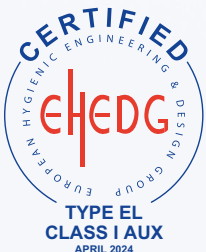


Cleanplus

The ne **plus** ultra whenever
certified hygienic safety
is a must

NEW



Cleanplus

First EHEDG certification
according to increased requirements



PFLITSCH

Passion for the best solution

Cleanplus

The new Cleanplus – same look but does much more.

As an innovation driver and market leader, PFLITSCH has a long tradition of commitment to the development of hygienic solutions for mechanical and plant engineering. Following on from the blueglobe CLEAN Plus – the first hygienic cable gland to be certified according to EHEDG criteria – we're now pleased to present their successors: the **Cleanplus** and as EMC version, the **Cleanplus TRI**.

To achieve this, we have adopted the design requirements of DIN EN 1672-2 and the if award-winning design of the blueglobe CLEAN Plus and further developed the specific hygiene properties, universal product characteristics and ease of installation.

The new PFLITSCH Cleanplus hygienic cable gland is the first cable gland for mechanical and plant engineering companies and operators to receive EHEDG certification based on the new, higher requirements.

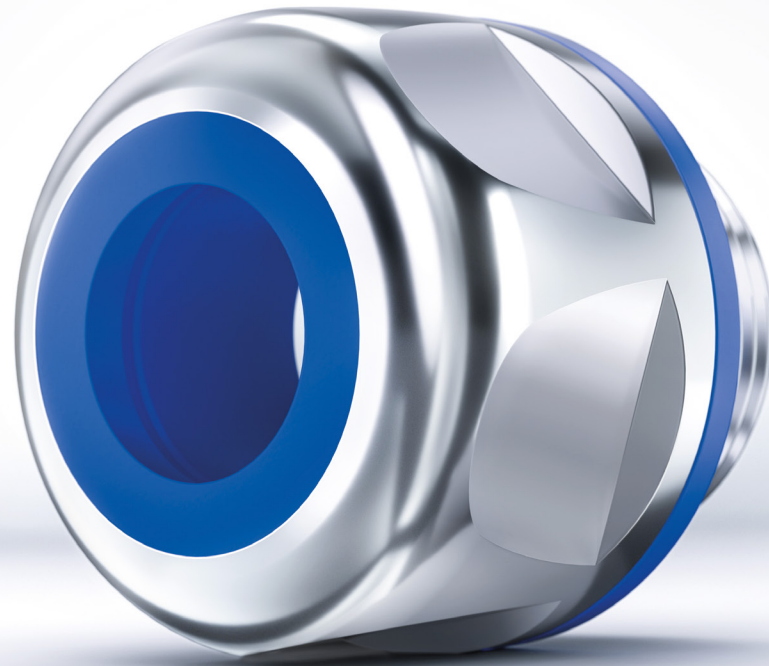
The sealing principle has been optimised in line with the higher design criteria and provides users with additional safety.

These stricter requirements were necessary to comply with the ever higher standards for hygienic safety as automation continues to advance in the food, chemical and pharmaceutical industries.

Cleanplus and Cleanplus TRI stand for PFLITSCH's comprehensive and coordinated range of hygienic solutions for cable entry, cable routing and cable protection.



Cleanplus TRI



The new Cleanplus – with the plus in added value.

In the food and pharmaceutical industries, in machines as well as in complex plants, the Cleanplus shines in every respect in terms of design, assembly or use. With its certified hygienic properties and highly developed all-round properties, the Cleanplus meets even the most challenging requirements.

This is what characterises the Cleanplus

» EHEDG certification for higher requirements – as the first cable gland in the market

Compliance with the new EHEDG guidelines for maximum hygienic safety

» Cleanability by design

- › The Hygienic Design of the Cleanplus allows easy cleanability (EHEDG)
- › Suitable for any application – even in direct contact with food, thanks to residue-free cleaning
- › No matter whether you install it on a machine component or directly in the production line, the Cleanplus helps ensure that the entire system meets even the highest hygiene requirements and makes a vital contribution towards keeping production processes transparent and reproducible

» Simple and safe EHEDG-compliant installation, that saves time and money:

- › Consists of just a few components
- › Pressure screw screwed on flush with the same torque every time
- › No special tools required
- › No need for a washer
- › No skewness of the sealing element
- › Interlocking of the sealing insert prevents the cable from turning
- › 135° rounded surfaces in the area of the spanner flats of the pressure screw have been adapted to the design
- › Low overall height and compact design

» Successful UL approval for international use

NEW

Complies with relevant safety standards for North America and enables easy integration into global machine and system concepts.

» Highly developed all-round properties

- › Tightness of seal guaranteed by protection types IP 66, IP 68 up to 15 bar, IP 69, high strain relief, high operating temperature range from –55 °C to +180 °C
- › Sealing range from 3 to 23 mm

» High resistance to cleaning agents

The FDA-compliant silicone sealing elements are resistant to a wide range of common cleaning agents and extremely durable. This was confirmed to us by the Ecolab testing institute.

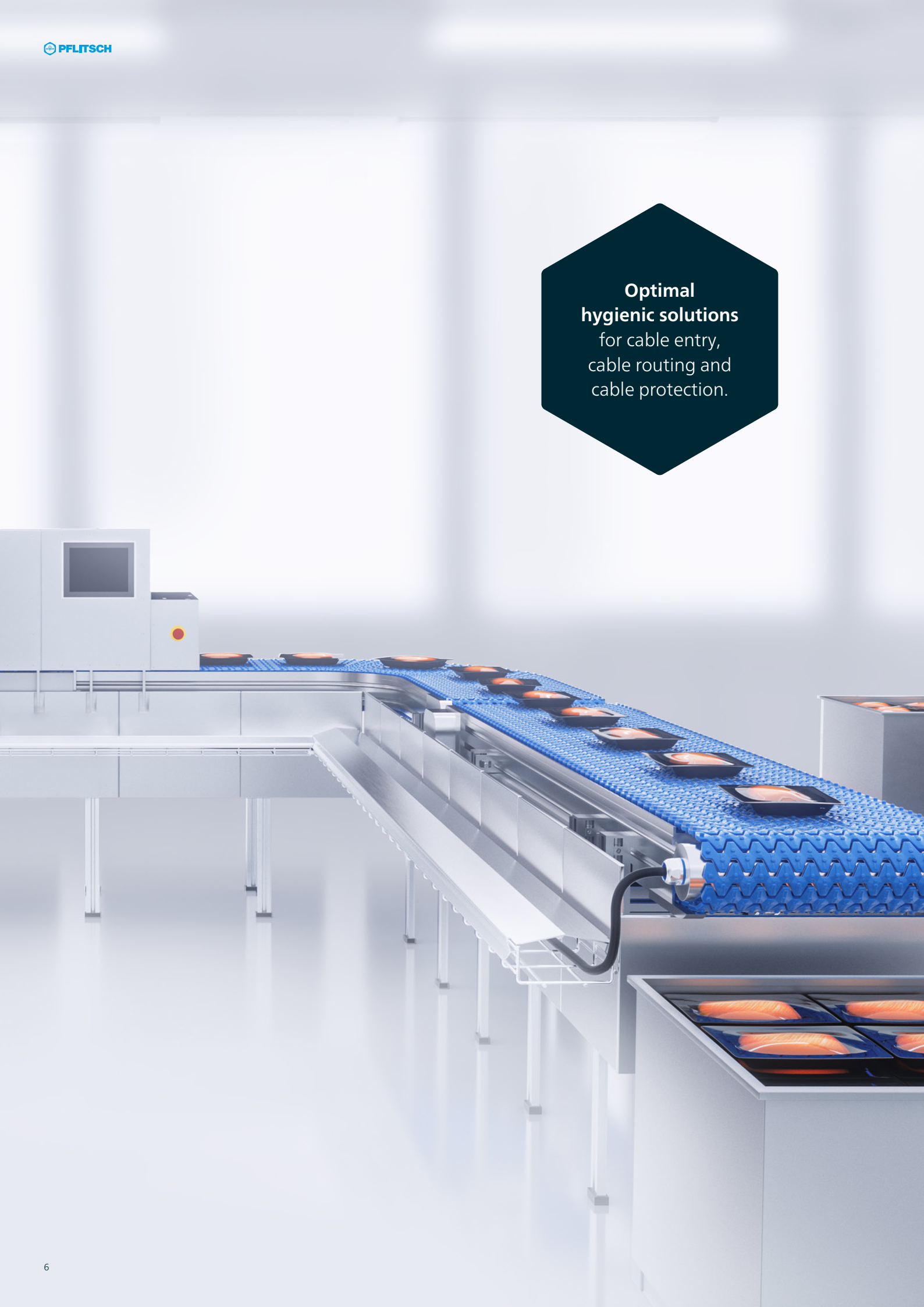
» High efficiency and lower total cost of ownership (TCO)

Calculable cleaning cycles with no need for additional cleaning measures give plant operators long-term planning security and transparency

» Alternative to the blueglobe CLEAN Plus

Wherever the blueglobe CLEAN Plus in sizes M12 to M32 has been deployed up to now, a Cleanplus variant makes a good alternative – for hygienic or EHEDG-certified applications.

» Reliable EMC protection



Optimal
hygienic solutions
for cable entry,
cable routing and
cable protection.

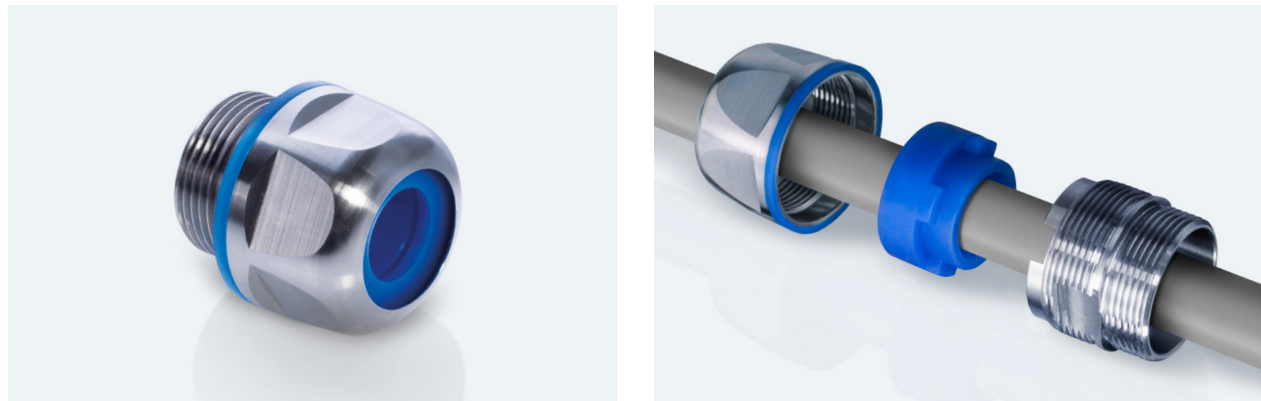
The new Cleanplus – with the plus in hygienic safety.

The advancing automation in the food and pharmaceutical industries has resulted in much stricter hygienic safety requirements and a tightening of standards where the production plants are concerned. This applies equally to production processes and plant design. Hygienic Design plays a key role here, as the design standard for components used in hygiene-critical applications.

The **European Hygienic Engineering & Design Group (EHEDG)** is instrumental in defining Hygienic Design. The foundation connects equipment manufacturers, food producers, legislators and experts with the aim of supporting and improving food safety by developing the necessary standards and disseminating knowledge.

In addition to cable entry solutions, PFLITSCH also offers a coordinated range of cable protection and cable routing solutions so that plant and machine manufacturers can comprehensively implement their cable management in accordance with hygienic design principles.

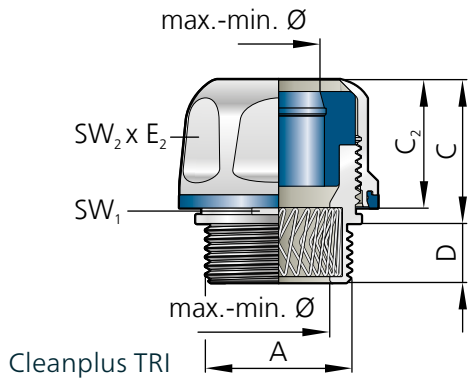
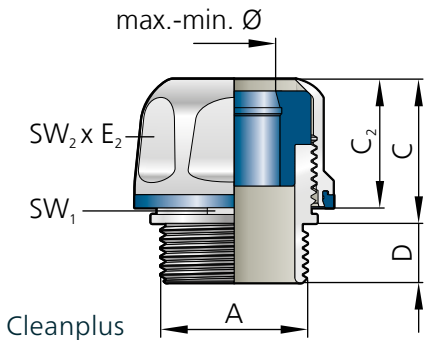
The new Cleanplus – facts & figures



Details at a glance

- » Outer parts stainless steel 1.4404, inner parts stainless steel 1.4305
- » Metric connection thread according to EN 60423
- » Types of protection IP 68 up to 15 bar, IP 69, Type 4X
- » Material of sealing elements: Silicone HTS
- » Colour: Gentian blue
- » Temperature range (min./max.): -55 °C/+180 °C (UL: up to +60 °C)
- » Long connection thread 15 mm on request
- » Available as EMC variant Cleanplus TRI

CE
RoHS



USPs

- » High temperature range
- » EHEDG certification for higher requirements
- » UL certification
- » Compact design

Cleanplus

| Connection thread/length | | Art. no. | Sealing range | EHEDG sealing range | Mounting height | Mounting height | Spanner width | |
|--------------------------|------|----------------|----------------|---------------------|-----------------|-------------------|--|---|
| A | D mm | | max./min. Ø mm | max./min. Ø mm | C mm | C ₂ mm | SW ₁ /SW ₂ x E ₂ mm | |
| M12x1.5 | 7.0 | cp 212VA 4 HTS | 4.5 – 3.0 | 4.5 – 3.5 | 18.0 | 16.0 | 11/17x19.5 | 5 |
| | | cp 212VA 5 HTS | 5.5 – 4.0 | 5.0 – 4.0 | 18.0 | 16.0 | 11/17x19.5 | 5 |
| | | cp 212VA 6 HTS | 6.5 – 4.0 | 6.0 – 5.0 | 18.0 | 16.0 | 11/17x19.5 | 5 |
| | | cp 212VA 7 HTS | 7.5 – 5.0 | 7.0 – 6.0 | 18.0 | 16.0 | 11/17x19.5 | 5 |
| M16x1.5 | 9.0 | cp 216VA 8 HTS | 7.5 – 5.5 | 7.5 – 5.5 | 20.0 | 17.0 | 15/21x23.5 | 5 |
| | | cp 216VA 9 HTS | 8.5 – 6.5 | 8.5 – 6.5 | 20.0 | 17.0 | 15/21x23.5 | 5 |
| M20x1.5 | 9.0 | cp 220VA 9 HTS | 9.5 – 6.5 | 9.5 – 7.5 | 24.0 | 21.0 | 19/24x27.5 | 5 |
| | | cp 220VA10 HTS | 10.5 – 7.0 | 10.5 – 8.0 | 24.0 | 21.0 | 19/24x27.5 | 5 |
| | | cp 220VA11 HTS | 11.0 – 8.0 | 11.0 – 9.5 | 24.0 | 21.0 | 19/24x27.5 | 5 |
| | | cp 220VA12 HTS | 12.5 – 10.0 | 12.0 – 10.0 | 24.0 | 21.0 | 19/24x27.5 | 5 |
| M25x1.5 | 10.0 | cp 225VA12 HTS | 13.0 – 10.5 | 13.0 – 11.0 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA13 HTS | 13.0 – 11.0 | 13.0 – 12.0 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA14 HTS | 14.0 – 11.0 | 14.0 – 13.0 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA15 HTS | 15.0 – 12.0 | 15.0 – 14.0 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA16 HTS | 16.0 – 13.0 | 16.0 – 15.0 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA17 HTS | 17.0 – 14.0 | 17.0 – 16.0 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA18 HTS | 18.5 – 16.0 | 18.0 – 17.0 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 232VA18 HTS | 18.5 – 15.0 | 18.5 – 16.0 | 30.0 | 26.0 | 30/36x40 | 5 |
| M32x1.5 | 11.0 | cp 232VA19 HTS | 19.5 – 16.0 | 19.5 – 17.0 | 30.0 | 26.0 | 30/36x40 | 5 |
| | | cp 232VA20 HTS | 20.5 – 16.0 | 20.5 – 17.5 | 30.0 | 26.0 | 30/36x40 | 5 |
| | | cp 232VA21 HTS | 21.5 – 18.0 | 21.5 – 18.5 | 30.0 | 26.0 | 30/36x40 | 5 |
| | | cp 232VA22 HTS | 22.0 – 18.0 | 22.0 – 19.0 | 30.0 | 26.0 | 30/36x40 | 5 |
| | | cp 232VA23 HTS | 23.0 – 19.0 | 23.0 – 20.0 | 30.0 | 26.0 | 30/36x40 | 5 |

Cleanplus TRI

| Connection thread/length | | Art. no. | Sealing range | EHEDG sealing range | Screening range | Passage | Mounting height | Mounting height | Spanner width | |
|--------------------------|------|--------------------|----------------|---------------------|-----------------|-----------|-----------------|-------------------|--|---|
| A | D mm | | max./min. Ø mm | max./min. Ø mm | max./min. Ø mm | max. G mm | C mm | C ₂ mm | SW ₁ /SW ₂ x E ₂ mm | |
| M12x1.5 | 7.0 | cp 212VA 5 HTS tri | 5.5 – 4.0 | 5.0 – 4.0 | 5.0 – 3.0 | 5.5 | 18.0 | 16.0 | 11/17x19.5 | 5 |
| | | cp 212VA 6 HTS tri | 6.5 – 4.0 | 6.0 – 5.0 | 5.0 – 3.0 | 5.5 | 18.0 | 16.0 | 11/17x19.5 | 5 |
| | | cp 212VA 7 HTS tri | 7.5 – 5.0 | 7.0 – 6.0 | 5.0 – 3.0 | 5.5 | 18.0 | 16.0 | 11/17x19.5 | 5 |
| M16x1.5 | 9.0 | cp 216VA 8 HTS tri | 7.5 – 5.5 | 7.5 – 5.5 | 7.0 – 5.0 | 9.3 | 20.0 | 17.0 | 15/21x23.5 | 5 |
| | | cp 216VA 9 HTS tri | 8.5 – 6.5 | 8.5 – 6.5 | 8.0 – 5.0 | 9.3 | 20.0 | 17.0 | 15/21x23.5 | 5 |
| M20x1.5 | 9.0 | cp 220VA 9 HTS tri | 9.5 – 6.5 | 9.5 – 7.5 | 9.0 – 7.0 | 12.3 | 24.0 | 21.0 | 19/24x27.5 | 5 |
| | | cp 220VA10 HTS tri | 10.5 – 7.0 | 10.5 – 8.0 | 10.0 – 7.0 | 12.3 | 24.0 | 21.0 | 19/24x27.5 | 5 |
| | | cp 220VA11 HTS tri | 11.0 – 8.0 | 11.0 – 9.5 | 11.0 – 7.0 | 12.3 | 24.0 | 21.0 | 19/24x27.5 | 5 |
| | | cp 220VA12 HTS tri | 12.5 – 10.0 | 12.0 – 10.0 | 12.0 – 7.0 | 12.3 | 24.0 | 21.0 | 19/24x27.5 | 5 |
| M25x1.5 | 10.0 | cp 225VA12 HTS tri | 13.0 – 10.5 | 13.0 – 11.0 | 12.0 – 10.0 | 17.3 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA13 HTS tri | 13.0 – 11.0 | 13.0 – 12.0 | 13.0 – 10.0 | 17.3 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA14 HTS tri | 14.0 – 11.0 | 14.0 – 13.0 | 14.0 – 10.0 | 17.3 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA15 HTS tri | 15.0 – 12.0 | 15.0 – 14.0 | 15.0 – 10.0 | 17.3 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA16 HTS tri | 16.0 – 13.0 | 16.0 – 15.0 | 16.0 – 10.0 | 17.3 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA17 HTS tri | 17.0 – 14.0 | 17.0 – 16.0 | 16.0 – 10.0 | 17.3 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 225VA18 HTS tri | 18.5 – 16.0 | 18.0 – 17.0 | 16.0 – 10.0 | 17.3 | 24.0 | 21.5 | 24/30x33.4 | 5 |
| | | cp 232VA18 HTS tri | 18.5 – 15.0 | 18.5 – 16.0 | 18.0 – 13.0 | 21.3 | 30.0 | 26.0 | 30/36x40 | 5 |
| M32x1.5 | 11.0 | cp 232VA19 HTS tri | 19.5 – 16.0 | 19.0 – 17.0 | 19.0 – 13.0 | 21.3 | 30.0 | 26.0 | 30/36x40 | 5 |
| | | cp 232VA20 HTS tri | 20.5 – 16.0 | 20.5 – 17.5 | 20.0 – 13.0 | 21.3 | 30.0 | 26.0 | 30/36x40 | 5 |
| | | cp 232VA21 HTS tri | 21.5 – 18.0 | 21.0 – 18.5 | 20.0 – 13.0 | 21.3 | 30.0 | 26.0 | 30/36x40 | 5 |
| | | cp 232VA22 HTS tri | 22.0 – 18.0 | 22.0 – 19.0 | 20.0 – 13.0 | 21.3 | 30.0 | 26.0 | 30/36x40 | 5 |
| | | cp 232VA23 HTS tri | 23.0 – 19.0 | 23.0 – 20.0 | 20.0 – 13.0 | 21.3 | 30.0 | 26.0 | 30/36x40 | 5 |

Applicable standards and directives

Various standards and regulations must be taken into account in order to place plants and their components on the market in accordance with the requirements of the food industry:

- » DIN EN 1672-2: Food processing machinery – Basic concepts – Part 2: Hygiene requirements, hygienic design guidelines
- » DIN EN ISO 14159: Safety of machinery – Hygiene requirements for the design of machinery
- » EHEDG: (European Hygienic Engineering & Design Group) Doc. 13: Hygienic design of equipment for open processing
- » FDA: (U.S. Food & Drug Administration)

European regulations, directives and regulations include:

- » 2006/42/EC Machinery Directive (Annex I, point 2.1)
- » Regulation (EC) 1935/2004 on food contact materials and articles



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