

## 1. Technical criteria

### 1.1. Regulatory Compliance

N°	Criteria	Description	Options	Remarks
1	ISO	Certified according to ISO9001:2015	Copy upon request	
2	ISO	Certified according to ISO14001:2015	Copy upon request	
3	ISO	Certified according to ISO45001:2018	Copy upon request	
4	ISO	Certified according to ISO22716:2007	Copy upon request	
5	ISO	Certified according to ISO22301:2020	Copy upon request	
6	ISO	Certified according to ISO50001:2018	Copy upon request	

### 1.2. Style, Design, Manufacturing & Function

N°	Criteria	Description	Remarks
1	Style, design & manufacturing	Dispenser style, design and manufacturing conform to technical drawing as shown in section 4	According to commercial drawing
2	Output	Output is 0.45ml±0.1ml with water Note: output should vary depending on product rheology	TM-EU-Lab-005
3	Seal	Pump-Container with piston sealing should provide leak-proof seal during storage and normal use.	NR1611
4	Priming	Strokes to prime will be less than 9 in any orientation when filled at nominal filling tolerances.	TM-EU-Lab-007
5	Overcap retention Force	Std. overcap removal force between 20N and 100N	NR0718
6	Actuation Force	Actuation force 8,3 +/- 2N at 70% of stroke	NR0665
7	Assembly Force	Assembly force of pump into container between 100 and 250N	NR1610
8	Remnant volume	Remaining volume (typical) under 1.00ml (based on 30ml container)	TM-EU-Lab-015
9	Disassembly Force	The disassembly force between the pump and the container is higher than 150 N	NR1608
10	Piston Level	Piston level onto container complies with the agreed specifications with the customer with a precision of ± 0.5mm	NR0709
11	Hot Stamping and Serigraphy	The test is not acceptable if 10% or more of the decoration is stacked to the tape	EU-TM-Lab-023

Remark: All criteria are verified according to applicable test methods from Silgan Dispensing Systems

**1.3. Classification of Non-Conformances**

- This procedure establishes a consistent method for classifying non-conformances.
- When a non-conformance is found, it will be placed in the class with the description that applies.
- This specification applies to shower guard finished assemblies.
- For non-conformities, according ISO2859, following the simple sample of a normal inspection with a general level II.

Class	AQL	Type	Description
Critical	0	Safety	Hazardous or unsafe condition for individuals handling or using product
		Regulatory	Violation of legal requirements indicated in REACH & 94/62/EC.
		Packaging	Quantity of the order not according with invoice
Critical	0.1	Material	Subassembly or final assembly produced with non specified components.
			Components produced from non specified material
		Functional	Lack of components or mixed.
			Not working pump
			Leakage of product outside the bottle
		Hygiene	Contamination in contact with Customer's product
Packaging	Packaging NAS (labeling, quantity, reference...)		
	Damaged packaging (with damaged of pieces inside box)		
Major	1.5	Aesthetical	Evident aesthetic defect (visible at 80 cm)
		Functional	Leakage of product inside the pack
			Strokes to prime out of specifications
			Output out of specifications
Dimensional	Component holding force out of specifications		
Major (Serigraphy)	2.5	Aesthetical	2 or more letters are not readable at the back part. Ink mark Ø>0.6mm
Minor	4.0	Aesthetical	Not evident aesthetic defects (visible at 30 cm)
		Quantity	Quantity per box NAS
		Packaging	Damaged packaging (without damaged of pieces inside box)
Minor (Serigraphy)	4.0	Aesthetical	Missing parts of 1 or more letters at the back part but text can be read.
			Ink mark at the front part (the text can be read)
			Missing > 1 letter at the back part

(Critical (0)): Any defect which affects the user safety, or which is not accordance with legislation.

(Critical (0.1)): Any defects that cause a functional failure of the dispenser.

(Major): Defect which reduces the normal functioning of the product.

(Minor): Defect which does not affect the functioning of the product or affects slightly its aesthetics.

**DECORATION CRITERIA**

**SERIGRAPHY**

Class	AQL	Type	Description
Critical	0.65	Aspect	1 or 2 letter is not readable at the front part.
			Bar code not readable
Major	2.5	Aspect	2 or more letters are not readable at the back part.
			Ink mark Ø>0.6mm
Minor	4.0	Aspect	Ink mark at the front part (the text can be read)
			Missing 1 letter at the back part
			Missing parts of 1 or more letters at the back part but text can be read.

**HOT STAMPING**

Class	AQL	Type	Description
Critical	0.25	Aspect	As per panoply PANOPLIA_HSS_SC99_V01
Major	1.5	Aspect	
Minor	4.0	Aspect	

**HOT STAMPING + SERIGRAPHY**

Class	AQL	Type	Description
Critical	0.25	Aspect	As per panoply PANOPLIA_HSS_SC99_V01
Major	1.5	Aspect	
Minor	4.0	Aspect	

The quality control is made at different steps according to the control plans both on quantities and frequencies established by the company:

- Incoming raw material control
- Control plans
- Product audits

The customer's non-conformities are managed by the Customer Quality Service. In order to make easier their treatment, faulty samples preferably not manipulated are needed as well as a copy of the label identification of the affected lots and a complete report indicating the affected material, the carried sampling and the resultant percentage of defective units.

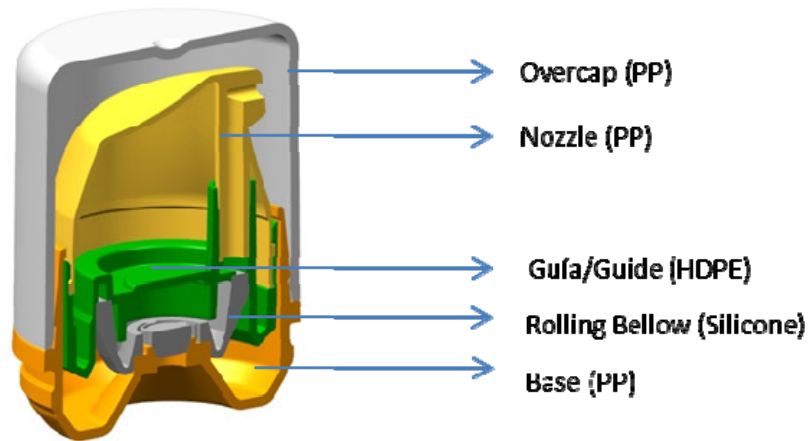
The type of packing is suitable for internal handling and stocking of the finished product. Any damages of the packing which are due to the transport and found by the Customer on acceptance of incoming goods should be pointed out by the Customer to the transporter. The type of damages must be reported in writing on the transport document CMR and/or Silgan Dispensing Systems Delivery note and it should be sent by writing to us.

#### 1.4. Recommendations for a Proper Use

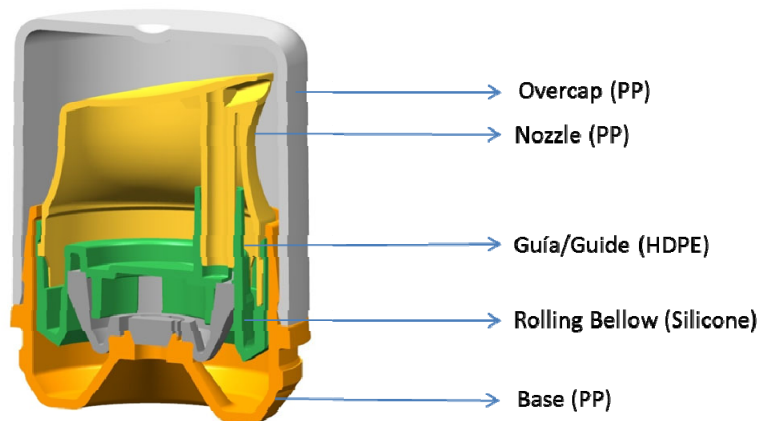
N°	Criteria
1	Recommended pallet storage temperature to be not lower than 10° C nor higher than 45° C; Relative humidity storage condition for Packing carton not to be higher than 70 – 80% over long periods of time to avoid damage. Pallets are recommended to settle, for the right period of time, to room temperature (20± 3° C/68±6° F) before usage to prevent any issues due to thermal variations. A maximum stacking height of 1 pallet is recommended to prevent defects to box/product.
2	It is recommended not to exceed storage periods longer than a year (from Silgan Dispensing Systems production date to filling process).
3	Container shall not be under-filled to prevent increase of strokes to prime due to excessive air.
4	Air mixing in product during filling to be minimized. This can cause non-uniform output during dispensing.
5	Piston location enables excessive air to evacuate and allows for fill-volume tolerance variation. (Piston is pushed slightly down when pump is assembled onto a filled container.
6	Avoid excessive pressure on the sides of the container during handling and filling to avoid possible deformation of the container that should prevent correct piston sealing.
7	Ensure the small venting hole on the underside of the container remains open for a right performance of the dispensing system.
8	For optimum sealing, vertical assembly is strongly recommended.
9	In case of functioning failure, it is recommended to send back the non manipulated package accompanied by the carton labeling information.
10	Component drop height should not be above 1m high; i.e., while loading hoppers higher drop height could lead to damaging or disassemble parts or assemblies.
11	Pearl Mini™ Airless is not intended as a sterile product such the ones used in pharmaceutical, medical or veterinary products. Using it as such will be under customer's responsibility. It is the customer's responsibility to inspect and test our products to determine the suitability of the products for the Customer's particular purpose. The customer must determine that using our products is safe and lawful on their intended applications, as required in the article n. 3 of European Regulation 1935/2004.
12	Normally the use is self-explanatory but may require some additional instructions for final user.
13	Pearl Mini™ Airless is not intended for re-fill or re-use. Removal and re-assembly of the pump from and to container could damage sealing areas and is not recommended.
14	Silgan Dispensing Systems is not responsible for any defects attributed to any decoration processes that have been carried out directly by the customer.
15	Cartons are recommended to be labeled "DO NOT PLACE UPSIDE DOWN" during transportation.

## 2. Components and Materials

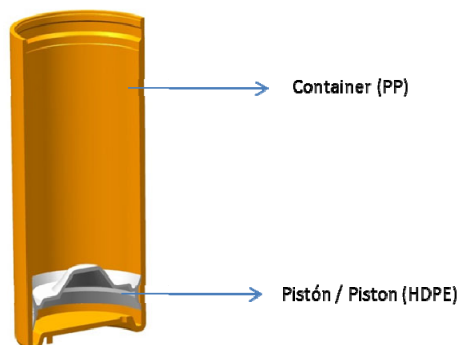
### 2.1 Materials Pearl™ Mini Airless



Pearl™ Mini Airless



Pearl™ Mini Elegance



Container

Components in contact with product are: the base, the rolling bellow, the guide, the nozzle, the piston and the container.

**Surface Finish**

Component	Shiny	Matt
Overcap	Available	--
Container 15ml	--	Available
Container 30ml	--	Available
Container 50ml	--	Available

**2.2. Material Compliance Pearl™ Mini Airless**

N°	Criteria	Description	Options	Remarks
1	Reach	Reach 1907/2006 CE		
2	CE	European Directive 94/62/E concerning heavy metals.		

**2.3 Materials Pearl™ Mini Airless PCR version**

The used materials can be as follows:

Base: only available in PCR

Nozzle: only available in PCR

Overcap: available either in PCR or PP.

Container: available either in PCR or PP (even in glossy or matt)

Pearl™ Mini Airless PCR

STD PEARL MINI



Pearl™ Mini Elegance PCR

Pearl™ Mini and Pearl™ Mini Elegance Airless

05/2022

ELEGANCE PEARL MINI



Overcap (PP) available in PCR. 32% from total weight



Nozzle (PP) available in PCR. 13% from total weight



Guide (PE) no PCR. 17% from total weight



Rolling below (LSR) no PCR. 10 % from total weight



Base (PP) available in PCR. 28% from total weight

Containers

Pearl Mini containers  
15ml

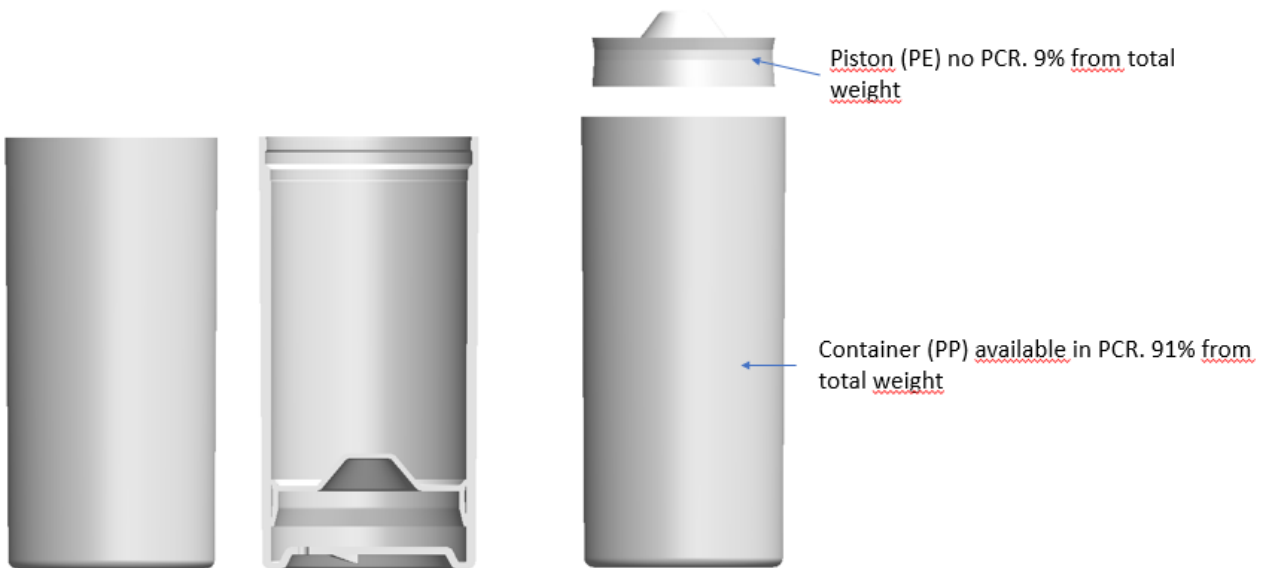


Piston (PE) no PCR. 12% from total weight

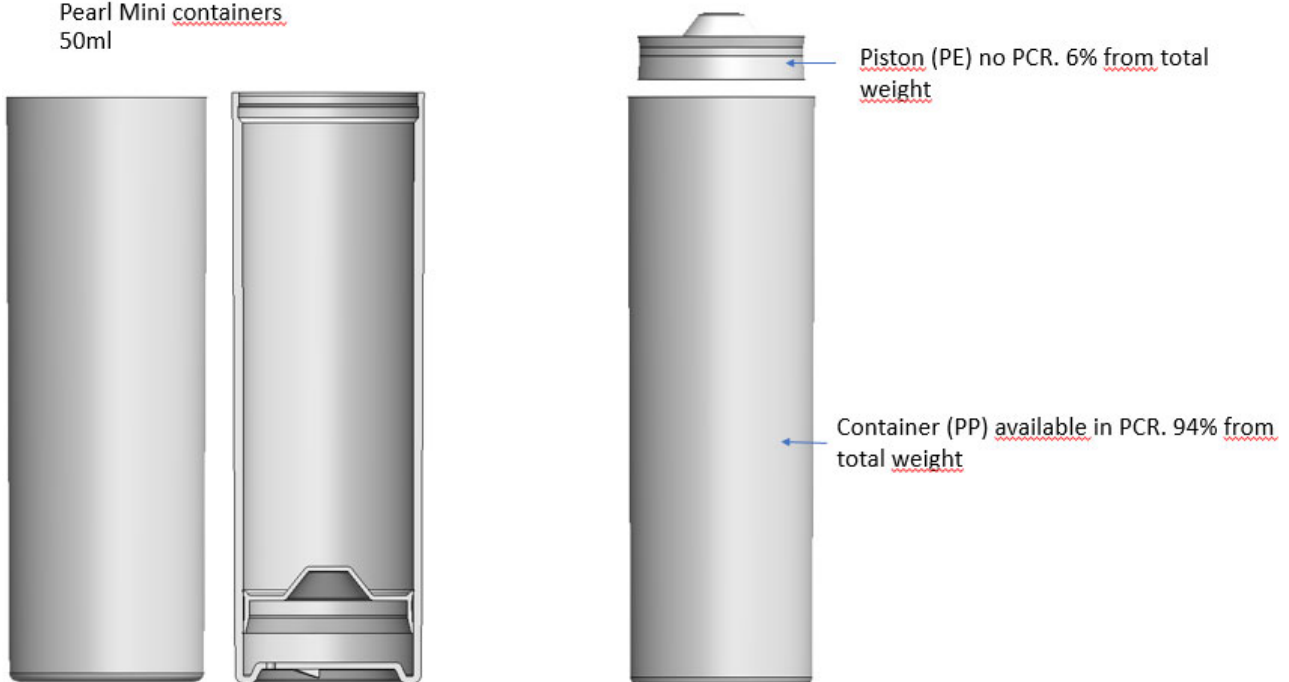


Container (PP) available in PCR. 88% from total weight

Pearl Mini containers  
30ml



Pearl Mini containers  
50ml



Components in contact with product are the base, the rolling bellow, the guide, the nozzle, the piston and the container.

The PCR color is grey (Basalt grey). Other available colors are Light grey and Black (our standard black). Due to the origin of the material, there may be variations in the color that should be evaluated in each specific reference.

The components than can be colored are the head, the base and the head. However, any coloration in PCR material must follow an internal validation process.

Any container decoration process in PCR material must follow an internal validation process.

### **Surface Finish**

<b>Component</b>	<b>Shiny</b>	<b>Matt</b>
Overcap	Available	--
Container 15ml	--	Available
Container 30ml	--	Available
Container 50ml	--	Available

### **2.2. Material Compliance Pearl™ Mini Airless PCR version**

Customer has requested a Product that contains post-consumer recycled raw materials (“PCR”). PCR by its nature includes variability as to raw material content. SDS does not knowingly add or use in our manufacturing processes for this Product any chemicals in the physical form listed in The California Safe Drinking Water and Toxic Enforcement Act of 1986 (“Prop 65”) or (EC) Regulation No. 1907/2006 on the registration, valuation, licensing and restriction of chemical substances (“REACH Regulation”). SDS makes no representation as to the compliance of Products made with PCR to any applicable laws, including the provisions of Prop 65 or REACH. Customer shall make its own determination as to what actions are necessary to comply with such laws and regulations and SDS will have no liability relating to such laws.

### **3. Compatibility Product Policy**

Silgan Dispensing Systems will conduct under request preliminary compatibility & performance test with product supplied by customer; and will make certain recommendations regarding the suitability and use of our dispensers. However, these are recommendations only and is neither an implied nor stated warranty regarding the compatibility of Silgan Dispensing Systems dispensers.

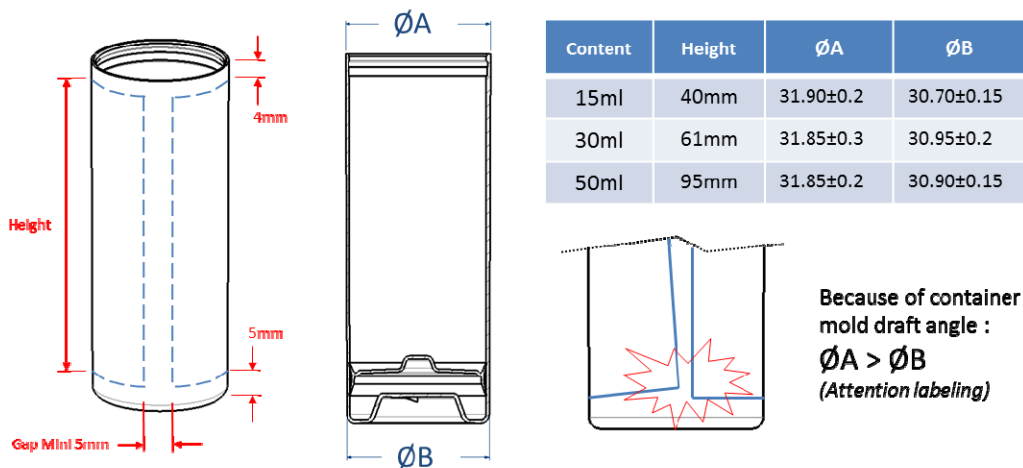
Final decision will be made by customer.

It is recommended to set a new compatibility test if customer’s product changes.

## 4. Technical Dimensions

### 4.1 Decoration: print & label area

#### Decoration: Maximum recommended area for printing and labeling



Silgan Dispensing Systems is not responsible for any defects attributed to any decoration processes that have been carried out directly by the customer.

### 4.2 Filling process

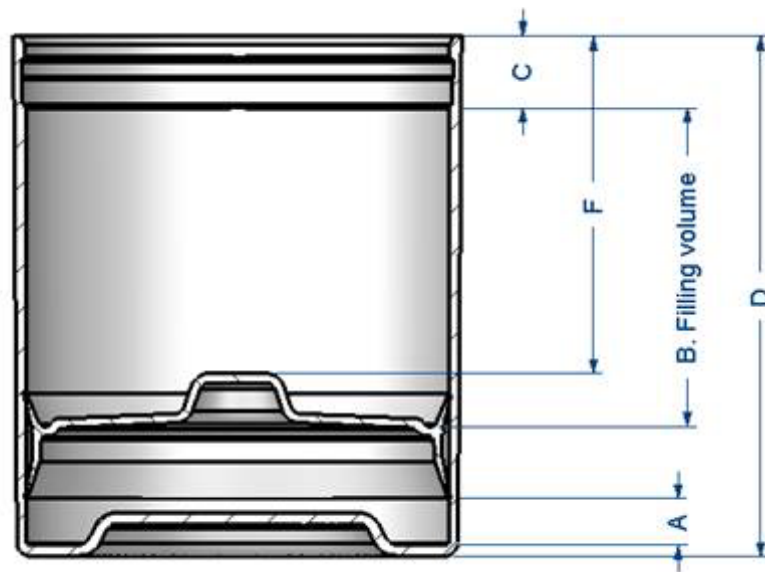
Pearl Mini™ Airless is delivered as a separate pump and container with the piston inserted, ready to fill. The manufacturer has only to fill the product into the container then assemble the pump onto the container.

During pump assembly, the air escapes around the outside of the pump. There should be the minimum amount of air between the pump and the product to ensure the minimum strokes to prime. The underside of the pump pushes down on the filled product and moves the piston down very slightly.

Detailed filling-level instructions and standard piston position dimensions are available for each size of container.

Non-standard piston positions can be provided upon special request.

Pearl Mini™ Airless is not intended as a refillable package.



	Pearl™ Mini Airless 15ml 015CSDPRL02 B	Pearl™ Mini Airless 30ml 016CSDPRL02 B	Pearl™ Mini Airless 50 ml 017CSDPRL02 B
A. Distance: Piston movement	7.5	5.5	7.5
B. Filling volume	17±0.5	32±0.5	52±0.5
C. Top Fill Level	5.0	5.0	5.0
D. Total Height	49.0±0.2	70.1±0.25	104.0±0.25
F. Piston Level	28.2±0.5	51.3±0.5	83.4±0.5

## 5. Packaging, Shipping & Labeling

The identification of the contents is assured by a label system in each carton, each pallet and each packing list.

The pallet is wrapped with stretch PE film. Pallets are according packaging standards.

- Pump: The final goods are packed in bulk inside plastic bag in cardboard boxes to prevent contamination and sent to the customer in the defined quantity.

Boxes dimensions (in cm)	Dispensers
59x39x17	700

Pallet type

**EUROPEAN 120 X 80**

Nº Layers	Nº of cartons	Large	Depth	Height (including the 15cm of the pallet)
1	4	120	80	<b>32</b>
2	8	120	80	<b>49</b>
3	12	120	80	<b>66</b>
4	16	120	80	<b>83</b>
5	20	120	80	<b>100</b>
6	24	120	80	<b>117</b>
7	28	120	80	<b>134</b>
8	32	120	80	<b>151</b>
9	36	120	<b>80</b>	<b>168</b>

Pallet type **EUROPEAN 100 X 120**

Nº Layers	Nº of cartons	Large	Depth	Height (including the 15cm of the pallet)
1	5	120	100	<b>32</b>
2	10	120	100	<b>49</b>
3	15	120	100	<b>66</b>
4	20	120	100	<b>83</b>
5	25	120	100	<b>100</b>
6	30	120	100	<b>117</b>
7	35	120	100	<b>134</b>
8	40	120	100	<b>151</b>
9	45	120	100	<b>168</b>

The cover & pallet label is an option agreed with the customer.

- Container: The final goods are UP soldier packed inside plastic box in cardboard boxes to prevent contamination and sent to the customer in the defined quantity.

Boxes dimensions (in cm)	Container 15ml	Container 30ml	Container 50ml
59x39x36	1470	980	735

 Palet type **EUROPEAN 120 X 80**

Nº Layers	Nº of cartons	Long (C)	Depth (B)	Height (including the 15cm of the pallet) (A)
1	4	120	80	<b>50</b>
2	8	120	80	<b>85</b>
3	12	120	80	<b>120</b>

 Palet type **EUROPEAN 120 X 100**

Nº Layers	Nº of cartons	Long (C)	Depth (B)	Height (including the 15cm of the pallet) (A)
1	5	120	100	<b>50</b>
2	10	120	100	<b>85</b>
3	15	120	100	<b>120</b>

The cover & pallet label is an option agreed with the customer.

**5.2. Labeling**

Each carton is labelled with information below:



1. Customer
2. Customer's reference
3. Customer order
4. Silgan Dispensing Systems reference
5. Dip tube length
6. Silgan Dispensing Systems order
7. Work order Silgan Dispensing Systems
8. Description/name of the product
9. Date of production
10. Quantity per carton
11. Number of the cartons
12. Internal Bar code

For incomplete cartons, it's labelled with "REMAINING LABEL" **RESTO**

We use empty carton for complete the pallet. These cartons are identifying with a label/seal of "EMPTY". **EMPTY**

**6. Final Clause**

This Technical Reference document is current as noted by date of issue. Technical changes may be introduced by Silgan without prior notice.

**7. Change control**

Date	Rev.	Change	Prepared	Supervised	Approved
23/09/10	00	Base on CdC0108.3 document	E. Sabater	J. Pena Suari	--
10/01/2012	01	Update packaging, labeling conditions and weight on some parts, 5. Take out that system has silicones as lubricant 4. Add norm	L.Duque	J.Pena Suari Ll. Costa	--
11/05/2012	02	New Format. (2.1) & (4) Update according Pearl Mini Airless product data sheet rev. F (20-01-2012) (1.4) Add new recommendations	L. Duque	J. Pena Suari	
				Ll. Costa	
07/12/12	03	1.3. Updated legal requirements description. 5.1. Added pallet label.	L.Duque	Ll. Costa	
				J. Pena Suari	
05/12/14	04	Add ISO 22716 norm Include all information from TPS0110_03 for PearlMini containers	M. Hernández	Resp SIG	O. Faneca
					J. Pena Suari
					V. Wagner (POC)
12/06/2015	05	Change of material resin on piston	M. Hernández	Resp SIG	O. Faneca
					J. Pena Suari
					V. Wagner (POC)
01/03/2016	06	Change of social name from MWV to WestRock. Modification on transport complaints indications	M. Hernández	Resp. SIG	O. Faneca J. Pena Suari
14/11/2016	07	Update on carton label as per SAP system removal	M. Hernández	Resp. SIG	O. Faneca L. Senegaglia
23/10/2017	08	Change of social name from WestRock to Silgan Dispensing Systems. Update ISO 9001:2015 Addition of the components in contact with the product on section 2.1	M. Hernández	Resp SIG	O. Faneca E. Martorell
20/02/2019	09	Add point 11 on paragraph 1.2 about serigraphy and stamping Specification on different types of decoration including the acceptance criteria Modification on point 4.1 Decoration with new drawing Modification of palletizing according update	M. Hernández	Resp. SIG	O. Faneca E. Martorell
02/07/2019	10	Updated version ISO14001:2015 Modification of the method for overcap removal testing	M. Hernández	Resp. SIG	O. Faneca E. Martorell
20/04/2020	11	Add new ISO norm 22301:2012 and updated norms according the corporate European standardization process and hot stamping panoply	M. Hernández	Resp. SIG	O. Faneca E. Martorell
19/10/2020	12	Change the OSHAS norm to new ISO norm ISO45001:2015	M.	Resp. SIG	O. Faneca E. Martorell

			Hernández		
26/04/2021	13	Update on the overcap retention force	M. Hernández	Resp. SIG	O. Faneca E. Martorell
27/05/2022	14	Updated test method for priming (4) TM-EU-Lab-007,0023 and specification for actuation force (6). Added ISO50001. Unified version for PCR version.	E.Martorell	Resp. SIG	O. Faneca