

Thanks for your interest



Go to ngi-global.com/products/cip-unit

“Hygienic and sustainable solutions for the food industry

We continuously develop and innovate our products and concepts to satisfy the requirements of our customers”

NGI A/S
Virkelyst 5
DK-9400 Nørresundby
T: +45 98 17 45 00
E: ngi@ngi-global.com

NGI Italy
Via Guglielmo Jervis 4
IT-10015 IVREA TO
T: +39 077 568 7010
E: ngi@ngi-global.com

NGI Inc. USA
805 Satellite Blvd
Suwanee, GA 30024, USA
T: +1 (646) 201 9410
E: sales@ngi-global.com

NGI GmbH
Ottostraße 15b
DE-41836 Hückelhoven-Baal
T: +49 (0) 2433 96 422 90
E: drivetech@ngi-global.com

ngi-global.com

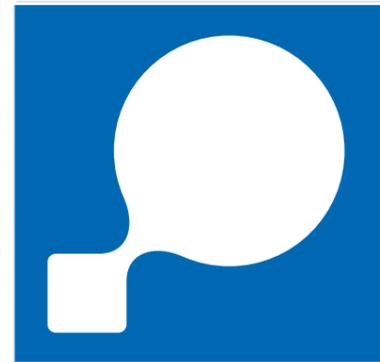
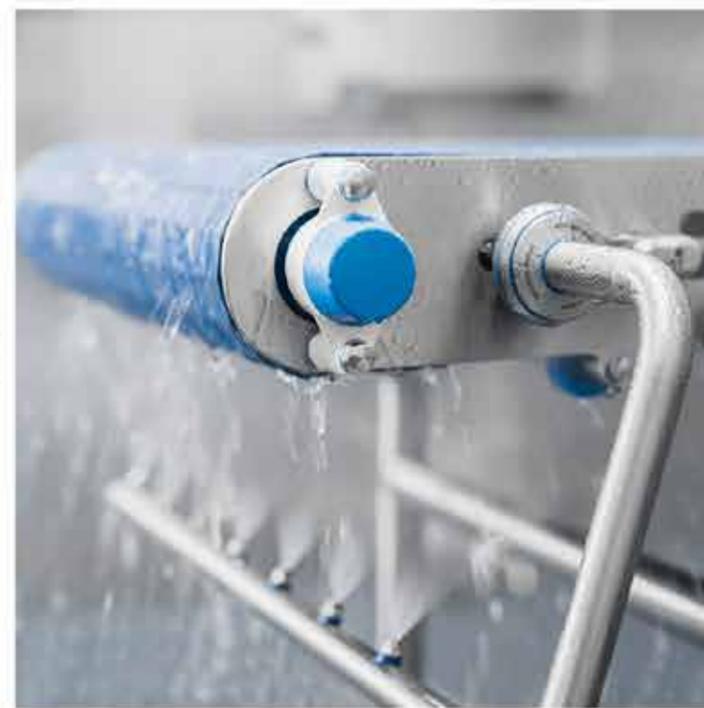
Hygienic CIP Unit

Hygienic and automatized cleaning of conveyor belts





Certified hygienic CIP Unit



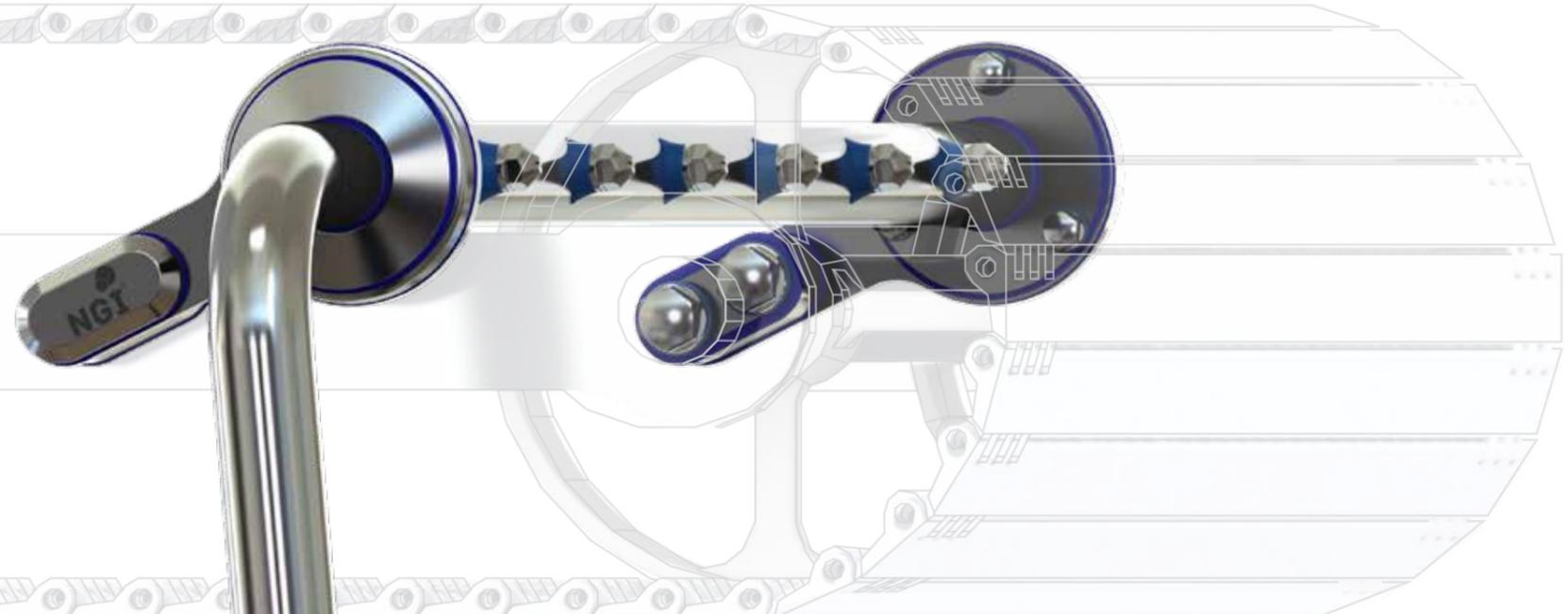
CIP Unit

Hygienic



Efficient & easy to install

Hygienic and automatized cleaning of conveyor belts



If you need an effective CIP system on your existing conveyor, now you can easily install it, with no need of complicated engineering and conveyor frame modifications.

Furthermore, the device is highly efficient, hygienically designed and makes cleaning more environmentally friendly.

The easy-to-fit hygienic CIP unit is a simple and efficient solution, where nozzles are positioned on the two spray bars. This to effectively remove the accumulated organic residues of a process and conveyor belt unit from both sides of a process and conveyor belting.

The installation of the CIP unit minimizes the operator's manual cleaning and contributes to reduce the resource utilization such as water labor and detergents. This provides a better uniform constant cleaning result.

-  Easy installation on differently designed conveyors
-  Enhanced food safety
-  A complete hygienic design minimizing risks of cross-contamination
-  Reduce energy consumption
-  Reduce usage of water and cleaning detergents



Go to ngi-global.com/products/cip-unit to read more

Optimize your conveyor belt cleaning in a sustainable way

With our hygienic CIP Unit, we are able to optimize your belt cleaning in a sustainable way.

The design of the hygienic CIP unit is the optimal choice for conveyor belts that has to comply with the strictest hygienic requirements and guarantee a safer, cleaner and more hygienic food processing!

- ✓ Reducing the cleaning time and manual labor, which increases your production time.
- ✓ Reducing the consumption of water, chemicals and energy, making it a both economically and environmentally healthy choice.
- ✓ No conveyor belt scratches and damages generated from the contact with manual spray guns
- ✓ All movable parts are 100% hygienically sealed and detectable by scanning systems.
- ✓ Easy assembly with multiple mounting options.
- ✓ State-of-the-art hygienic design. Inspired by EHEDG and 3-A design guidelines
- ✓ Internal and external cleaning of conveyor belt
- ✓ Can easily be retrofitted on an existing conveyor at the production site.

Watch video online to see the CIP Unit in action

Certified hygienic CIP Unit

-  Certified hygienic
-  Minimized cleaning time
-  Minimized water usage

Our CIP Unit is a plug & play unit that makes cleaning both easier, more effective and more environmentally friendly.

The CIP Unit is a separate cleaning device that works independent of the conveyor belt, with a spraybar on the inside and one on the outside.

With the CIP Unit you

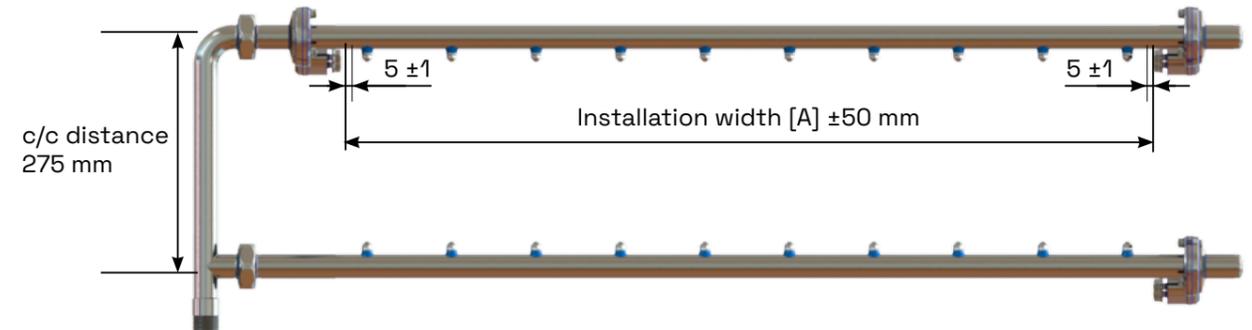
- ✓ get a Plug & Play-solution that is easy to install
- ✓ increase your hygiene level, prevent contamination and microbial growth
- ✓ increase your production time, by reducing cleaning time and manual labor
- ✓ reduce the water, chemicals and energy consumption

Simply put: With the CIP Unit installed, you get all the advantages of high class, automatized cleaning.



Certified hygienic CIP Unit

Installation width CIP Unit

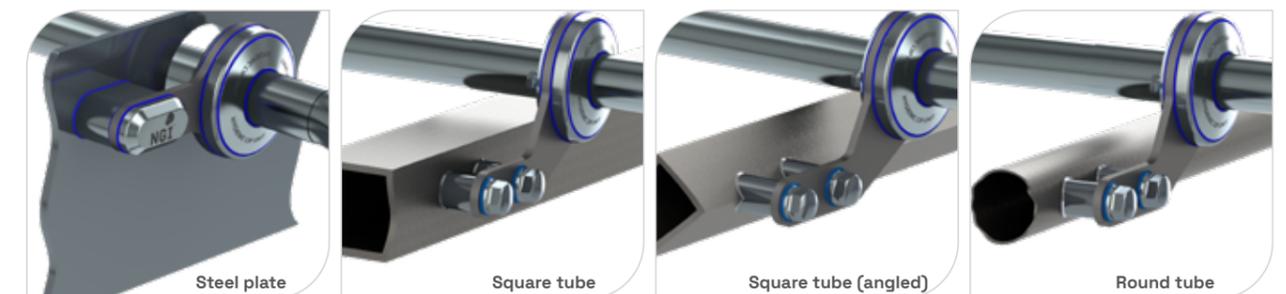


Belt width*	W [inches]	10/12"	14/16"	18/20"	22/24"	26/28"	30/32"
	W [mm]	254/305	356/406	457/508	559/610	660/711	762/813
No of nozzles	No [pcs.]	6	8	10	12	14	16
Flow**	Litre/min.	7.2	9.6	12	14.4	16.8	19.2
Flow**	Gallon/min.	1.9	2.5	3.2	3.8	4.4	5.1
Installation width (± 50)	A [mm]	310	410	510	610	710	810

* Other widths available upon request
 ** Flow measured at 3 bar water pressure

 Max. water inlet pressure for CIP Unit: 40 bar.

The CIP Unit can be installed on most conveyors



CIP Unit - finding the right model and size

- Certified hygienic
- Minimized cleaning time
- Minimized water usage

We have more different models and sizes.

By specifying the following on your conveyor you can easily find the right model of CIP Unit suitable for you. Follow these steps:

1. Look at your conveyor from the tail towards the running direction.
2. Do you want to install the conveyor on the right or the left side of the conveyor (see photo).
3. Choose the right belt and installation width - also see example on the next page

Mounting side



The CIP unit can be mounted on the right or the left side of the conveyor.

The side you choose to install the CIP Unit will be the same side as the water supply.



CIP Unit - finding the right model and size

How to find the right CIP Unit	Belt width	Installation width	Type of CIP Unit	Art. no
Example	18"	20"	Standard double spray bar	1019776

Belt width [inches]	Installation width [inches]	Type of CIP Unit	
		Single spray bar	Double spray bar
10"	12"	1019779	1019778
14"	16"	1019784	1019777
18"	20"	1019780	1019776
22"	24"	1019781	1019773
26"	28"	1019782	1019704
30"	32"	1019783	1019772
34"	36"	1021802	1022085
38"	40"	1026200	1020339



Plug & Play installation of the CIP Unit

The CIP unit is compatible with most of standard conveyors, please consult our Sales Engineer for any technical support.

We offer 3 different mounting fasteners compatible with flat surface, square, square rounded or round tube installation. Find installation guide on page 17. The CIP Unit has angular adjustability of both bars.

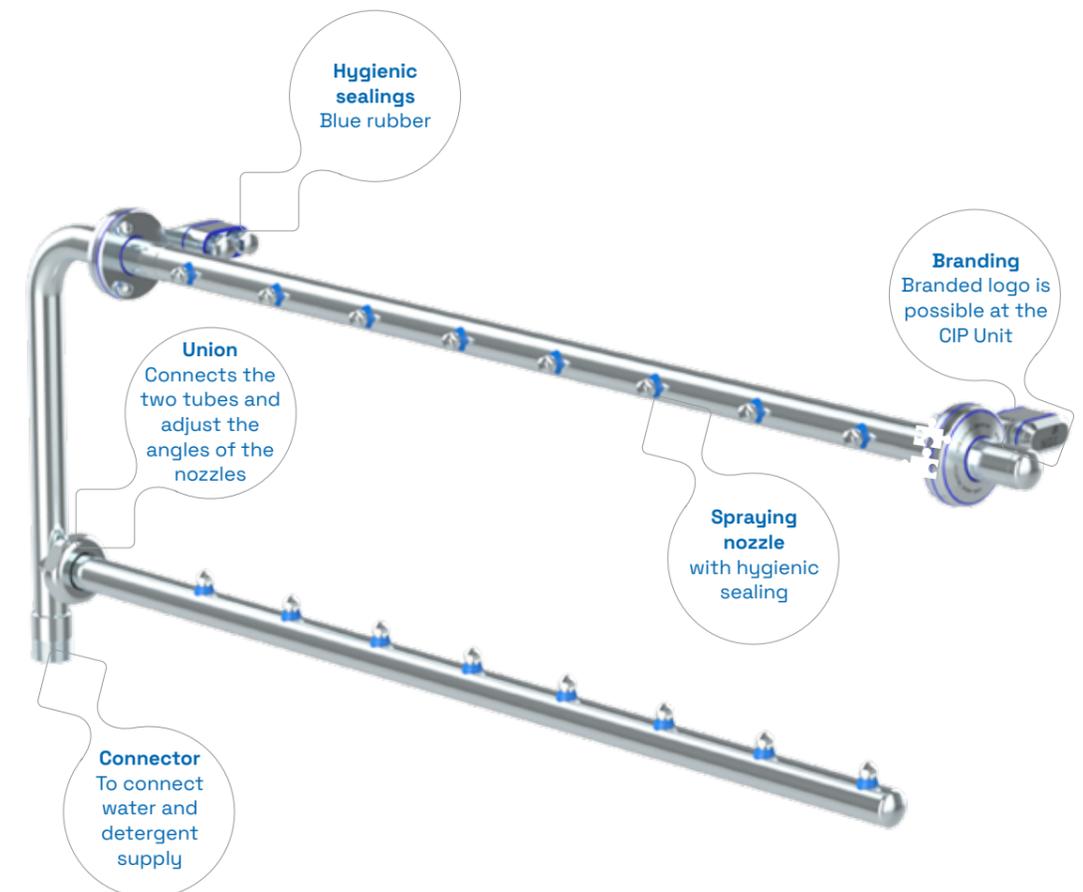
The connector is a 1" BSPT type where you can connect water and detergent for the CIP Unit.

All the movable parts on our CIP Unit are 100% hygienically sealed. All sealings are blue and therefore detectable by scanning systems. Minimum cleaning effort is thus obtained by the design of the self-draining surfaces.

Our CIP Unit can easily be retrofitted on an existing conveyor belt at the production site. Alternatively, you can mount the CIP Unit simultaneously with the installation of a completely new conveyor belt.

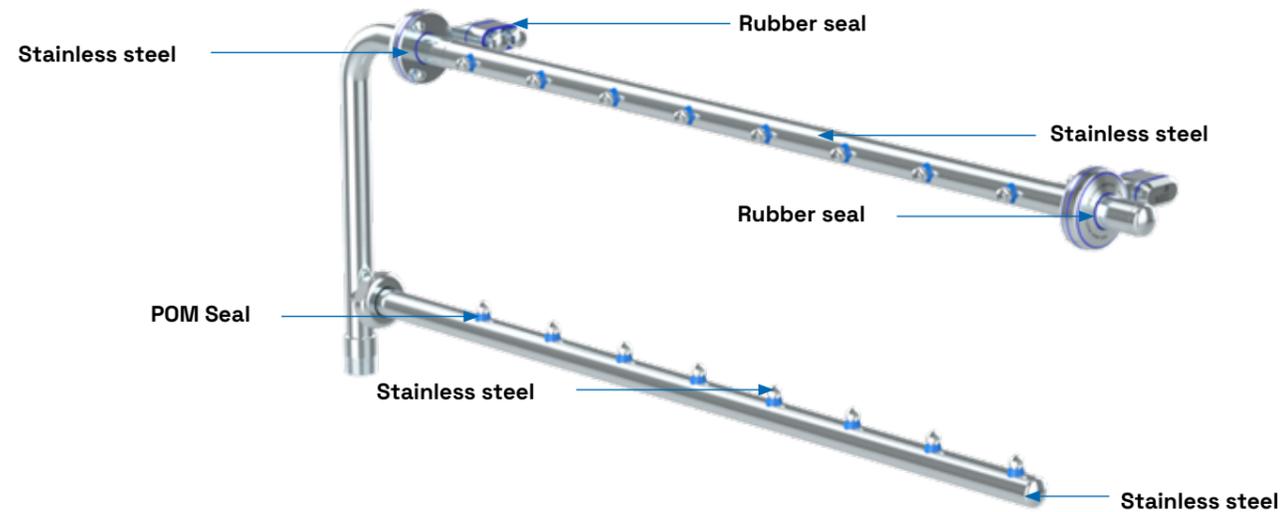
The CIP unit package includes:

- Double stainless steel spray bar equipped with spray nozzles
- The upper spraybar is fixed, the lower spraybar is orientable via the union
- An embedded hydraulic connector to joint the pressure line
- A flexible hygienic set of 2 brackets
- 4 fixation spacers
- 4 hygienic bolts



The CIP unit is a piece of state-of-the-art hygienic design. It's inspired by EHEDG, USDA and 3-A design guidelines, and furthermore it's easy to install. The CIP Unit has angular adjustability of both bars.

Certified hygienic CIP Unit



Cleaning

1. Rinse with water (maximum temperature ~40°C on proteins).
2. Distribute and cover all surfaces with foaming alkaline detergent for minimum 10 minutes. All standard products within the industry can be used. Follow supplier recommendations for temperature (maximum 100°C) and concentration depending on foaming detergent.
3. Rinse with hot water (maximum 100°C) with low-medium pressure (approximately 8-12 bar) until it is visibly clean.

Be careful not to damage the sealings if high pressure cleaning is used. Keep nozzle at minimum 200-300 mm distance.

4. Mechanical cleaning may be necessary if the CIP Unit is severely soiled. Cleaning must be executed with a soft brush or soft plastic scraper together with a more direct pointing nozzle spray. Steel scraper, steel brush or other sharp metallic tools are strictly prohibited, since the sealings can be severely damaged and the steel surfaces will be scratched.

Maintenance

1. If any part of the Hygienic CIP Unit is damaged, it must be replaced. Always use genuine spare parts from NGI.



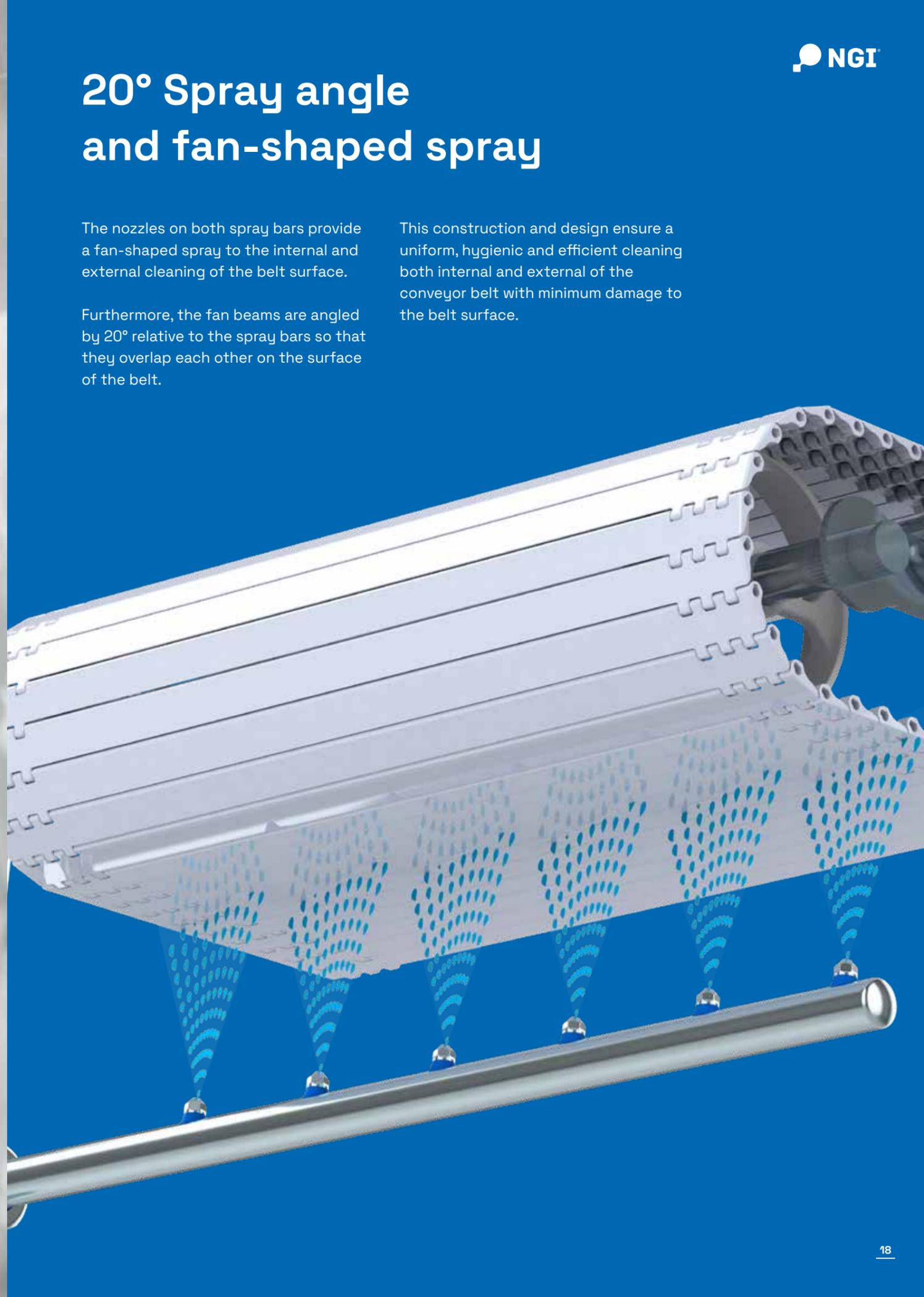
With the CIP Unit installed, you get all the advantages of high class, automatized cleaning and the CIP Unit prevent contamination and microbial growth. Can be mounted from both the left and the right side of the belt.

20° Spray angle and fan-shaped spray

The nozzles on both spray bars provide a fan-shaped spray to the internal and external cleaning of the belt surface.

Furthermore, the fan beams are angled by 20° relative to the spray bars so that they overlap each other on the surface of the belt.

This construction and design ensure a uniform, hygienic and efficient cleaning both internal and external of the conveyor belt with minimum damage to the belt surface.



Data for nozzles on CIP Unit

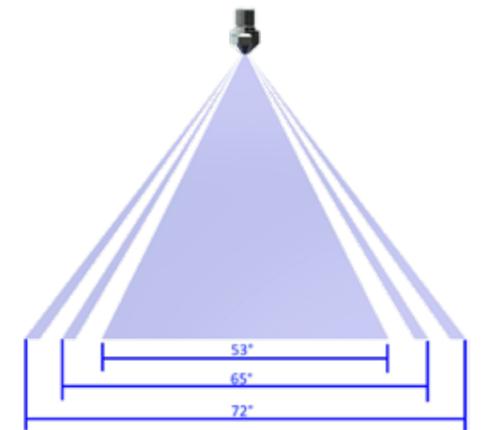
Data for nozzles:

Material: 316L
 Surface treatment: Electropolished
 Water outlet diameter : 1.1mm
 Spray angel : 53°,65°,72°
 Thread : G1/8

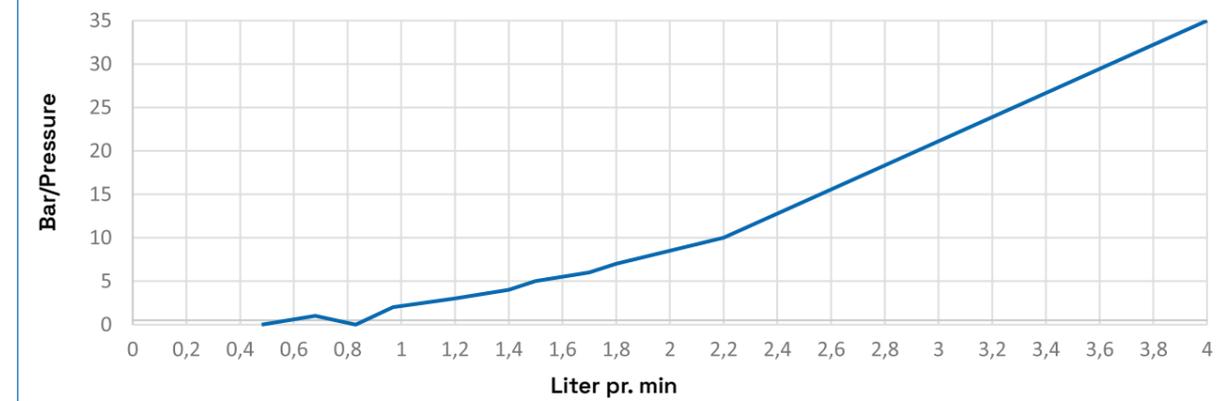


Functionality spray angle:

[0.5 - 1.5 Bar] = 53°
 [1.5 - 6.0 Bar] = 65°
 [6.0 - 35 Bar] = 72°



Pressure/Nozzle Flow:

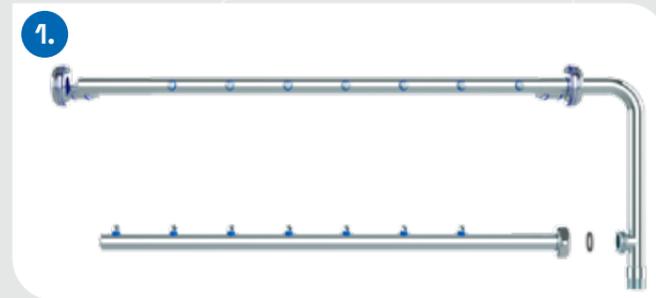


Installation hygienic CIP Unit

10"/12", 14"/16", 18"/20", 22"/24", 26"/28" & 30"/32"

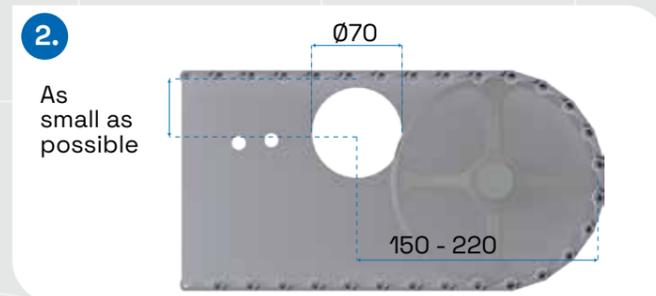
It is important to follow these instructions in order to ensure the hygienic design and functionality. This documentation is enclosed with the CIP Unit and should always be handed over to the end-user.

1. Prior to installation of the hygienic CIP unit, adjust the conveyor frame in accordance with steps 2 and 3 in this installation manual.

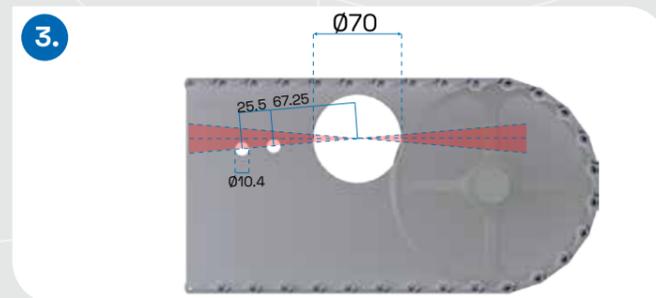


2. Drill a $\varnothing 70$ mm hole in the frame. The placement of the hole should be as close to the top of the frame without compromising the rigidity of the frame.

Additionally, the center of the hole should be located 150 - 220 mm from the internal end of the belt for optimal effect. If this distance is inconvenient a distance of 100 - 250 mm can be tolerated. Locate an identical hole on the other frame.



3. Drill two $\varnothing 10.4$ mm holes in the frame. The center of the holes should be angled by at least 5° from a horizontal origin. The center of the hole should be located 25.5 mm from each other. The hole closest to the $\varnothing 70$ mm hole should be located 67.25 mm from the center of the $\varnothing 70$ hole. Locate an identical hole on the other frame.

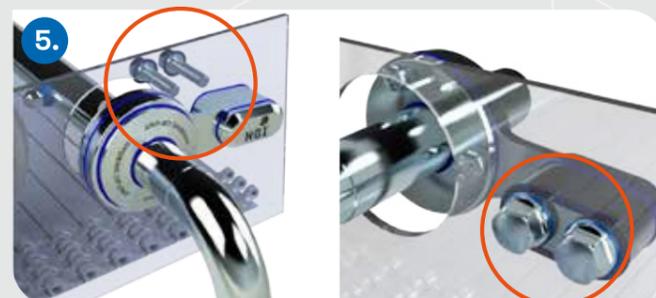


4. Carefully insert the top spray bar into the frame without making contact between the frame and the spray bar. Ensure that the fastening holes in the bracket are aligned with the two $\varnothing 10.4$ mm holes in the frame.



5. Mount the bracket to the frame with two certified hygienic M10 bolts.

Grease the thread of the bolts with FoodLube Universal Grease and make sure to remove any excess grease after mounting the bracket. Tighten the bolts with a torque of 38 Nm.



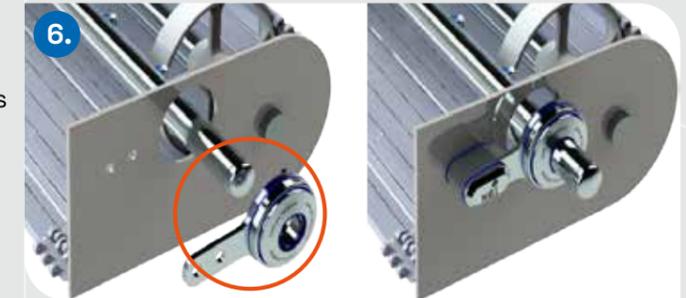
All the figures in the illustrations are in mm.

Installation hygienic CIP Unit

10"/12", 14"/16", 18"/20", 22"/24", 26"/28" & 30"/32"

It is important to follow these instructions in order to ensure the hygienic design and functionality. This documentation is enclosed with the CIP Unit and should always be handed over to the end-user.

6. Mount the other bracket at the end of the top spray bar. Proceed with making identical actions as stated in step 5.



7. Loosen the three M6 bolts on both brackets in order to enable adjustment of the spraying direction of the upper spray bar.

Ideally, point the nozzles directly to the internal end of the belt. Alternately, select any other point on the turning belt where a small gap between the belt modules is present. When a satisfactory direction is achieved, tighten the bolts with a torque of 8.6 Nm or until the top spray bar cannot be rotated by hand.



8. Insert the gasket and mount the lower spray bar. Rotate the lower spray bar, so the spraying direction is perpendicular to the belt surface. If any objects obstruct the path, select the nearest clear path to the belt surface.



9. Tighten the nut on the lower spray bar in order to fasten and secure the angular position.



10. The Hygienic CIP Unit is now mounted to the conveyor frame and is ready to be connected to the water supply. The inlet connection is 1" male BSPP thread.



NB. Ensure that the nozzles are identically angled to ensure cleaning of the entire belt width.

All the figures in the illustrations are in mm.

Wash down test

The washing efficiency of our CIP Unit has been tested at Center for Hygienic Design (CHD) at FORCE Technology.

CHD IS THE ONLY INSTITUTION IN DENMARK PERFORMING EHEDG CERTIFICATION OF PROCESS EQUIPMENT.

How was the CIP Unit tested at Force Technology?

To test the CIP Unit, FORCE Technology applied ketchup and in one case, ketchup and uranine to a conveyor belt. The soil was then left to dry overnight at room temperature.

The CIP Unit was then put into use in 5 minutes – with 1-minute intervals allowing FORCE Technology to inspect the cleaning. All in all, FORCE Technology tested the CIP Unit three times, at all times, the CIP Unit used only warm water to clean. No chemicals were used in the test.

As shown in table 1, the results were quite clear. And so is the conclusion:



“It is our conclusion that the CIP Unit provides an appropriate and highly efficient cleaning method for conveyor belts. Using a mild washing procedure to clean a rather persistent soil - we can conclude, based on the results shown, that the CIP Unit is a highly efficient tool for cleaning the specific belt tested.”

TABLE 1; Test results

Soil / Cleaning times	1 min.	2 min.	3 min.	4 min.	5 min.
Ketchup	C	C	A/B	A	A
Ketchup	C	B	A/B	A	A
Ketchup / uranine	C	B/C	B	A	A

- A. No residues found on any surface or hinge as well as the back side of the conveyor belt
- B. Few spots of soil found primarily in hinges, the outer surfaces are clean
- C. Visible soil in hinges and edges of slats and inbetween the slats

“The CIP unit provides an appropriate and highly efficient cleaning method for conveyor belts”

– Force Technology



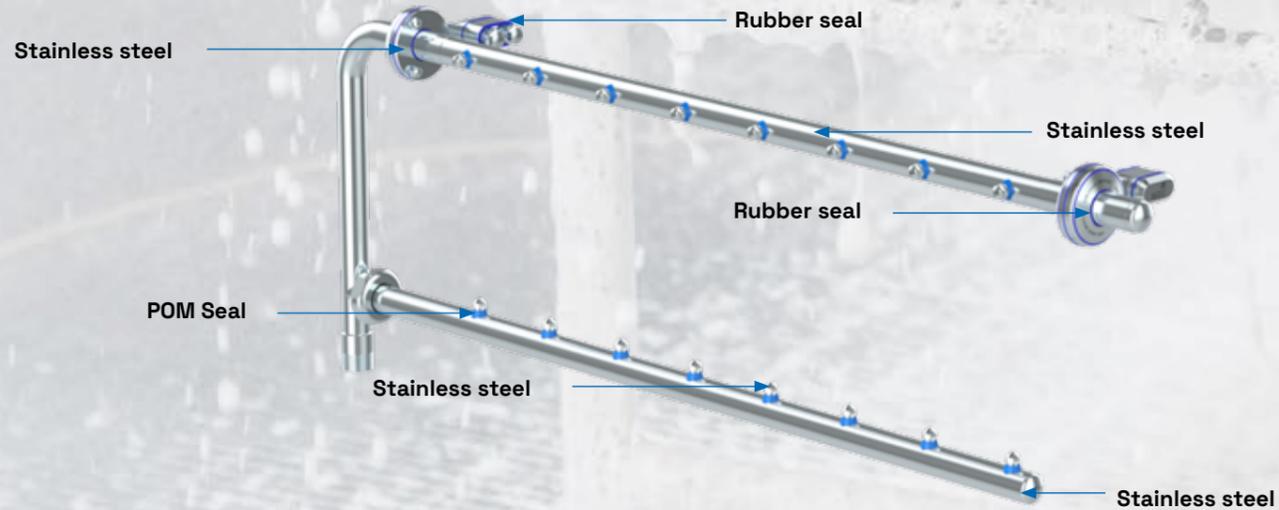
Declaration of Conformity Hygienic CIP Unit



NGI fundamentally adheres to all applicable directives and standards. All information is based on the current state of knowledge and is subject to change. We attentively follow the revisions and amendments to these directives and will design our products accordingly. This ensures that products from NGI are always in compliance with currently valid requirements.

Our product category is not covered by the scope of application of the EC directive for machinery. For this reason, they cannot be furnished with the CE marking in accordance with the EC directive for machinery.

Furthermore, we declare that the listed materials applied in our products comply with the demands for materials used within the food and pharmaceutical industries.



The declaration of materials concerns the following Applications

Application:	Steel components, e.g. pipe, nozzle, fittings, brackets
Material type:	Stainless steel, AISI 316/A4 (X 5 CrNiMo 17 12 2), Euronorm 1.4401
Compliance:	EN 10204 Type 2.2. NGI A/S states that the product is in compliance with the order with indication of results of nonspecific inspection. NGI A/S has got EN 10204 type 3.1 inspection certificates on all material used in the products but not specified for each. In the directive 94/9/EC, Equipment for potentially explosive atmospheres, also known as the ATEX directive, equipment without its own potential source of ignition are not covered, nor shall be marked according to the directive. However, NGI levelling feet are suitable for use in all ATEX zones.
<hr/>	
Application:	Rubber Sealings
Material type:	NBR (NNF-75)
Color:	Blue
Hardness:	Shore A 75 ± 5
Range of temperature:	Min -20°C to Max +110°C
Compliance:	NGI follow EU regulation 1907/2006 (REACH) dated 18. December 2006 and subsequent amendments regarding. The candidate list from REACH for chemical substances that pose a risk to humans and the environment, SVHC (Substances of Very High Concern) is continuously updated, and the last updates can be found here: http://echa.europa.eu/candidate-list-table . NGI and NGI sub-suppliers are constantly monitoring the development in the list: https://echa.europa.eu/registry-of-svhc-intentions so that our products do not contain any of the listed products.
REACH:	
RoHS:	The RoHS Directive places demands on the manufacturers to ensure that this equipment does not contain certain types of chemicals or substances. The directive has been drafted for the purpose of protecting people's lives, as well as nature and animal life. In relation to NGI this means that we place demands on our suppliers to provide documentation of their compliance with the directive. NGI is committed to be in compliance globally with all applicable laws, directives and regulations this ensure, that our customers will receive only RoHS compliant components.
ADI free:	Does not contain any substances originating from humans or animals.
Bisphenols:	Does not contain Bisphenols as described in 1895/2005/EEC. Nor BPA, BADGA, BFDGE or NOGE.
ODS:	Does not contain ozone depleting substances. In accordance with the Regulation EC 1005/2009 OF EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 SEPTEMBER 2009 and Regulation EC 2037/2000 OF EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 29 JUNE 2000.
Conflict Materials:	In accordance with US Law: "Dodd Frank Wall Street Reform & Consumer Protection Act", sec. 1502, of 21.07.2010.
GMP:	Good manufacturing process in accordance with 2023/2006 EC.
Hazardous materials:	Does not contain any hazardous substances as described in the Hong Kong International Convention for the Safe and Environmental Sound Recycling of ships, 2009.
Phthalates:	Does not contain phthalates.
FDA:	Guideline 21 CFR 177.2600
<hr/>	
Application:	Pom Seal
Material type:	Polyoxymethylen
Color:	Blue
Range of temperature:	Min -20 °C to Max 110 °C

