 for silumin backing flanges are in principle also made of silumin. For the stainless steel spiral inserts a rubber ring (base) for placing between the stainless steel inserts and the glass flange must be ordered separately.



**Product name:**

Insert, plastic, KF system

Insert, for silumin backing flanges DN 150-300

Insert, stainless steel

Rubber ring for stainless steel spiral insert

**Item number**

CIP DN -K

CIA DN -K

CIS DN -K

CISU DN -K

**Examples**

CIP 025-K

CIA 150-K

CIS 025-K

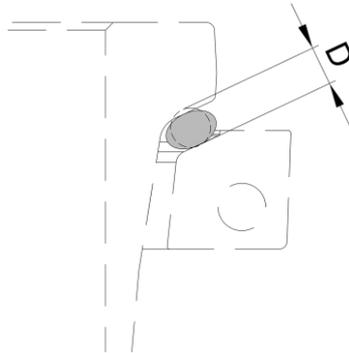
CISU 025-K

DN	D [mm]	H [mm]	Item no.
15	Ø38	6.5	<b>CIP 015-K</b>
25	Ø54	8	<b>CIP 025-K</b>
40	Ø75	11	<b>CIP 040-K</b>
50	Ø89	11	<b>CIP 050-K</b>
80	Ø125	14	<b>CIP 080-K</b>
100	Ø147	14	<b>CIP 100-K</b>
150	Ø200	15	<b>CIP 150-K</b>
200	Ø254	18	<b>CIP 200</b>
300	Ø359	18	<b>CIP 300</b>

**GLASS-FIBRE BASED TAPE INSERT FOR DN 400 - 600**

Glass-fibre based conductive tape inserts are used as inserts for nominal diameters of DN 400 and over. The length of the tape insert is the right size for half a backing flange.

When ordering a backing flange the tape inserts are already attached to the backing flange so that the tape inserts are only necessary for replacement purchases.



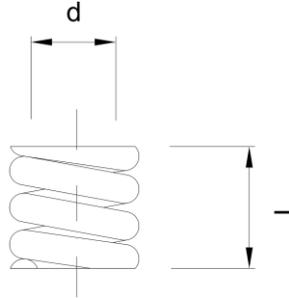
Type CIG tape insert  
for DN 400 and over

DN	D [mm]	L (tape insert) [mm]	Item no.
400	Ø10	710	<b>CIG 400</b>
450	Ø10	780	<b>CIG 450</b>
600	Ø15	1038	<b>CIG 600</b>

### COMPRESSION SPRINGS AS BOLT CONNECTION ACCESSORY

Compression springs are used as bolt connection accessories in backing flange couplings for glass structural components. The compression springs reduce the risk of the bolt connection overstressing and maintain the bolt forces even during sealing gasket setting procedures. This ensures the coupling is tight.

The compression springs are manufactured from stainless steel.



Type CPS compression spring  
for glass-flange bolt connections

The symbol “DN” in the table below refers to the nominal diameter of the coupling.

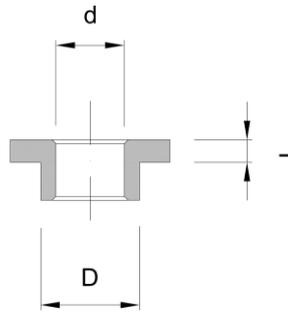
DN	d	L (taut)		Item no.
	[mm]	[mm]	[mm]	
15	Ø6,5	13,5	11	<b>CPS 6.5</b>
25 - 100	Ø8,5	20	14,5	<b>CPS 8.5</b>
150 - 450	Ø10,5	30	24,5	<b>CPS 10.5</b>
600	Ø13	39	31	<b>CPS 13</b>

## REDUCING SLEEVES AS BOLT CONNECTION ACCESSORY

The M8 or M6 bolts normally used for glass flanges are recommended for connecting structural components made of borosilicate glass 3.3 with structural components made of other materials.

The counter flanges in accordance with EN 1092 and ANSI have larger nominal diameters so that CRS reducing sleeves should be used to centre the bolt. Standard reducing sleeves are designed in stainless steel.

Reducing sleeves with different measurements can also be delivered on request.



Type CRS...reducing sleeve,  
for centering M6 or M8 bolts in  
EN/ANSI flanges.

### REDUCING SLEEVES FOR FLANGES IN ACCORDANCE WITH EN 1092, PN 10

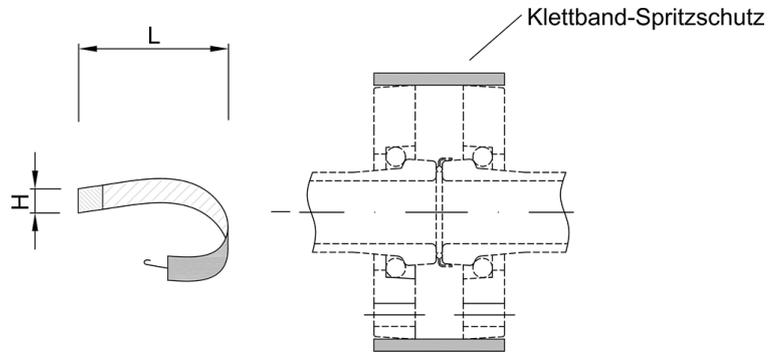
DN	D [mm]	d [mm]	L [mm]	Item no.
15	Ø13	Ø7	3	<b>CRS 13-7</b>
25	Ø13	Ø9	3	<b>CRS 13-9</b>
40 - 100	Ø17	Ø9	3	<b>CRS 17-9</b>
150 - 300	Ø21	Ø9	3	<b>CRS 21-9</b>

### REDUCING SLEEVES FOR FLANGES IN ACCORDANCE WITH ANSI, 150 PSI

DN	D [mm]	d [mm]	L [mm]	Item no.
15	Ø15	Ø7	3	<b>CRS 15-7</b>
25-40	Ø15	Ø9	3	<b>CRS 15-9</b>
50 - 100	Ø18	Ø9	3	<b>CRS 18-9</b>
150 - 200	Ø21	Ø9	3	<b>CRS 21-9</b>
300	Ø24	Ø9	3	<b>CRS 24-9</b>

**SPLASH GUARD FOR BACKING FLANGE COUPLINGS GLASS-GLASS**

Special sleeves with a velcro fastener and protector as a splash guard are available in the case of possible leakages in glass flange couplings. The sleeve covers the entire open surface of the backing flange coupling.



Type CSP...splash guard  
for glass flange clamp couplings

DN	D [mm]	H [mm]	L [mm]	Item no.
15	Ø23	44	Ø50	<b>CSP 015-K</b>
25	Ø34	51	Ø85	<b>CSP 025-K</b>
40	Ø51	65	Ø110	<b>CSP 040-K</b>
50	Ø63	69	Ø125	<b>CSP 050-K</b>
80	Ø96	92	Ø160	<b>CSP 080-K</b>
100	Ø116	93	Ø180	<b>CSP 100-K</b>
150	Ø169	98	Ø240	<b>CSP 150-K</b>

## SEALING GASKETS

Sealing gaskets for glass flange couplings or connections between glass and other materials are manufactured from PTFE. Standard sealing gaskets are manufactured from white non-conductive PTFE.

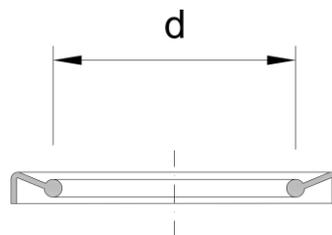
Further options are for FDA material certificates to be delivered with the sealing gaskets and for the sealing gaskets to be manufactured from conductive PTFE with an earthing clip or also from special materials.

The coupling systems with glass flanges and the PTFE sealing gaskets with O ring contours described in the following conform with the Technical Instructions on Air Quality Control (TA-Luft) and qualify as high-quality coupling systems.

### RING SEALING GASKETS WITH COLLAR FOR GLASS-GLASS COUPLINGS

The ring sealing gasket is the standard sealing gasket for couplings between two glass flanges. The sealing O-ring is situated on a specially ground surface. The collar allows the sealing gasket to be centered on the glass flange.

Ring sealing gaskets can also be used to connect glass to other systems when the connection flange is flat and its contact surface fits geometrically.



Type CGR...-K ring sealing gasket

#### Product name:

Ring sealing gasket, glass-glass

Ring sealing gasket, glass-glass, conductive PTFE

Ring sealing gasket, glass-glass, conductive PTFE with earthing

#### Item no.

CGR DN -K

CGR DN -K-M1

CGR DN -K-M2

#### Examples

CGR 025-K

CGR 025-K-M1

CGR 025-K-M2

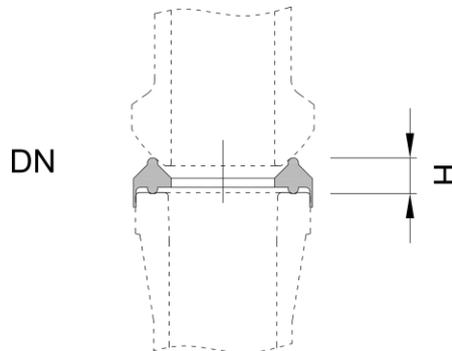
DN	d [mm]	Item no.
15	Ø23	<b>CGR015-K</b>
25	Ø34	<b>CGR025-K</b>
40	Ø51	<b>CGR040-K</b>
50	Ø63	<b>CGR050-K</b>
80	Ø96	<b>CGR080-K</b>
100	Ø116	<b>CGR100-K</b>
150	Ø169	<b>CGR150-K</b>
200	Ø220	<b>CGR200-K*</b>
300	Ø321	<b>CGR300-K*</b>
400	Ø435	<b>CGR400</b>
450	Ø492	<b>CGR450</b>
600	Ø646	<b>CGR600</b>

\* for flat flange-connections DN 200 and 300 please order with the article number CGR200 and CGR300

## UNIVERSAL TRANSITION GASKET BETWEEN KF AND PF FLANGES

Type CGE transition gaskets can be used to connect PF glass flanges with KF flanges in spherical and pan designs. The sealing gasket should be centred over a collar at the outer edge of the glass pipe end.

There is also the option of ordering transition gaskets in a conductive PTFE design.



Universal CGE... transition gasket  
between PF and all KF type flanges.

**Product name:**

Transition gasket, glass connection flange

Transition gasket, glass connection flange, conductive PTFE

Transition gasket, glass connection flange, conductive PTFE with earthing

**Item no.**

CGE DN

CGE DN -M1

CGE DN -M2

**Examples**

CGE 025

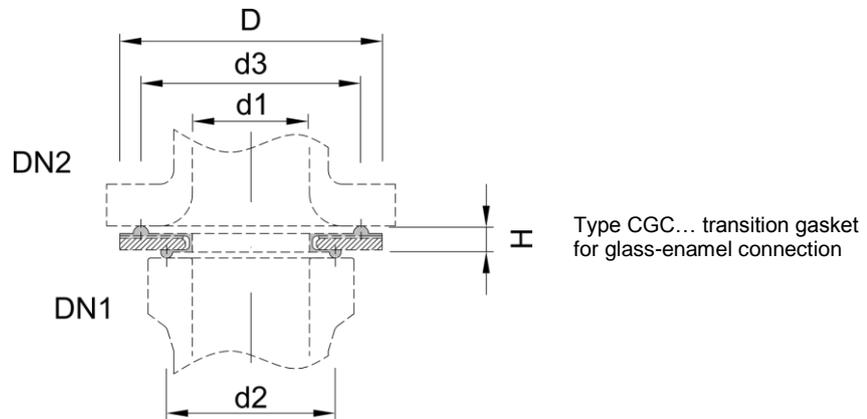
CGE 025-M1

CGE 025-M2

DN	length [mm]	Item no.	Special transition coupling (For details see page 3.9)
15	6	<b>CGE 015</b>	CP 015-PK
25	7	<b>CGE 025</b>	CP 025-PK
40	8	<b>CGE 040</b>	CP 040-PK
50	8	<b>CGE 050</b>	CP 050-PK
80	10	<b>CGE 080</b>	CP 080-PK
100	12	<b>CGE 100</b>	CP 100-PK
150	14	<b>CGE 150</b>	CP 150-PK

**TRANSITION GASKET GLASS-ENAMEL**

Type CGC transition gaskets are used for connecting glass to other materials, particularly when a slightly different inside diameter or extremely curved sealing surfaces, for example enamelled nozzles, need to be balanced out. The transition gaskets are made of a stainless steel ring, a graphite insert which balances out slight unevenness and a PTFE covering on the product side with bead sealant. The KF flange must be designed as a flat flange.



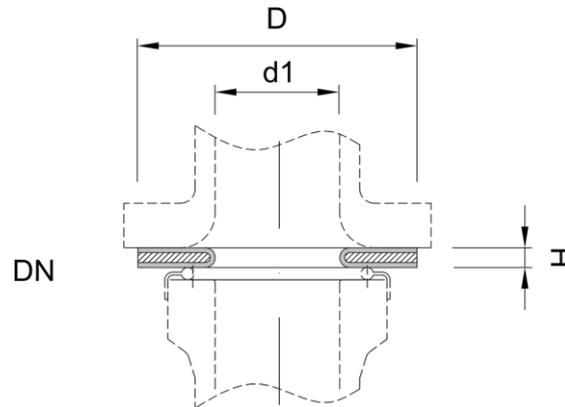
Transition gaskets are clamped and can be connected to flanges in accordance with EN 1092-1 (all nominal diameters) and ANSI 150 (apart from nominal diameters of 25). You will find the relevant adaptor coupling for glass flanges in this chapter.

<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Transition gasket, glass connection flange	CGC DN -K	CGC 025-K
Transition gasket, glass connection flange, conductive PTFE	CGC DN -K-M2	CGC 025-K-M2

DN1	DN2	D [mm]	d1 [mm]	d2 [mm]	d3 [mm]	H [mm]	Item no.
15	15	Ø45	Ø8.5	Ø23	Ø34	7.50	<b>CGC 015/015</b>
25	25	Ø68	Ø18.5	Ø34	Ø40	7.75	<b>CGC 025/025</b>
40	32	Ø78	Ø30.5	Ø48	Ø66	8	<b>CGC 040/032</b>
40	40	Ø88	Ø30.5	Ø48	Ø70	8	<b>CGC 040/040</b>
50	50	Ø102	Ø42	Ø60.5	Ø82	10	<b>CGC 050/050</b>
50	65	Ø122	Ø42	Ø60.5	Ø110	10	<b>CGC 050/065</b>
80	65	Ø122	Ø68	Ø96	Ø110	11	<b>CGC 080/065-K</b>
80	80	Ø138	Ø68	Ø96	Ø120	11	<b>CGC 080/080-K</b>
100	80	Ø138	Ø100	Ø116	Ø120	13.5	<b>CGC 100/080-K</b>
100	100	Ø158	Ø100	Ø116	Ø142	13.5	<b>CGC 100/100-K</b>
150	150	Ø212	Ø150	Ø172	Ø194	13,75	<b>CGC 150/150</b>
150	200	Ø268	Ø150	Ø172	Ø242	14,75	<b>CGC 150/200</b>
200	200	Ø268	Ø200	Ø220	Ø242	15	<b>CGC 200/200</b>
200	250	Ø320	Ø200	Ø220	Ø298	15	<b>CGC 200/250</b>
300	300	Ø370	Ø300	Ø321	Ø344	15	<b>CGC 300/300</b>
400	400	Ø490	Ø400	Ø435	Ø450	18,5	<b>CGC 400/400</b>
450	450	Ø544	Ø450	Ø492	Ø500	20,5	<b>CGC 450/450</b>
600	600	Ø700	Ø600	Ø646	Ø640	21,5	<b>CGC 600/600</b>

**FLAT SEALING GASKETS WITH STEEL CORE**

It is recommended to use an additional PTFE-coated steel core sealing gasket as well as the CGR ring sealing gasket to connect KF glass flanges to pipelines with a larger transition radius or slightly different diameters. The steel core sealing gasket enables the force to be transferred in relation to the slightly different positioning of the surface diameter of the sealing gasket and prevents the ring sealing gasket from pressing in when forming joints with plastic or plastic-lined pipelines. The steel core sealing gasket should be specifically selected for these applications instead of the CGC transition sealing gasket.



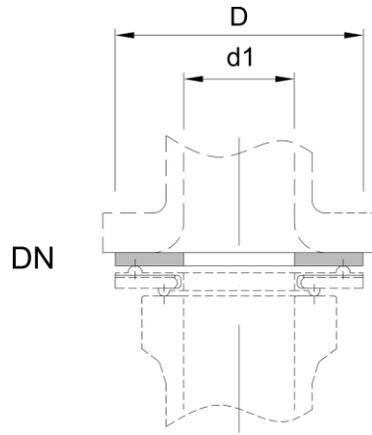
Type CGS...steel core sealing gasket  
for glass connection

<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Flat sealing gasket with steel core, glass connection flange	CGS DN	CGS 025

DN	d1 [mm]	D [mm]	H [mm]	Item no.
15	Ø15	Ø50	5	<b>CGS 015</b>
25	Ø25	Ø71	5	<b>CGS 025</b>
40	Ø40	Ø92	5	<b>CGS 040</b>
50	Ø50	Ø108	5	<b>CGS 050</b>
80	Ø80	Ø142	5	<b>CGS 080</b>
100	Ø100	Ø162	7	<b>CGS 100</b>
150	Ø167	Ø217	7	<b>CGS 150</b>
200	Ø199	Ø273	10	<b>CGS 200</b>
300	Ø290	Ø371	12	<b>CGS 300</b>

**FLAT SEALING GASKETS**

It is recommended to use an additional PTFE flat sealing gasket as well as the CGR ring sealing gasket or CGC transition gasket to connect glass flanges to plastic or PTFE-lined pipelines. The flat gasket is intended to prevent the ring gasket from pressing into the plastic or PTFE sealing surfaces.



Type CGF...flat sealing gasket for glass connection

<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Flat gasket, glass connection flange	CGF DN	CGF 025

DN	D [mm]	d1 [mm]	Item no.
15	Ø45	Ø17	<b>CGF 015</b>
25	Ø68	Ø27	<b>CGF 025</b>
40	Ø88	Ø40	<b>CGF 040</b>
50	Ø102	Ø51	<b>CGF 050</b>
80	Ø138	Ø78	<b>CGF 080</b>
100	Ø158	Ø108	<b>CGF 100</b>
150	Ø212	Ø156	<b>CGF 150</b>
200	Ø268	Ø205	<b>CGF 200</b>
300	Ø370	Ø302	<b>CGF 300</b>

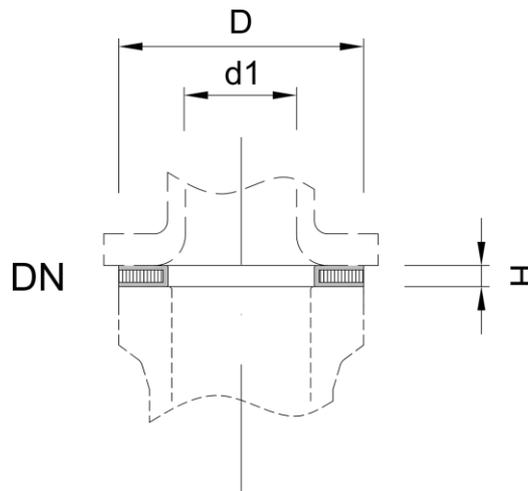
**FLAT GASKET FOR REPEATED OPENING AND CLOSING**

It is recommended to use the type CGP fitted flat gasket for specific applications requiring repeated opening and closing procedures, for example in filter apparatus.

The CGP gasket has a core made of elongated elastic PTFE.

In addition, the CGP gasket is well-suited to balancing out slight unevenness in the flanges.

The KF glass flange must be level for use with the flat sealing gasket.



Type CGP...flat gasket for repeated opening and closing for glass connection

**Product name:**

Flat gasket, reusable, glass connection flange

**Item number**

CGP DN

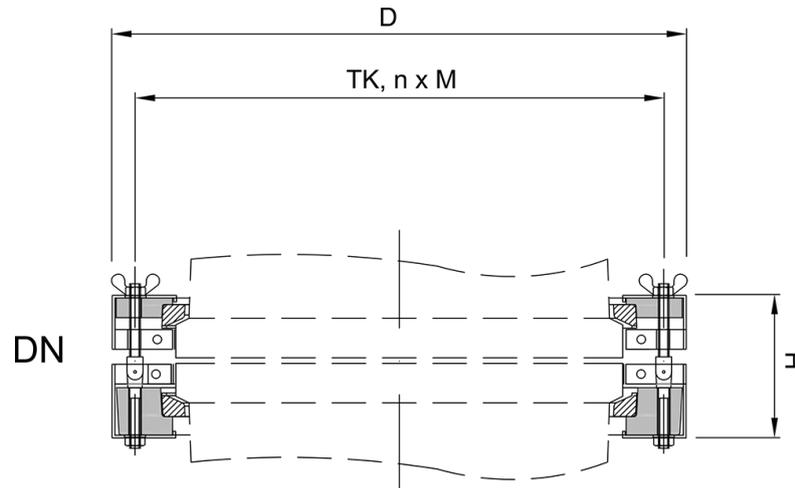
**Examples**

CGP 025

DN	D [mm]	d1 [mm]	H [mm]	Item no.
15	Ø30	Ø18	5	<b>CGP015</b>
25	Ø43	Ø27	5	<b>CGP025</b>
40	Ø61	Ø42	5	<b>CGP040</b>
50	Ø76	Ø52	5	<b>CGP050</b>
80	Ø110	Ø83	5	<b>CGP080</b>
100	Ø130	Ø102	5	<b>CGP100</b>
150	Ø184	Ø155	5	<b>CGP150</b>
200	Ø234	Ø204	6	<b>CGP200</b>
300	Ø338	Ø306	6	<b>CGP300</b>
400	Ø466	Ø420	6	<b>CGP400</b>
450	Ø528	Ø470	6	<b>CGP450</b>
600	Ø684	Ø634	6	<b>CGP600</b>

## QUICK RELEASE COUPLINGS

Quick releases are provided for glass flange couplings that need to be opened regularly. The coupling is fitted with screw clips that can be removed by hand and is attached to a special stainless steel counter flange that enables the screws to be folded out to the side. The flanges can optionally be prevented from slipping out of their position by using clamping devices. The approved excess operating pressure of quick release couplings is between -1 and +0.5 barg.



Type CQC...K quick release coupling,  
for regular opening of glass-glass couplings

**Product name:**

Quick release coupling, glass-glass

**Item number**

CQC DN-K

**Examples**

CQC 050-K

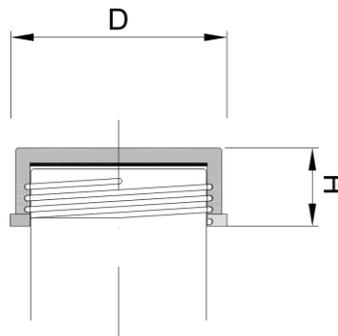
DN	D [mm]	H [mm]	TK [mm]	Item no.
40	Ø130	66	Ø110	<b>CQC040-K</b>
50	Ø145	73	Ø125	<b>CQC050-K</b>
80	Ø180	87	Ø160	<b>CQC080-K</b>
100	Ø200	98	Ø180	<b>CQC100-K</b>
150	Ø260	100	Ø240	<b>CQC150-K</b>
200	Ø220	102	Ø295	<b>CQC200</b>
300	Ø321	103	Ø400	<b>CQC300</b>

**SCREW CAPS**

Special easily opened type CQLT or CQLC caps can be used for nozzles that need to be opened regularly for filling.

Type CQLT caps are suitable for threaded connections and can be twisted open very quickly and easily. The CQLT caps are made of reinforced PP; on the product side the lids are made out of PTFE.

The approved excess operating pressure of screw caps is between -1 and +0.1 barg and the approved operating temperature is 150 °C.



Type CQLT... screw caps  
for GL threaded connectors

<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Threaded connector cap, glass	CQLT DN	CQLT 045

DN	D [mm]	H [mm]	Item no.
GL45	Ø55	30	<b>CQLT 045</b>
GL70	Ø80	30	<b>CQLT 070</b>
GL90	Ø100	30	<b>CQLT 090</b>

## RAPID CLOSURES

Special easily opened type CQLT or CQLC caps can be used for nozzles that need to be opened regularly for filling.

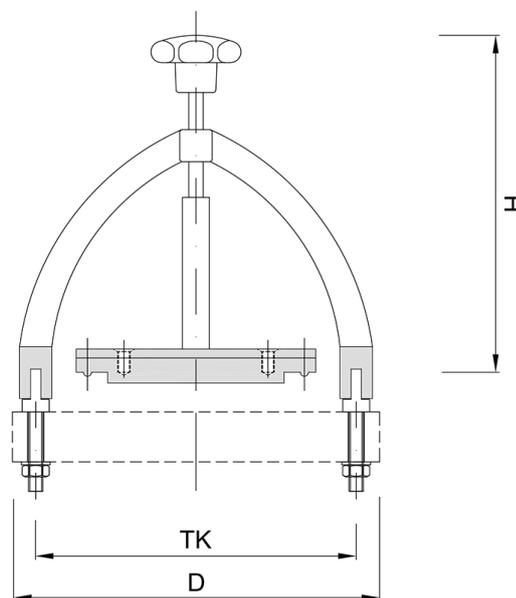
Type CQLC caps have a swivelling clip and a central spindle. The cap can be easily put on or removed from the spindle. The cap is covered with a PTFE sheet on the product side. An O-ring encapsulated with FEP is fitted in the PTFE sheet to seal it. There is the option of ordering the O-ring separately.

All other components that are not on the product side are made of stainless steel.

The KF flange must be designed as a flat flange.

The approved excess operating pressure of rapid closures is between -1 and +0.5 barg and the approved operating temperature is 200 °C.

As an option, the rapid closure can be equipped with an inductive proximity switch, which outputs a signal when the lid is closed. The proximity switch is suitable for Explosive Atmospheres (ATEX).



Rapid closure, type CQLC

**Product name:**

Rapid closure, glass connection

Rapid closure, with inductive proximity switch

**Item number**

CQLC DN-K

CQLC DN-K-O4

**Examples**

CQLC 080-K

CQLC 080-K-O4

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
50	Ø147	33	Ø125	4 x M8	<b>CQLC050-K</b>
80	Ø184	44	Ø160	8 x M8	<b>CQLC080-K</b>
100	Ø204	43	Ø180	8 x M8	<b>CQLC100-K</b>
150	Ø266	47	Ø240	8 x M8	<b>CQLC150-K</b>
200	Ø204	51	Ø295	8 x M8	<b>CQLC200</b>

## OPTIONS COUPLING

For couplings the following options can be chosen in addition to the standard structural components. Each option chosen must be entered at the end of the item number. Several options can be chosen and should be entered as far as possible in alphabetical order. In the following table you will find examples of item numbering for additional options.

<b>Product name:</b>	<b>Item no.</b>	<b>Examples</b>
CGE transition gasket:	CGE DN	CGE 025
CGE transition gasket, conductive PTFE:	CGE DN-M2	CGE 025-M2
CGE transition gasket, conductive PTFE, FDA certificate:	CGE DN-M2-Z1	CGE 025-M2-Z1

The following options can be selected:

### OPTION L – SPECIAL LENGTHS

The fittings can also be manufactured in special lengths in many cases. Please enter your preferred length according to the list of options and we will check if this is possible.

L □□□□ = special length of coupling L in mm, e.g. L0235 for 235 mm length

For bolt extensions in backing flange couplings the relevant extension in mm is entered, for example L0015 for 15 mm bolt extension in comparison to the standard bolt length.

### OPTION M – MATERIAL / PTFE-DESIGN

The standard design is in white PTFE, non-conductive and with no material certificate.

M1 = PTFE conductive

M2 = PTFE conductive with earthing

### OPTION O – SPECIAL OPTIONS

The following special options are offered for certain structural components.

O2 = threaded bolts instead of screws for connection couplings (e.g. for bellows)

O3 = stainless steel spiral insert and base

O4 = proximity switch for rapid closures

**OPTION Z – CERTIFICATES**

Standard deliveries do not come with certificates.

The following certificates can optionally be delivered with your order.

Z1 = FDA material certificate<sup>1)</sup>

Z2 = material certificate 2.2

Z3 = Certificate for Technical Guidelines on Air Quality Control (TA-Luft)

1) FDA material certificates can be delivered for product-side components containing PTFE.