

## GENERAL INFORMATION

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

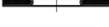
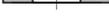
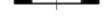
- available for both the PF and KF systems for all nominal diameter levels up to DN 600 and also optionally for coated piping.
- made with securities in accordance with the approved operating conditions in chapter 10, although any necessary insulation of piping should be considered.
- in conformity with 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 sealing gaskets made of PTFE
- 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 when taking note of 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.

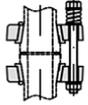
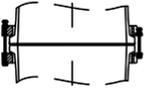


The entire selection of standard deliverable components is described on the following pages and an overview is presented in the following figure. In addition, we will be happy to offer special designs on top of the product selection on request.

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... 

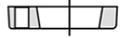
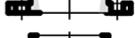
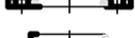
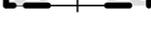
Special connections:

- Quick release coupling, type CQC ... 
- Screw caps, type CQLT... 
- Rapid closure, type CQLC... 
- Special connections for fixtures (see "apparatus components", chap. 7) 

Bolting accessories kit:

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

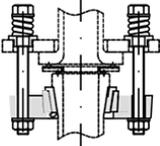
Backing flanges:

- Plastic, type CFP... 
- Cast, type CFC... 
- Stainless steel, type CFS ... 
- Connection flange EN1092-1, CFP .../CFSE... 
- Connection flange ANSI, CFSA ... 
- Unbored connection flange, CFSU ... 

Inserts:

- Plastic, type CIP...-P 
- Rubber, type CIK...-P 

Connection flange coupling:

- Glass-glass, type CAPG...-P and CAPG...-K 
- Glass- EN1092-1, type CAPE...-P
- Glass- ANSI, type CASA...-P and CASA...-K
- Glass- special (unbored), type CASU...-P and CASU...-K
- Bellows from glass to glass, EN 1092-1 or ANSI (see "Adapter", chap. 2)

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 or stainless steel. 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 is 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 incorporating spacers, flexible gaskets or similar structural components as well as rubber inserts for use with PF glass structural components with a PU coating (option “O1...”).

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.



PF backing flange coupling DN 15 – 150

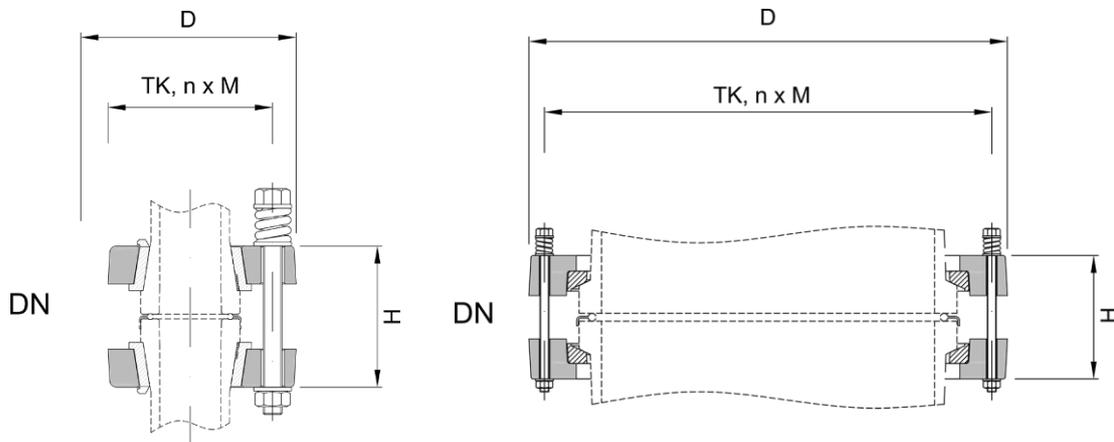


Clamp coupling DN 200 – 300

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

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

Couplings with plastic backing flanges (type CP ...-P) 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.



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

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

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.

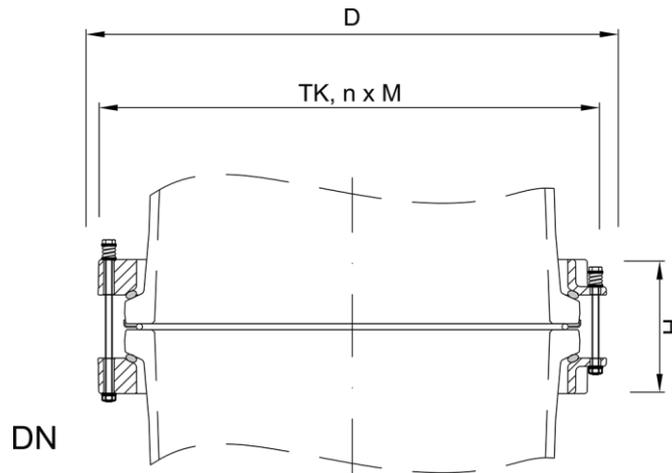
Product name:	Item number	Examples
Plastic flange coupling, glass-glass, PF system	CP DN -P	CP 025-P
Plastic flange coupling, PF system, 30 mm additional length	CP DN -P-L...	CP 025-P-L0030
Plastic flange coupling, PF system, for coated glass components	CP DN -P-O1	CP 025-P-O1
Plastic flange coupling, PF system, with white PP inserts	CP DN -P-M7	CP 025-P-M7

DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
15	Ø70	39	Ø50	3 x M6 x 65	<b>CP 015-P</b>
25	Ø90	61	Ø70	3 x M8 x 90	<b>CP 025-P</b>
40	Ø109	66	Ø86	3 x M8 x 100	<b>CP 040-P</b>
50	Ø122	73	Ø98	3 x M8 x 105	<b>CP 050-P</b>
80	Ø160	87	Ø133	6 x M8 x 120	<b>CP 080-P</b>
100	Ø204	98	Ø178	6 x M8 x 130	<b>CP 100-P</b>
150	Ø280	100	Ø254	6 x M8 x 150	<b>CP 150-P</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

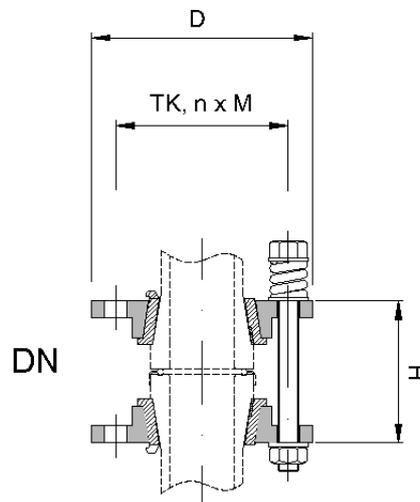
We gladly deliver optional extras such as couplings with special bolt lengths. For this you need to add the optional extra digits to the item number as given at the end of the chapter.

Product name:	Item number	Examples
Aluminium flange coupling, glass-glass, 30 mm	CC DN	CC 400
Aluminium flange 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 backing flange couplings glass-glass from DN 15 to DN 600

The standard design for type CS ...-P stainless steel couplings for the PF system contain 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.



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

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.

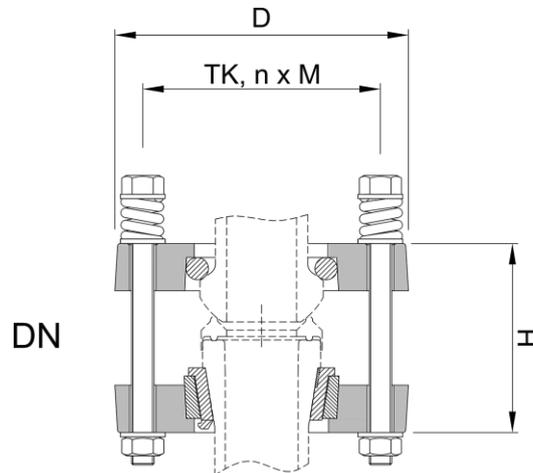
Product name:	Item number	Examples
Stainless steel flange coupling, glass-glass, PF system	CS DN -P	CS 025-P
Stainless steel flange coupling, PF system, 30 mm additional length	CS DN -P-L...	CS 025-P-L0030
Stainless steel flange coupling, PF system, for coated components	CS DN -P-O1	CS 025-P-O1

DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
15	Ø70	39	Ø50	3 x M6 x 65	<b>CS 015-P</b>
25	Ø90	61	Ø70	3 x M8 x 90	<b>CS 025-P</b>
40	Ø109	66	Ø86	3 x M8 x 100	<b>CS 040-P</b>
50	Ø122	73	Ø98	3 x M8 x 105	<b>CS 050-P</b>
80	Ø160	87	Ø133	6 x M8 x 120	<b>CS 080-P</b>
100	Ø204	98	Ø178	6 x M8 x 130	<b>CS 100-P</b>
150	Ø280	100	Ø254	6 x M8 x 140	<b>CS 150-P</b>
200	Ø321	86	Ø295	8 x M8 x 150	<b>CS 200</b>
300	Ø428	86	Ø400	12 x M8 x 150	<b>CS 300</b>
400	Ø520	90	Ø495	16 x M8 x 135	<b>CS 400</b>
450	Ø615	100	Ø585	16 x M8 x 140	<b>CS 450</b>
600	Ø740	110	Ø710	20 x M12 x 180	<b>CS 600</b>

## PLASTIC BACKING FLANGE 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.

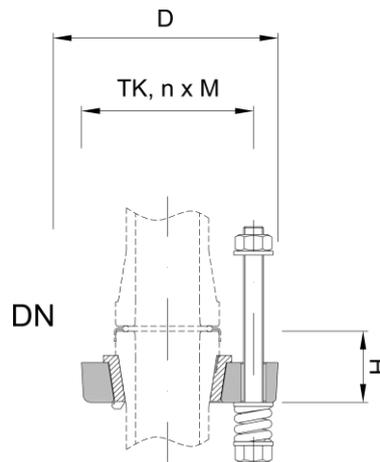
Product name:	Item number	Examples
Plastic flange coupling, glass-glass, PF to KF system	CP DN - PK	CP 025-PK
Plastic flange coupling, KF/PF system, 30 mm additional length	CP DN - PK-L...	CP 025-PK-L0030
Plastic flange coupling, KF/PF system, coated glass components	CP DN - PK-O1	CP 025-PK-O1

DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
15	Ø70	51	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	83	Ø110	4 x M8 x 110	<b>CP 040-PK</b>
50	Ø147	89	Ø125	4 x M8 x 115	<b>CP 050-PK</b>
80	Ø184	116	Ø160	8 x M8 x 135	<b>CP 080-PK</b>
100	Ø204	126	Ø180	8 x M8 x 155	<b>CP 100-PK</b>
150	Ø266	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 essentially be used to connect glass branches to other glass flanges. The delivery of a relevant adaptor coupling includes, for the glass side, a plastic flange, a flange-specific insert and – for forming a joint with the glass flange – M8 bolts, nuts, flat washers and compression springs.

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



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

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

Alternatively, stainless steel flanges can be delivered instead of plastic ones by selecting option "CASG..."

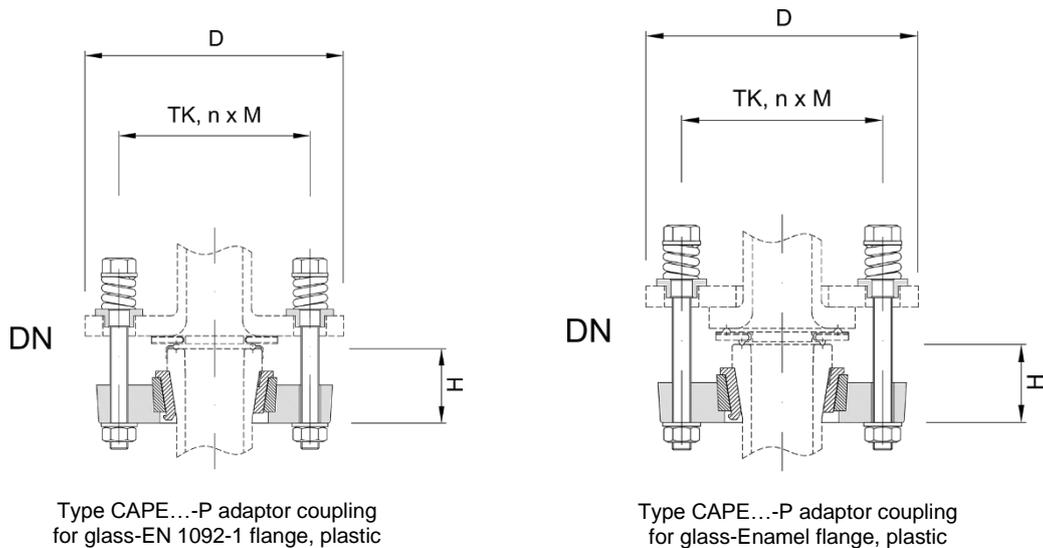
Product name:	Item number	Examples
Connection coupling, plastic, glass-glass, PF system	CAPG DN -P	CAPG 025-P
Connection coupling, plastic, PF system, 30 mm additional length	CAPG DN -P-L....	CAPG 025-P-L0030
Connection coupling, plastic, PF system, 30 mm reduced length	CAPG DN -P-L-...	CAPG 025-P-L-030
Connection coupling, plastic, PF system, with threaded bolts	CAPG DN -P-O2	CAPG 025-P-O2
Connection coupling, stainless steel, PF system	CASG DN -P	CASG 025-P

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 65	<b>CAPG 015-P</b>	CAPB 015-P
25	Ø105	29	Ø70	3 x M8 x 90	<b>CAPG 025-P</b>	CAPB 025-P
40	Ø130	32	Ø86	3 x M8 x 100	<b>CAPG 040-P</b>	CAPB 040-P
50	Ø145	35	Ø98	3 x M8 x 105	<b>CAPG 050-P</b>	CAPB 050-P
80	Ø180	39	Ø133	6 x M8 x 120	<b>CAPG 080-P</b>	CAPB 080-P
100	Ø210	46	Ø178	6 x M8 x 130	<b>CAPG 100-P</b>	CAPB 100-P
150	Ø260	52	Ø254	6 x M8 x 150	<b>CAPG 150-P</b>	CAPB 150-P
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 –EN 1092-1 / ENAMEL 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 or enamel flanges, for example for measuring techniques or connecting pipelines. The delivery of a relevant adaptor coupling includes, for the glass side, a plastic flange, a flange-specific insert and transition insert and – for connecting to the EN/enamel 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 EN flange bore diameter.

The transition gasket for the EN/enamel flange is not included in the delivery. In this chapter you will find a selection of sealing gaskets that correspond significantly to the flange surface form of the EN or enamel 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 in bolt length with regard to the bolt length entered as option L....

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

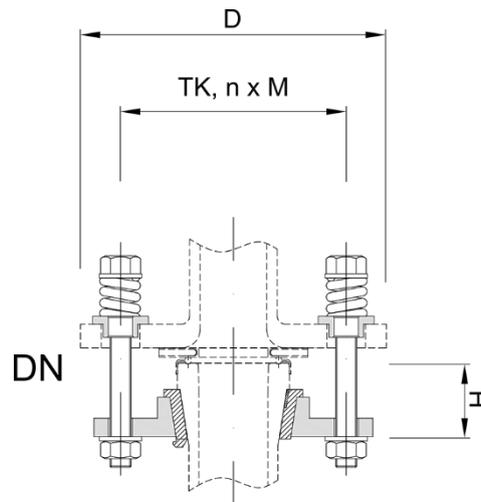
Product name:	Item number	Examples
Plastic flange coupling, glass-EN, PF system	CAPE DN -P	CAPE 025-P
Plastic flange coupling, PF system, 30 mm additional length	CAPE DN -P-L...	CAPE 025-P-L0030
Stainless steel flange coupling, PF system	CASE DN -P	CASE 025-P

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	35	Ø85	4 x M8 x 100	<b>CAPE 025-P</b>	4 x M8 x 135	<b>CAPE 025-P-L0035</b>
40	Ø130	36	Ø110	4 x M8 x 100	<b>CAPE 040-P</b>	4 x M8 x 135	<b>CAPE 040-P-L0035</b>
50	Ø145	42	Ø125	4 x M8 x 105	<b>CAPE 050-P</b>	4 x M8 x 150	<b>CAPE 050-P-L0045</b>
80	Ø180	51	Ø160	8 x M8 x 120	<b>CAPE 080-P</b>	8 x M8 x 165	<b>CAPE 080-P-L0045</b>
100	Ø210	64	Ø180	8 x M8 x 135	<b>CAPE 100-P</b>	8 x M8 x 180	<b>CAPE 100-P-L0045</b>
150	Ø260	65	Ø240	8 x M8 x 150	<b>CAPE 150-P</b>	8 x M8 x 205	<b>CAPE 150-P-L0055</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	52	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, for the glass side, a stainless steel flange, a flange-specific insert and transition insert 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 flange surface form of the ANSI flange. The assembly of the adaptor couplings is displayed in the following figure.



Typ CASA...-P adaptor coupling for glass-ANSI, stainless steel flange

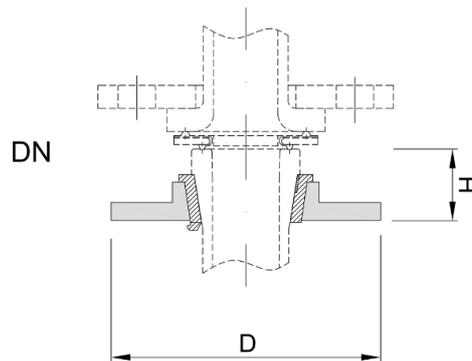
The bolt length needed will differ according to the type of ANSI connection flange. To adjust for varying lengths of bolt please enter the variation in bolt length with regard to the bolt length entered as option L....

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

DN	D [mm]	H [mm]	TK [mm]	n x M x Length	Item no.
25	Ø105	60	Ø79	4 x M8 x 115	<b>CASA 025-P</b>
40	Ø130	61	Ø98	4 x M8 x 125	<b>CASA 040-P</b>
50	Ø145	67	Ø121	4 x M8 x 130	<b>CASA 050-P</b>
80	Ø180	71	Ø152	4 x M8 x 140	<b>CASA 080-P</b>
100	Ø210	83	Ø190	8 x M8 x 155	<b>CASA 100-P</b>
150	Ø260	89	Ø241	8 x M8 x 175	<b>CASA 150-P</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...-P adaptor coupling  
for glass-undrilled adaptor, stainless steel

<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Stainless steel flange coupling, glass-undrilled, PF system	CASU DN -P	CASU 025-P

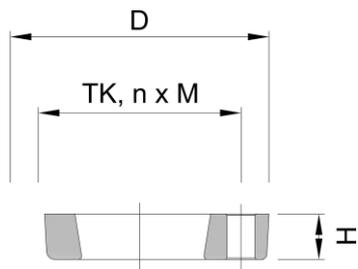
DN	D [mm]	H [mm]	Item no.
25	Ø105	35	<b>CASU 025-P</b>
40	Ø130	38	<b>CASU 040-P</b>
50	Ø145	42	<b>CASU 050-P</b>
80	Ø180	48	<b>CASU 080-P</b>
100	Ø210	51	<b>CASU 100-P</b>
150	Ø260	52	<b>CASU 150-P</b>

**BACKING FLANGES**

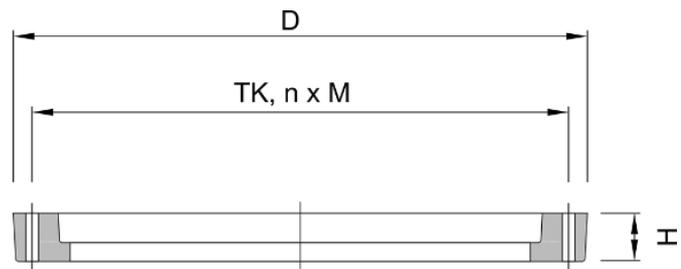
Backing flanges can be delivered as individual structural components for the PF and KF systems with regard to the complete set of flange couplings in differing materials and nominal diameters described previously.

**PLASTIC BACKING FLANGES FOR GLASS CONNECTION FROM DN 15 TO DN 300**

Plastic backing flanges are available for the PF system, item no. CFP ...-P in line with the following figure. For nominal diameters of 200 and 300 the flange system is uniform and is therefore marked with CFP ...



Type CPF...-P clamp ring,  
for glass-glass connection, plastic,  
up to DN 150



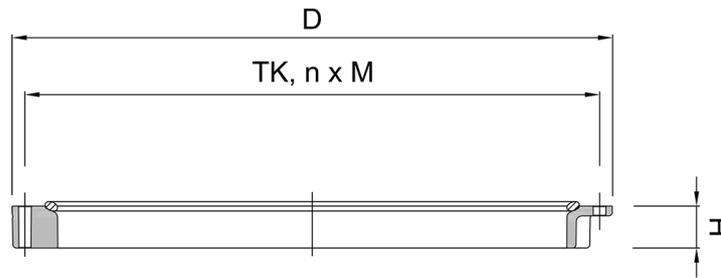
Type CPF... clamp ring  
for glass-glass connection, plastic,  
DN 200 and 300

<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Plastic flange, glass side, PF system	CFP DN -P	CFP 025-P

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
15	Ø70	11	Ø50	3 x Ø7	<b>CFP 015-P</b>
25	Ø90	16	Ø70	3 x Ø9	<b>CFP 025-P</b>
40	Ø109	19	Ø86	3 x Ø9	<b>CFP 040-P</b>
50	Ø122	22	Ø98	3 x Ø9	<b>CFP 050-P</b>
80	Ø160	27	Ø133	6 x Ø9	<b>CFP 080-P</b>
100	Ø204	28	Ø178	6 x Ø9	<b>CFP 100-P</b>
150	Ø280	27	Ø254	6 x Ø9	<b>CFP 150-P</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 FLANGE FOR GLASS CONNECTION FROM DN 400 TO DN 600**

For larger nominal diameters backing flanges are manufactured from aluminium 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.



Type CFC...clamp ring  
for glass connection, aluminum,

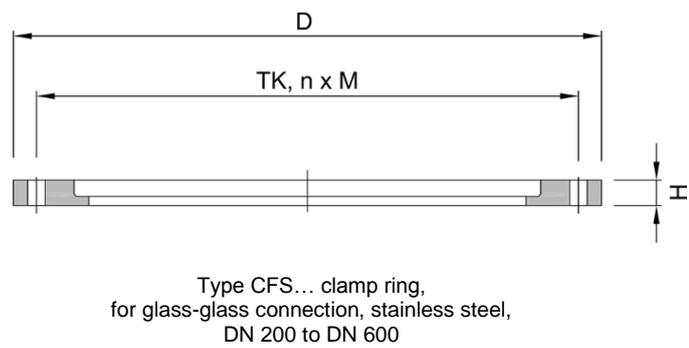
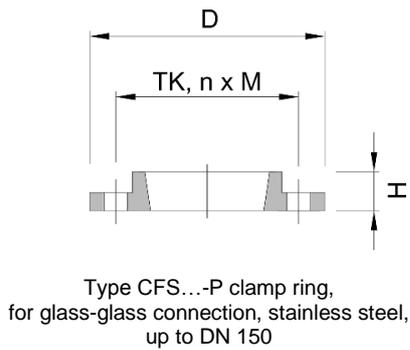
<b>Product name:</b>	<b>Item number</b>	<b>Examples</b>
Cast backing flange for glass connection	CFC DN	CFC 400

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 CONNECTION FROM DN 15 TO DN 600**

Stainless steel backing flanges for the PF and KF systems are delivered as single units for DN 15 to DN 300, and for nominal diameters of 400 and over 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 rubber/fibre-glass are included in the delivery.

Earthing holes are provided in each of the flanges.



**Product name:**

Stainless steel backing flange for glass connection

**Item number**

CFS DN -P

**Examples**

CFS 025-P

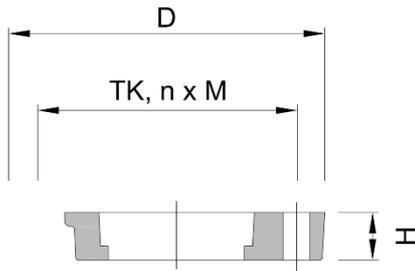
DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
15	Ø68	10	Ø50	3 x Ø7	<b>CFS 015-P</b>
25	Ø91	15	Ø70	3 x Ø9	<b>CFS 025-P</b>
40	Ø110	18	Ø86	3 x Ø9	<b>CFS 040-P</b>
50	Ø123	21	Ø98	3 x Ø9	<b>CFS 050-P</b>
80	Ø160	24	Ø133	6 x Ø9	<b>CFS 080-P</b>
100	Ø204	24	Ø178	6 x Ø9	<b>CFS 100-P</b>
150	Ø284	24	Ø254	6 x Ø9	<b>CFS 150-P</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>

**STAINLESS STEEL- AND PLASTIC BACKING FLANGE FOR CONNECTION EN 1092-1 UP TO DN 150**

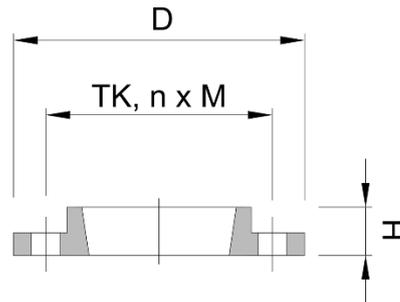
The type CFP ...-K standard plastic flanges and the type CFSE ...-K special stainless steel flanges can both be used to connect branches of glass piping to flanges in accordance with EN 1092-1. In addition to the standard CIP ...-P insert, an additional CIPE... transition insert is necessary for connecting the plastic backing flange to the relevant branch of glass pipe. However, a simple type CIP ...-P plastic insert is sufficient for connecting the stainless steel backing flange to the glass flange.

The inserts must be ordered separately.

Earthing holes are provided in each of the flanges.



Type CFP...K backing flange for glass-EN 1092 connection, plastic



Type CFSE...-P clamp ring for glass-EN 1092 connection, stainless steel flange

**Product name:**

Plastic backing flange, glass - EN 1092, PF system

Stainless steel backing flange, glass - EN 1092, PF system

**Item number**

CFP DN -P

CFSE DN -P

**Examples**

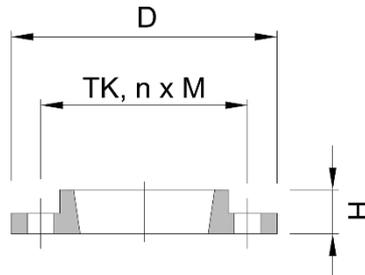
CFP 025-P

CFSE 025-P

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.	Item no.
					Plastic	Stainless steel
25	Ø105	15	Ø85	4 x Ø9	<b>CFP 025-K</b>	<b>CFSE 025-P</b>
40	Ø130	18	Ø110	4 x Ø9	<b>CFP 040-K</b>	<b>CFSE 040-P</b>
50	Ø145	21	Ø125	4 x Ø9	<b>CFP 050-K</b>	<b>CFSE 050-P</b>
80	Ø180	24	Ø160	8 x Ø9	<b>CFP 080-K</b>	<b>CFSE 080-P</b>
100	Ø210	24	Ø180	8 x Ø9	<b>CFP 100-K</b>	<b>CFSE 100-P</b>
150	Ø260	24	Ø240	8 x Ø9	<b>CFP 150-K</b>	<b>CFSE 150-P</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 15 to DN 150. A CIP ...-P plastic insert is sufficient for connecting the stainless steel backing flange to the glass flange. The inserts must be ordered separately. Earthing holes are provided in each of the flanges.



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

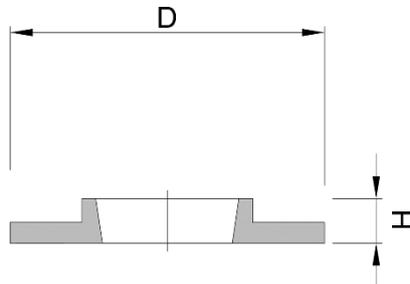
Product name:	Item number	Examples
Stainless steel backing flange, glass-ANSI, PF system	CFSA DN -K	CFSA 025-K
Stainless steel backing flange, glass-ANSI, KF system	CFSA DN -K	CFSA 025-K

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
25	Ø105	15	Ø79	4 x Ø9	<b>CFSA 025-P</b>
40	Ø130	18	Ø98	4 x Ø9	<b>CFSA 040-P</b>
50	Ø145	21	Ø121	4 x Ø9	<b>CFSA 050-P</b>
80	Ø180	24	Ø152	4 x Ø9	<b>CFSA 080-P</b>
100	Ø210	24	Ø190	8 x Ø9	<b>CFSA 100-P</b>
150	Ø260	24	Ø241	8 x Ø9	<b>CFSA 150-P</b>

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

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

The relevant insert type CIP must be ordered separately.



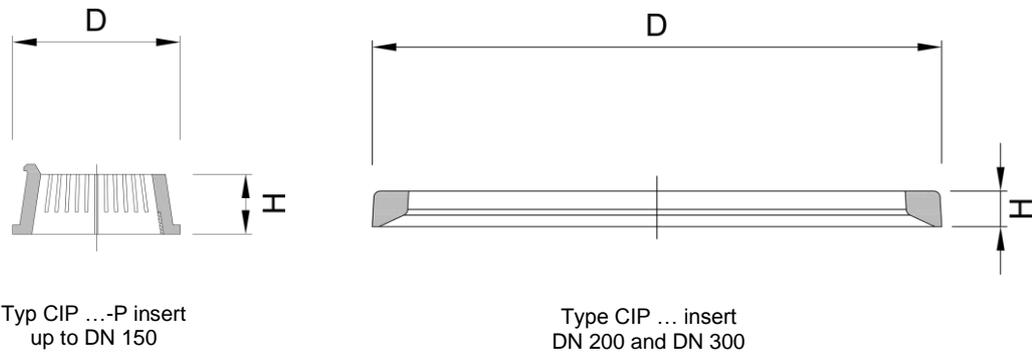
Type CFSU...-P clamp ring  
for glass--undrilled connection, stainless steel flange,

Product name:	Item number	Examples
Stainless steel flange coupling, glass-undrilled flange, PF system	CFSU DN -P	CFSU 025-P

DN	D [mm]	H [mm]	TK [mm]	n x M	Item no.
15	Ø70	10	-	-	<b>CFSU 015-P</b>
25	Ø105	15	-	-	<b>CFSU 025-P</b>
40	Ø130	18	-	-	<b>CFSU 040-P</b>
50	Ø145	21	-	-	<b>CFSU 050-P</b>
80	Ø180	24	-	-	<b>CFSU 080-P</b>
100	Ø210	24	-	-	<b>CFSU 100-P</b>
150	Ø260	24	-	-	<b>CFSU 150-P</b>

## INSERTS FOR BACKING FLANGES

So-called inserts are used for connecting backing flanges to the glass flange in the PF system. For nominal diameters up to 150 inserts are slit and for the nominal diameters 200 and 300 they are two-part with a flexible coupling element. This means the inserts can be applied to glass piping in a simple assembly-friendly way and connected to the appropriate backing flange.



Inserts reinforced with fibre-glass in PP are available as an option for the PF system up to a nominal diameter of 150 and have been proven to be resistant in numerous systems with corrosive ambient air.

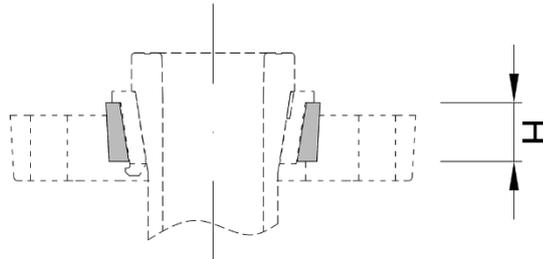
Product name:	Item number	Examples
Insert, PF system	CIP DN -P	CIP 025-P
Insert, PF system, white PP option with fibre-glass	CIP DN -P-M7	CIP 025-P-M7

DN	D [mm]	H [mm]	Item no. PA black	Item no. PP white
15	Ø37	12	<b>CIP 015-P</b>	<b>CIP 015-P-M7</b>
25	Ø52	19	<b>CIP 025-P</b>	<b>CIP 025-P-M7</b>
40	Ø68	22	<b>CIP 040-P</b>	<b>CIP 040-P-M7</b>
50	Ø82	25	<b>CIP 050-P</b>	<b>CIP 050-P-M7</b>
80	Ø113	29	<b>CIP 080-P</b>	<b>CIP 080-P-M7</b>
100	Ø150	33	<b>CIP 100-P</b>	<b>CIP 100-P-M7</b>
150	Ø202	33	<b>CIP 150-P</b>	<b>CIP 150-P-M7</b>
200	Ø254	18	<b>CIP 200</b>	
300	Ø359	18	<b>CIP 300</b>	

**TRANSITION INSERT PF FLANGE TO EN BACKING FLANGE**

The enclosed CIPE transition insert serves to connect PF glass flanges to EN connection flanges or KF backing flanges. The insert is made from stainless steel or optionally from white PP with fibre-glass.

In addition to the CIPE transition inserts, which can be ordered individually, a CIP...-P insert and CFP...-K backing flange are also needed for a complete connection to a PF flange.



Type CIPE...transition insert  
for flat safety flange (PF) to grooved flange (KF) / EN 1092-1

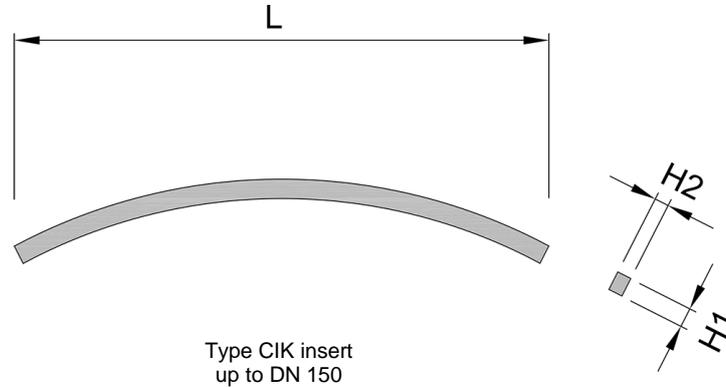
Inserts reinforced with fibre-glass in PP are available as an option for the PF system, and have sometimes been proven to be very resistant in systems with corrosive ambient air.

Product name:	Item number	Examples
Insert, PF to KF system	CIPE DN	CIPE 025
Insert, PF to KF system, white PP option with fibre-glass	CIPE DN -M7	CIPE 025-M7

DN	H [mm]	Item no.	Item no.
		Stainless steel	White PP
25	16	<b>CIPE 025</b>	<b>CIPE 025-M7</b>
40	16	<b>CIPE 040</b>	<b>CIPE 040-M7</b>
50	21.5	<b>CIPE 050</b>	<b>CIPE 050-M7</b>
80	24.5	<b>CIPE 080</b>	<b>CIPE 080-M7</b>
100	33	<b>CIPE 100</b>	<b>CIPE 100-M7</b>
150	32	<b>CIPE 150</b>	<b>CIPE 150-M7</b>

### INSERTS MADE OF RUBBER/ARAMID FIBRE FOR DN 15 - 150

For coated glass components in the PF system, inserts made of natural rubber/aramid fibre are to be used. All other components of the flange coupling correspond to the standard design.

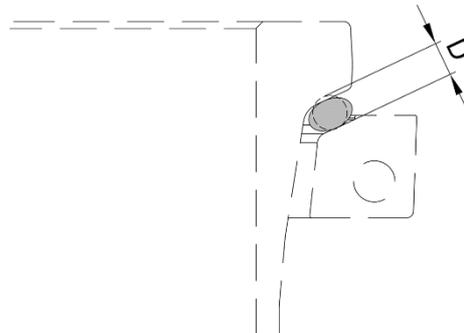


DN	L [mm]	H1 [mm]	H2 [mm]	Item no.
15	89	10	4,1	<b>CIK 015-P</b>
25	133	16	4,1	<b>CIK 025-P</b>
40	180	19	4,6	<b>CIK 040-P</b>
50	220	22	5,3	<b>CIK 050-P</b>
80	308	25	5,8	<b>CIK 080-P</b>
100	411	27	6,7	<b>CIK 100-P</b>
150	565	27	7	<b>CIK 150-P</b>

**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.



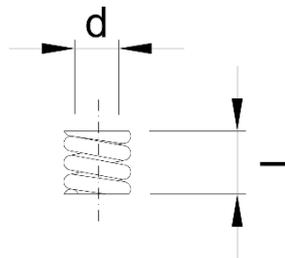
Type CIG tape insert  
from DN 400

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 overstretching 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 springs  
for glass-flange bolt connections

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

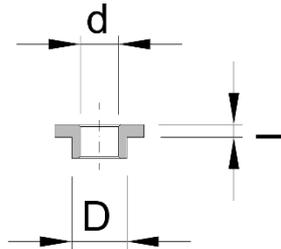
DN	d [mm]	L [mm]	L (taut) [mm]	Item no.
15	Ø6,5	13,5	11	<b>CPS 6.5</b>
25 - 100	Ø8,5	20	14,5	<b>CPS 8.5</b>
150 - 450	Ø10,5	30	24,5	<b>CPS 10.5</b>
600	Ø13	39	31	<b>CPS 13</b>

## REDUCING SLEEVES AS BOLT CONNECTION ACCESSORY

It is recommended to use the M8 or M6 bolts normally used for glass flanges 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 or ANSI have larger nominal diameters so that CRS ...reducing sleeves are provided for centering of bolts. The reducing sleeves are made out of stainless steel in standard design.

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

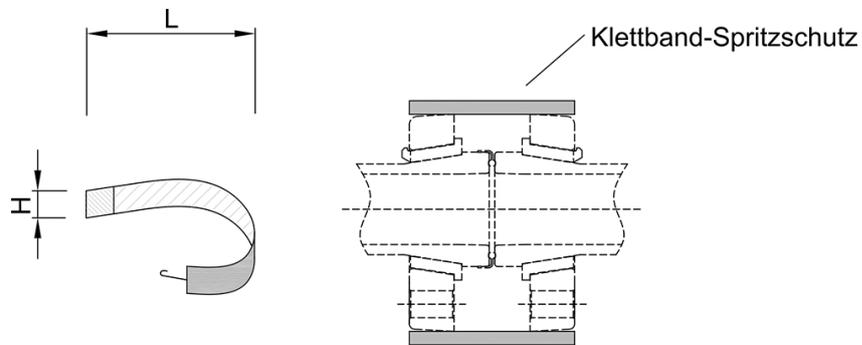
DN	D [mm]	d [mm]	L [mm]	Item no.
15	Ø13	Ø7	3	<b>CRS 13-7</b>
25	Ø13	Ø9	3	<b>CRS 13-9</b>
40 - 100	Ø17	Ø9	3	<b>CRS 17-9</b>
150 - 300	Ø21	Ø9	3	<b>CRS 21-9</b>

### 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 are available as a splash guard 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	39	Ø50	<b>CSP 015-P</b>
25	Ø34	61	Ø70	<b>CSP 025-P</b>
40	Ø48	66	Ø86	<b>CSP 040-P</b>
50	Ø61	73	Ø98	<b>CSP 050-P</b>
80	Ø88	87	Ø133	<b>CSP 080-P</b>
100	Ø121	98	Ø178	<b>CSP 100-P</b>
150	Ø172	100	Ø254	<b>CSP 150-P</b>

## SEALING GASKETS

Sealing gaskets for glass flange couplings or connections between glass and other materials are made of white non-conductive PTFE as a standard.

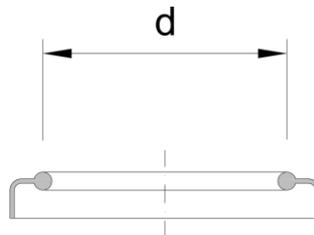
Optionally FDA material certificates can be delivered with the sealing gaskets or the the sealing gaskets can be manufactured from conductive PTFE with an earthing clip or also from special materials.

The coupling systems with glass flanges and the PTFE O ring gaskets 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 gasket for couplings between two glass flanges. The sealing O ring is fitted in a groove as a seal up to nominal diameters of 150. For nominal diameters of 200 and over the O ring is placed on a specially smoothed 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...-P 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

Ring sealing gasket, glass-glass, double collar, conductive PTFE

Ring sealing gasket, double collar, conductive PTFE with earthing

#### Item no.

CGR DN -P

CGR DN -P-M1

CGR DN -P-M2

CGR DN -P-M3

CGR DN -P-M4

#### Examples

CGR 025-P

CGR 025-P-M1

CGR 025-P-M2

CGR 025-P-M3

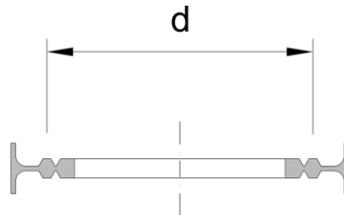
CGR 025-P-M4

DN	d [mm]	Item no.
15	Ø23	<b>CGR 015-P</b>
25	Ø34	<b>CGR 025-P</b>
40	Ø48	<b>CGR 040-P</b>
50	Ø61	<b>CGR 050-P</b>
80	Ø88	<b>CGR 080-P</b>
100	Ø121	<b>CGR 100-P</b>
150	Ø172	<b>CGR 150-P</b>
200	Ø220	<b>CGR 200</b>
300	Ø321	<b>CGR 300</b>
400	Ø435	<b>CGR 400</b>
450	Ø492	<b>CGR 450</b>
600	Ø646	<b>CGR 600</b>

## GMP CONFORM RING SEALING GASKETS

GMP conform ring sealing gaskets are designed with a seal in the inside diameter which limits dead space and are centered using a double collar.

For GMP and cleanroom applications numerous further aspects must be observed aside from a suitable choice of sealing gasket. We will be happy to advise you on this.



Typ CGG...-P GMP sealing gasket

**Product name:**

GMP sealing gasket, glass-glass

GMP sealing gasket, glass-glass, conductive PTFE

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

**Item no.**

CGG DN -P

CGG DN -P-M1

CGG DN -P-M2

**Examples**

CGG 025-P

CGG 025-P-M1

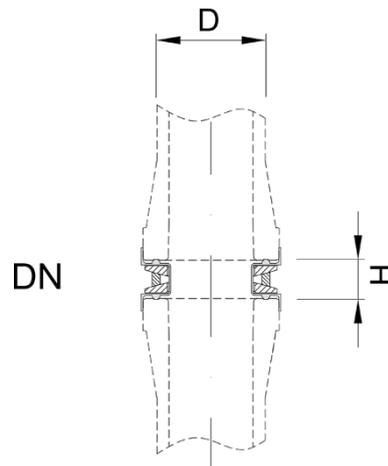
CGG 025-P-M2

DN	D [mm]	Item no.
15	Ø23	<b>CGG 015-P</b>
25	Ø34	<b>CGG 025-P</b>
40	Ø48	<b>CGG 040-P</b>
50	Ø61	<b>CGG 050-P</b>
80	Ø88	<b>CGG 080-P</b>
100	Ø121	<b>CGG 100-P</b>
150	Ø172	<b>CGG 150-P</b>
200	Ø220	<b>CGG 200</b>
300	Ø321	<b>CGG 300</b>
400	Ø448	<b>CGG 400</b>
450	Ø509	<b>CGG 450</b>
600	Ø662	<b>CGG 600</b>

## FLEXIBLE SEALING GASKETS

For PF couplings with a nominal diameter of up to 150 angular deviations can be balanced out with adjustable flexible sealing gaskets or deviations can be manufactured specifically.

Flexible sealing gaskets have a PTFE covering on the product side and can be adjusted by up to 3° using a combination of stainless steel rings and washers. There is the option of ordering flexible sealing gaskets in a conductive PTFE design with an earthing clip.



Type CGH...flexible sealing gasket,  
for adjusting the angle of flat safety flange couplings (PF)

**Product name:**

Flexible sealing gasket, glass-glass

Flexible sealing gasket, glass-glass, conductive PTFE

**Item no.**

CGH DN -P

CGH DN -P-M2

**Examples**

CGH 025-P

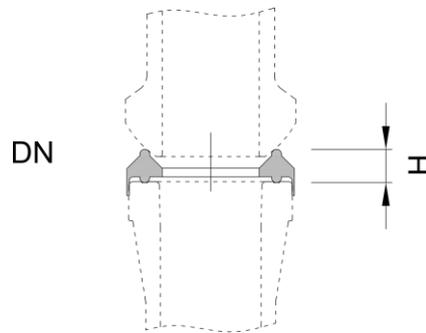
CGH 025-P-M2

DN	D [mm]	H [mm]	Item no.
15	Ø23	11	<b>CGH 015-P</b>
25	Ø34	12	<b>CGH 025-P</b>
40	Ø48	14	<b>CGH 040-P</b>
50	Ø61	16	<b>CGH 050-P</b>
80	Ø88	20	<b>CGH 080-P</b>
100	Ø121	22	<b>CGH 100-P</b>
150	Ø172	28	<b>CGH 150-P</b>

**UNIVERSAL TRANSITION GASKET BETWEEN KF AND PF FLANGES**

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

There is 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

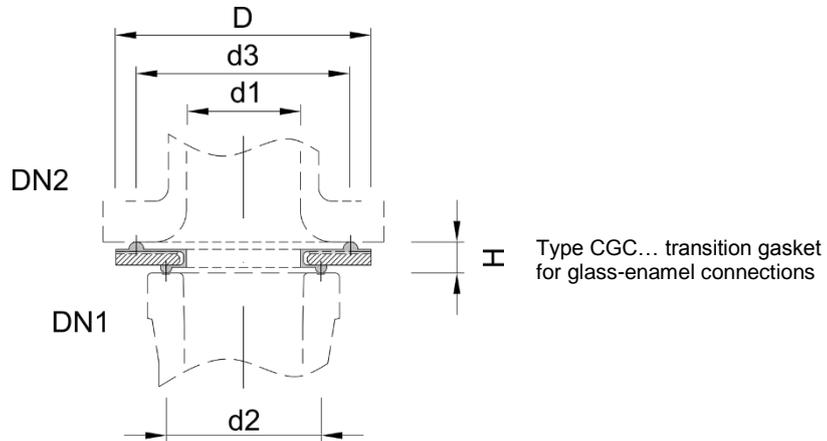
CGE 025-M1

CGE 025-M2

DN	length [mm]	Item no.	Special transition coupling (For details see page 3.7)
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.



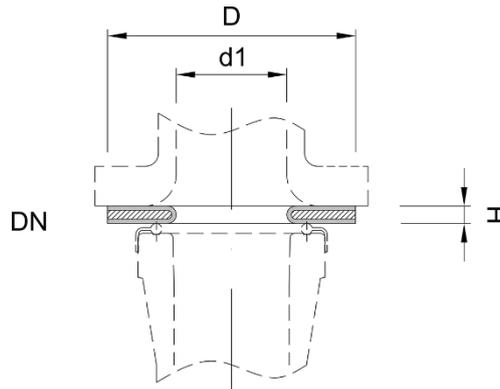
Transition gaskets are clamped and can be used to connect flanges in accordance with EN 1092-1 (all nominal diameters) and ANSI 150 (apart from nominal diameters of 25). You will find the relevant adaptor coupling for glass flanges in this chapter.

Product name:	Item number	Examples
Transition gasket, glass-connection flange	CGC DN -P	CGC 025-P
Transition gasket, glass-connection flange, conductive PTFE	CGC DN -P-M2	CGC 025-P-M2

DN1	DN2	D [mm]	d1 [mm]	d2 [mm]	d3 [mm]	H [mm]	Item no.
15	15	Ø45	Ø8.50	Ø23	Ø34	7.50	<b>CGC 015/015</b>
25	25	Ø68	Ø18.50	Ø34	Ø40	7.75	<b>CGC 025/025</b>
40	32	Ø78	Ø30.50	Ø48	Ø66	8	<b>CGC 040/032</b>
40	40	Ø88	Ø30.50	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	Ø88	Ø110	11	<b>CGC 080/065-P</b>
80	80	Ø138	Ø68	Ø88	Ø120	11	<b>CGC 080/080-P</b>
100	80	Ø138	Ø100	Ø120.5	Ø120	13.5	<b>CGC 100/080-P</b>
100	100	Ø158	Ø100	Ø120.5	Ø142	13.5	<b>CGC 100/100-P</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 PF 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.



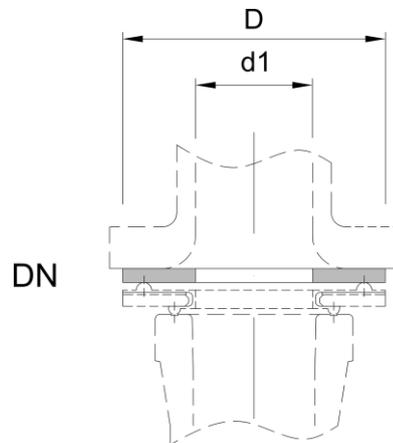
Type CGS...steel core sealing gasket for glass connection

<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,

## Product name:

Flat gasket, glass connection flange

## Item number

CGF DN

## Examples

CGF 025

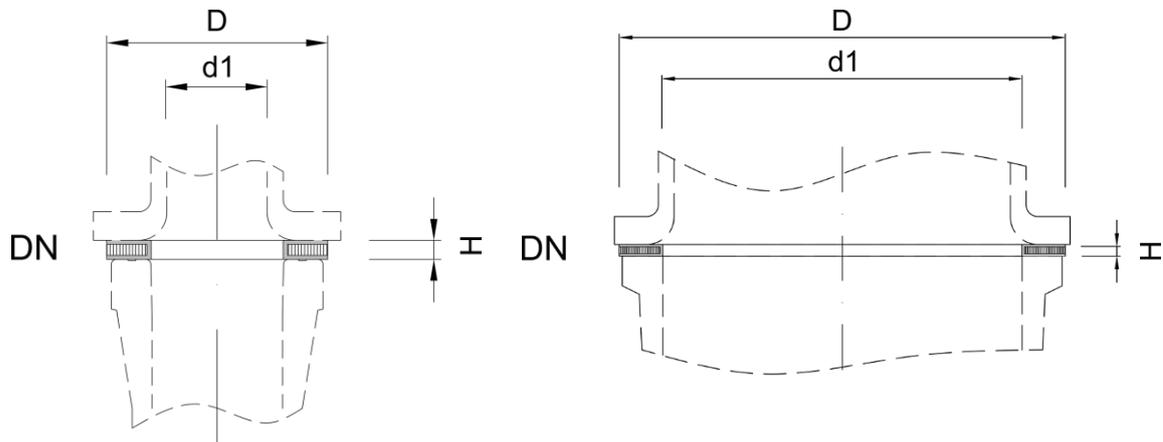
DN	D [mm]	d1 [mm]	Item no.
15	Ø45	Ø17	<b>CGF 015</b>
25	Ø68	Ø27	<b>CGF 025</b>
40	Ø88	Ø40	<b>CGF 040</b>
50	Ø102	Ø51	<b>CGF 050</b>
80	Ø138	Ø78	<b>CGF 080</b>
100	Ø158	Ø108	<b>CGF 100</b>
150	Ø212	Ø156	<b>CGF 150</b>
200	Ø268	Ø205	<b>CGF 200</b>
300	Ø370	Ø302	<b>CGF 300</b>

**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.



Type CGP... flat gasket for repeated opening and closing up to DN 150

Type CGP... flat gasket for repeated opening and closing for nominal diameters of 200 and over

**Product name:**

Flat gasket, reusable, glass connection flange

**Item number**

CGP DN

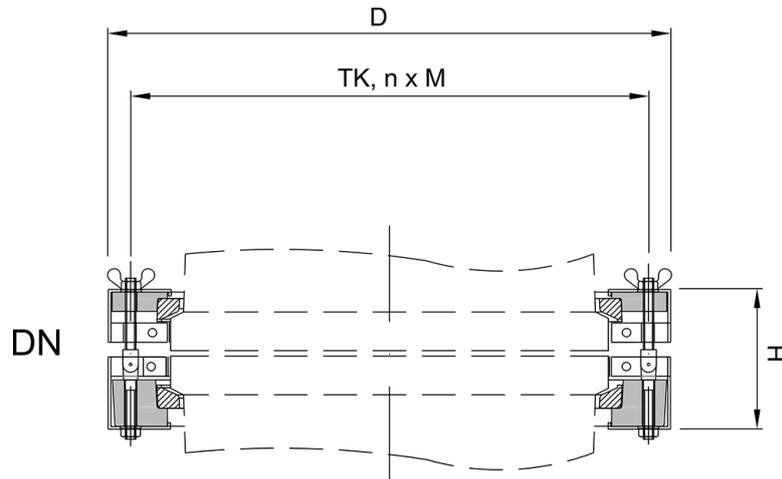
**Examples**

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

Clips 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 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...quick release coupling,  
for regular opening of glass-glass couplings

### Product name:

Quick release coupling, glass-glass

### Item number

CQC DN

### Examples

CQC 025

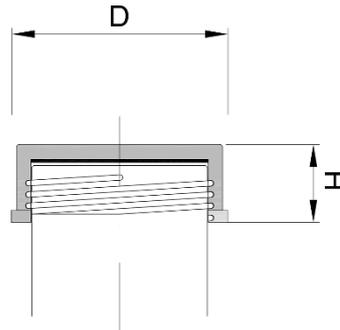
DN	D [mm]	H [mm]	TK [mm]	Item no.
40	Ø48	66	Ø86	<b>CQC040-P</b>
50	Ø61	73	Ø98	<b>CQC050-P</b>
80	Ø88	87	Ø133	<b>CQC080-P</b>
100	Ø121	98	Ø178	<b>CQC100-P</b>
150	Ø172	100	Ø254	<b>CQC150-P</b>
200	Ø220	102	Ø295	<b>CQC200</b>
300	Ø321	103	Ø400	<b>CQC300</b>

**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 in non-insulated conditions.



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

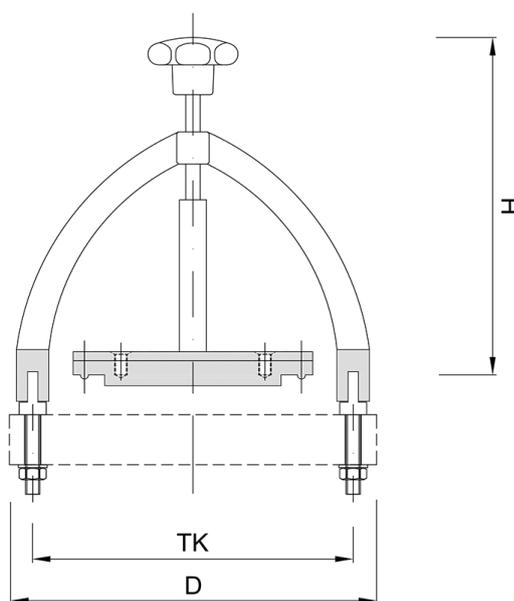
Special easily opened type CQLT or CQLC caps can be used for nozzles that need to be opened regularly for filling.

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 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-P

CQLC DN-P-04

**Examples**

CQLC 080-P

CQLC 080-P-04

DN	D [mm]	H [mm]	TK [mm]	Item no.
50	Ø147	42	Ø98	<b>CQLC 050-P</b>
80	Ø184	48	Ø133	<b>CQLC 080-P</b>
100	Ø204	51	Ø178	<b>CQLC 100-P</b>
150	Ø266	52	Ø254	<b>CQLC 150-P</b>
200	Ø204	51	Ø295	<b>CQLC 200</b>

## OPTION COUPLINGS

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

Product name:	Item no.	Examples
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

M7 = white PP with fibre-glass (for inserts only)

### OPTION O – SPECIAL OPTIONS

The following options are offered for certain structural components.

O1 = rubber instead of plastic inserts for couplings

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

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.