CONNECTORS

STÄUBLI

CGO / CGD

Thermal management and cooling of electronics


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Ensure absolute tightness at the heart of your project…

4 passage diameters:
Ø 03 - 05 - 08 - 12

2 technologies:
- CGO oscillation range
- CGD displacement range

Fluids:
- glycol water
- heat transfer oils
- esters
- cooling water
- kerosene
- PAO

Applications:
- cooling of electronics:
  - converters
  - medical imaging
  - telecommunications, data centers
  - radar
  - broadcasting transmitters
- thermoregulation

Non-spill flush faces to guarantee the integrity of the fluids

No pollution enters the circuits on connection.

Appropriate sealing solutions

A wide choice of elastomers enables the CGO and CGD ranges to be compatible with the majority of fluids and to cover a wide range of temperatures.

Non drip to ensure cleanliness and safety of installations and operators.

On disconnection the circuits close automatically thanks to the double shut-off of CGO and CGD couplings:
- no contamination of the environment from fluid loss
- especially suitable for electrical and high voltage environments.

… and perfect integration into your applications

Performance and reliability

- excellent flow volumes
- resistance to vibration and corrosion
- designed to withstand many connection sequences.

Compactness and lightness

Compact size and light weight achieved by dedicated design and materials (aluminium alloy construction).

Compensation for alignment faults

Mainly used in rackable systems, CGO and CGD couplings are designed to compensate for alignment faults and allow «blind» coupling.
Depending on the accuracy of your guiding systems, you have a choice between two technologies:

- «oscillation»: a more compact solution able to compensate for alignment faults **up to 0.5 mm.**
- «displacement»: compensation for alignment faults **up to 1 mm.**

Integration of connection solutions into your projects

CAD models are available for the entire CGO and CGD ranges.

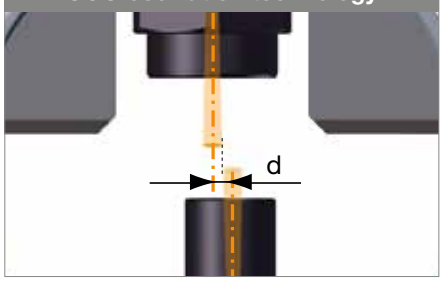
Centralized connections

We can develop solutions with CGO or CGD connections mounted on a manifold; please contact us to discuss your requirements.

Volume compensation

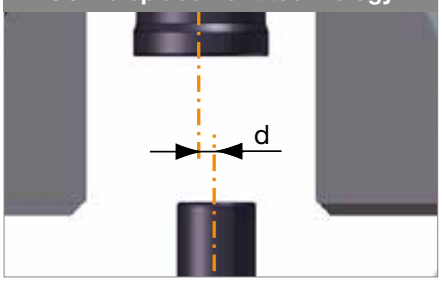
As it changes temperature, the fluid exerts forces that can be harmful to the disconnected cold plate and adversely affect its reconnection.
Contact us about volume compensation.

Misalignment < 0,5 mm:
CGO oscillation technology



Connections CGO: pages 4 to 7

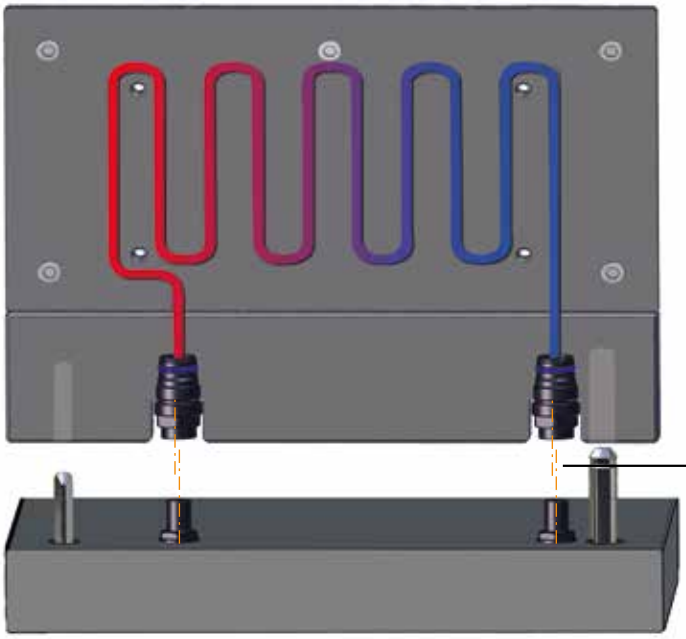
Misalignment < 1 mm:
CGD displacement technology



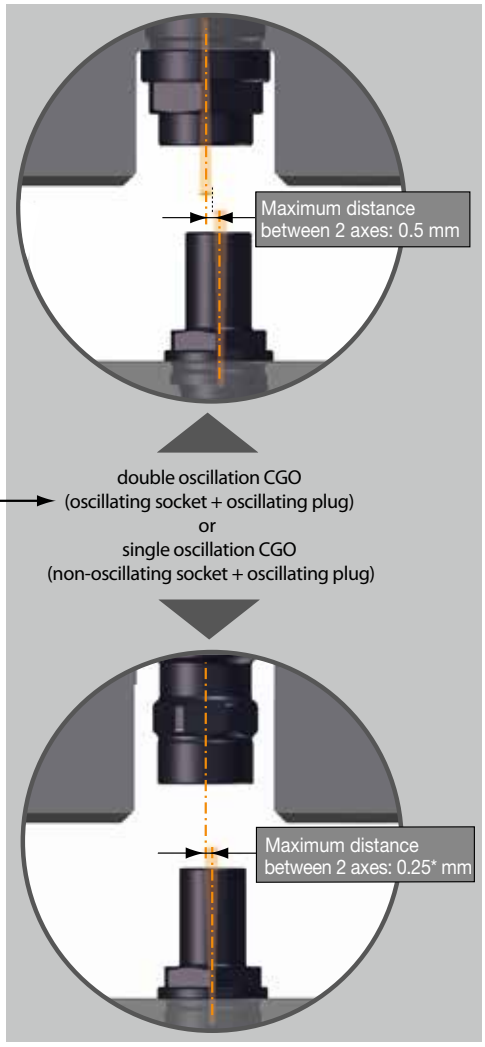
Connections CGD: pages 8 to 11

CGO range, oscillation technology

A particularly compact solution, suitable for guiding systems with a maximum misalignment of 0.5 mm.



2 possibilities



*CGO 03, d maxi = 0.2 mm

CGO range technical characteristics

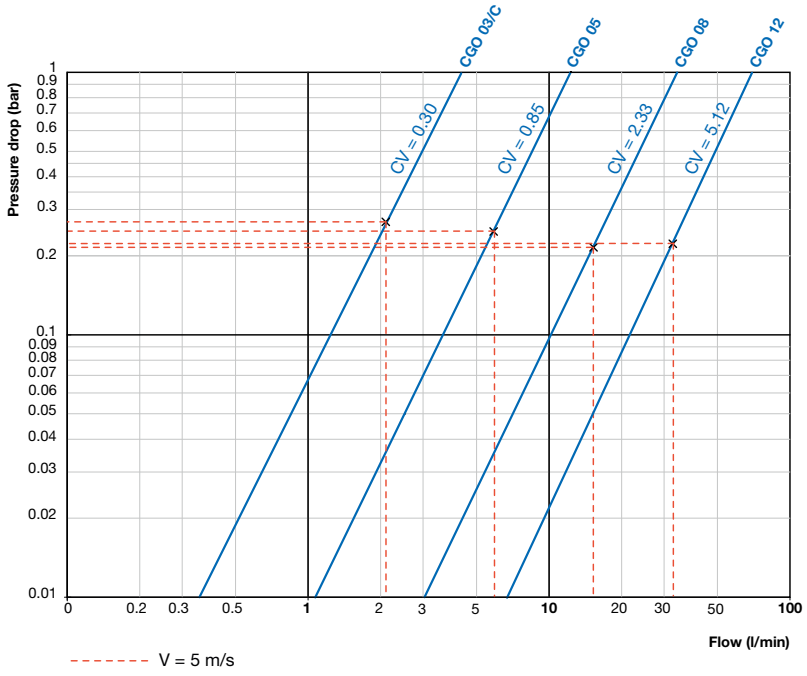
Construction: aluminium alloy with surface treatment

Types of seal	Seal code	Working temperatures (°C)
Fluoro-silicone	JS3	-40° to +175° (down to -50° depending on the fluid)
Ethylene-propylene	JE	-20° to +150°
Fluorocarbon	JV	-10° to +200°

To describe the type of seal on your CGO sockets and plugs, add the «seal code» to the end of the part number.
E.g.: CGO 05.2416/JV for a CGO with fluorocarbon seals.

	CGO 03/C	CGO 05	CGO 08	CGO 12
Bore diameter (mm)	03	05	08	12
Maximum working pressure (bar)				
for temperatures from -40° to +150°C	16	16	16	16
for temperatures from +150° to +200°C	5	5	5	5
Connection force without pressure (N)	30	60	90	150
Repulsion cross section (cm^2)	0.30	0.85	1.77	3.60
Fluid loss on disconnection (cm^3)	0.002	0.005	0.012	0.020
Weight (g)				
non-oscillating socket	2.5	11	19	50
oscillating socket	–	15	27	76
plug	3.2	9.5	19	42
Obturation	double	double	double	double

Hydraulic flow rate / pressure drop charts



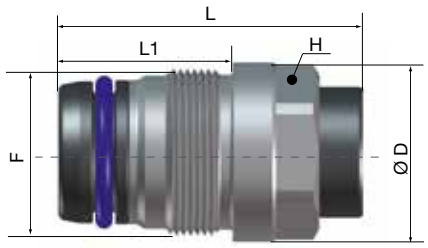
• Test conditions:
- Water
- Direction of flow: plug ⟶ socket

CGO range part numbers

Non-oscillating socket

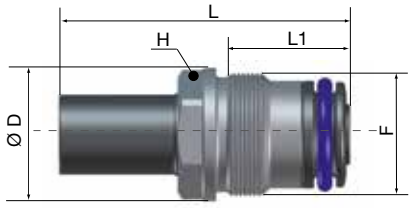
	F	L (mm)	Ø D (mm)	H (mm)	Part numbers
CGO 03/C	M 10 x 0.75	23	11	10	**CGO 03.2410/C/L/MD**
CGO 05	M 16 x 0.75	35	16.5	15	**CGO 05.2416/L/MD**
CGO 08	M 21 x 1	38	21.5	19	**CGO 08.2421/L/MD**
CGO 12	M 29 x 1.5	56	30	27	**CGO 12.2429/L/MD**

Oscillating socket



	F	L (mm)	L1 (mm)	Ø D (mm)	H (mm)	Part numbers
CGO 05	M 19 x 1	35	20	20.5	18	**CGO 05.2419/L**
CGO 08	M 25 x 1	37.9	21.5	26.5	24	**CGO 08.2425/L**
CGO 12	M 35 x 1.5	56	27.5	37.5	34	**CGO 12.2435/L**

Oscillating plug



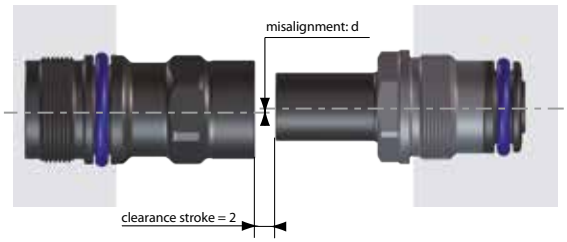
	F	L (mm)	L1 (mm)	Ø D (mm)	H (mm)	Part numbers
CGO 03/C	M 10 x 0.75	24	12	11.5	10	**CGO 03.5410/C/L**
CGO 05	M 16 x 0.75	38	17.5	17.3	15	**CGO 05.5416/L**
CGO 08	M 21 x 1	43.6	18.3	22.5	19	**CGO 08.5421/L**
CGO 12	M 29 x 1.5	54	23.5	31.5	29	**CGO 12.5429/L**

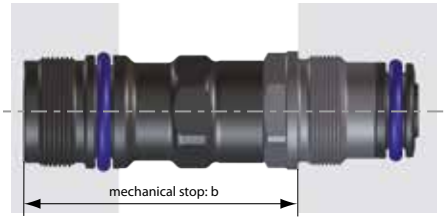
Add the seal code at the end of the part numbers.

Types of seal	Seal code
Fluorocarbon	JV
Fluoro-silicone	JS3
Ethylene-propylene	JE

CGO range installation

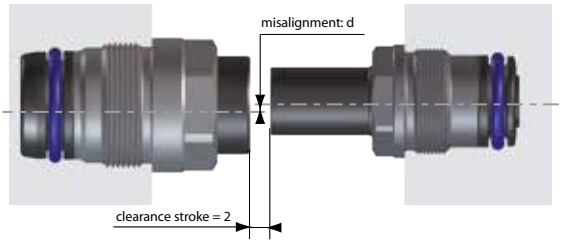
Single oscillation CGO (non-oscillating socket + oscillating plug)

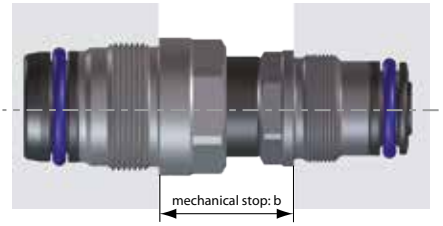




	Maxi misalignment d (mm)	Mechanical stop b (mm)	Installation drawing reference
CGO 03/C	0.2	26.5 $^{\pm 0.3}$	**R 349 011 10**
CGO 05	0.25	41.5 $^{\pm 1}$	**R 349 012 10**
CGO 08	0.25	47 $^{\pm 1}$	**R 349 013 10**
CGO 12	0.25	63 $^{\pm 1}$	**R 349 015 10**

Double oscillation CGO (oscillating socket + oscillating plug)





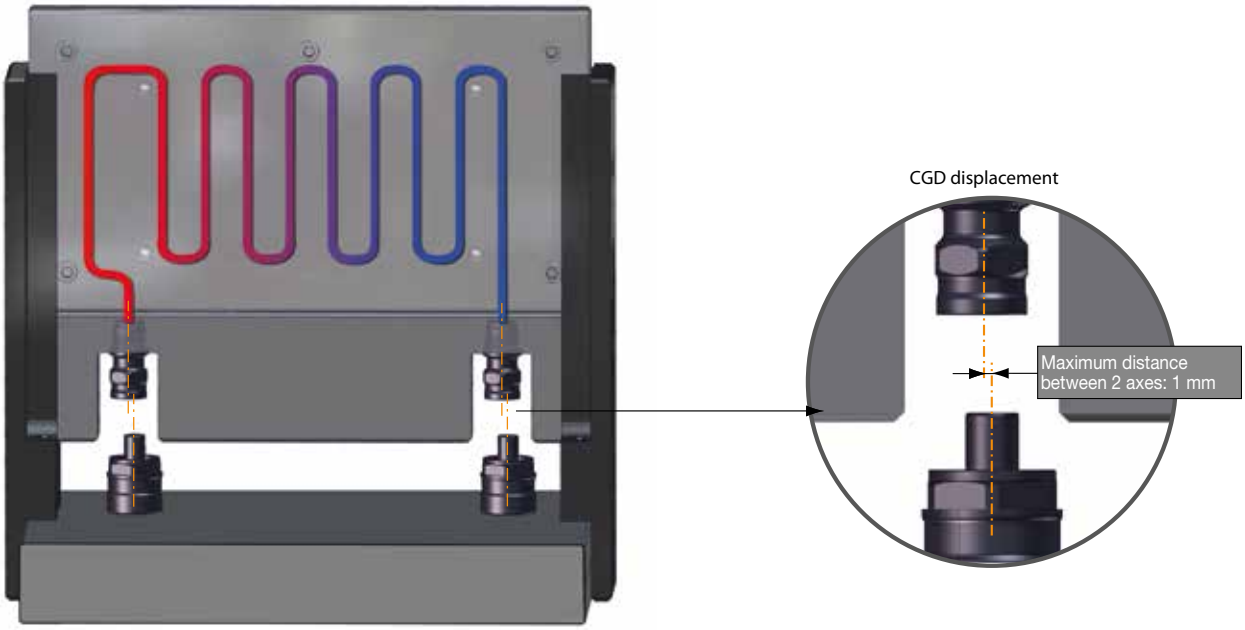
	Maxi misalignment d (mm)	Mechanical stop b (mm)	Installation drawing reference
CGO 05	0.5	21.4 $^{\pm 1}$	**R 349 022 10**
CGO 08	0.5	25.5 $^{\pm 1}$	**R 349 023 10**
CGO 12	0.5	36 $^{\pm 1}$	**R 349 025 10**

IMPORTANT NOTE:

THE CGO AND CGD RANGES ARE NOT INTER-CONNECTABLE.

CGD range, displacement technology

A solution suitable for guiding systems with a maximum misalignment of 1 mm.



CGD range technical characteristics

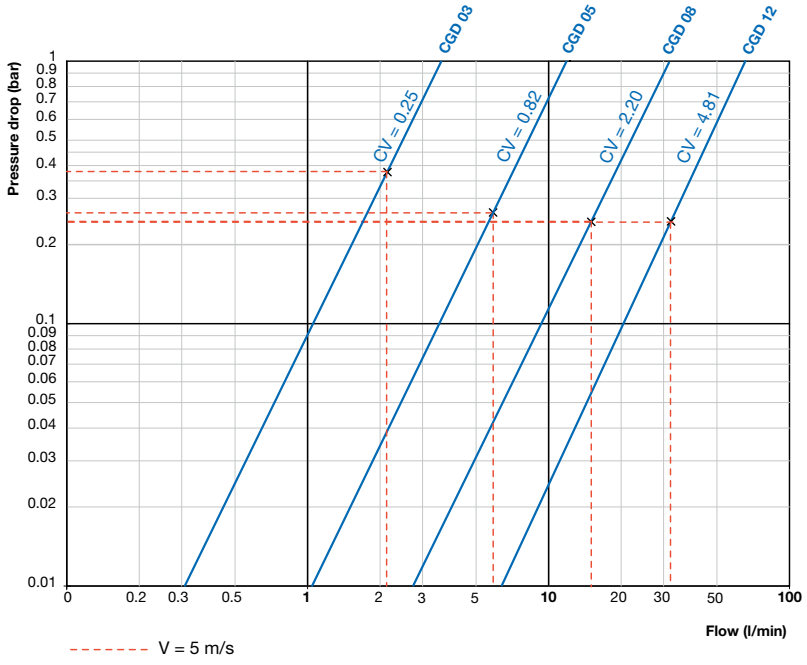
Construction: aluminium alloy with surface treatment

Types of seal	Seal code	Working temperatures (°C)
Fluoro-silicone	JS3	-40° to +175° (down to -50° depending on the fluid)
Ethylene-propylene	JE	-20° to +150°
Fluorocarbon	JV	-10° to +200°

To describe the type of seal on your CGD sockets and plugs, add the «seal code» to the end of the part number.
E.g.: CGD 05.2416/JV for a CGD with fluorocarbon seals.

	CGD 03	CGD 05	CGD 08	CGD 12
Bore diameter (mm)	03	05	08	12
Pression maxi. d'utilisation (bar)				
for temperatures from -40° to +150°C	16	16	16	16
for temperatures from +150° to +200°C	5	5	5	5
Connection force without pressure (N)	40	60	90	150
Repulsion cross section (cm^2)	0.30	0.85	1.77	3.60
Fluid loss on disconnection (cm^3)	0.002	0.005	0.012	0.020
Weight (g)				
socket	6	15	23	56
plug	12	28	48	87
Shut-off	double	double	double	double

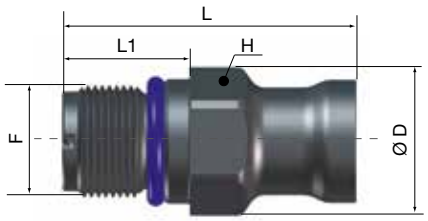
Hydraulic flow rate / pressure drop charts



• **Test conditions:**
- Water
- Direction of flow: plug ⟶ socket

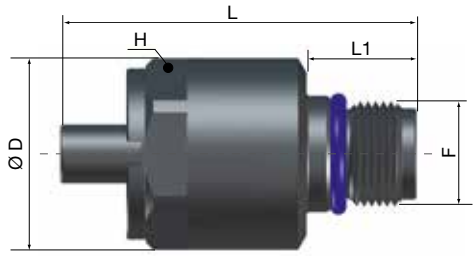
CGD range part numbers

Socket



	F	L (mm)	L1 (mm)	Ø D (mm)	H (mm)	Part numbers
CGD 03	M 11 x 1	28.8	12.5	14.5	13	**CGD 03.2411/L**
CGD 05	M 16 x 0.75	38	14.4	20	18	**CGD 05.2416/L**
CGD 08	M 21 x 1	40.5	16.3	24.5	22	**CGD 08.2421/L**
CGD 12	M 29 x 1.5	57.3	20	33	30	**CGD 12.2429/L**

Plug

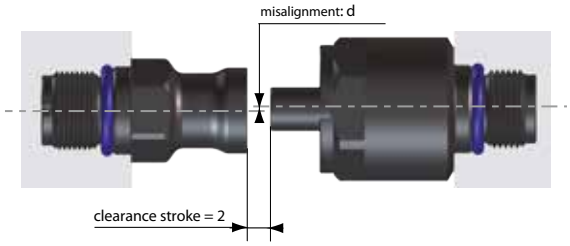


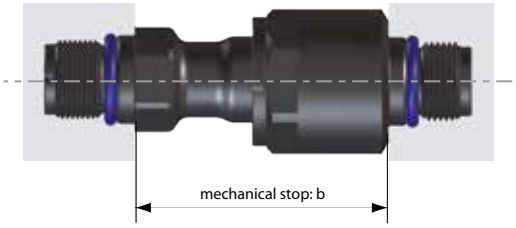
	F	L (mm)	L1 (mm)	Ø D (mm)	H (mm)	Part numbers
CGD 03	M 11 x 1	37.2	11.5	20	18	**CGD 03.5411/L**
CGD 05	M 16 x 0.75	51.3	13	27.5	25	**CGD 05.5416/L**
CGD 08	M 21 x 1	60	16	33	30	**CGD 08.5421/L**
CGD 12	M 29 x 1.5	73.5	19	41	38	**CGD 12.5429/L**

Add the seal code at the end of the part numbers.

Types of seal	Seal code
Fluorocarbon	JV
Fluoro-silicone	JS3
Ethylene-propylene	JE

CGD range installation





	Maxi misalignment d (mm)	Mechanical stop b (mm)	Installation drawing reference
CGD 03	1	30 ±1	**R 349 031 10**
CGD 05	1	44.5 ±1	**R 349 032 10**
CGD 08	1	49 ±1	**R 349 033 10**
CGD 12	1	67 ±1	**R 349 035 10**

IMPORTANT NOTE:

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For contact details: **www.staubli.com/connectors/contacts**

Global presence of the Stäubli Group
■ Stäubli units
○ Agents

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