

SUPPLY TECHNICAL SPECIFICATIONS

Trigger Sprayer TS3 Dexter Unremovable **CA FT TS3 38 01 00**

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ED.	REV.	DATE	DESCRIPTION	EDITING	VERIFIED BY	APPROVED BY
1	0	27/09/2010	First Issue	F. Servetti	D. Bovone	M. Mulvoni



1. PURPOSE

The purpose of this document is to define the main technical characteristics and the supply conditions of the *Gualadispensing* product.

The product characteristics and performances are under the responsibility of *Gualadispensing* that will guarantee them through an appropriate Quality System.

This document refers to the *Gualadispensing* Sprayer approved by the compatibility tests carried out by *Gualadispensing* and by the Customer. To carry out the tests Guala Dispensing needs at least 10 litres of the product.

Should the buyer change the product formulation he will immediately notify the supplier and all the tests must be repeated

Gualadispensing can not be considered responsible for any improper use of the sprayer: for example the use with untested products, incorrect filling operations, bottles outside specifications or other.

The Buyer is responsible for putting the Product on the market and must provide the final consumer with all correct instructions.

Any requirement not included or not specified in the present document must be discussed.

Updated copies of these specifications must be requested by the buyer to Gualadispensing.

2. APPLICABLE DOCUMENTS

The documents that may be a support of this Supply Technical Specifications are the following:

- ISO 9000 / ISO 2859 / Mil. Std 105 D;
- Procedures (*Gualadispensing* Internal Procedures);
- Bottle Specifications.
- Neck finish drawings.



3. QUALITY

3.1 QUALITY SYSTEM

Gualadispensing ensures the quality of the supplies through a Company Quality System, according to UNI EN ISO 9001.

Our main purpose is to strive for continuous improvement.

The system is integrated with its production process.

3.2 DEFINITION OF DEFECTS

The Faults of the supplies can have the following classification:

CRITICAL DEFECTS: all those defects that, as the common sense and experience show, make the article unemployable and unfit for the use it is meant for.

MAJOR DEFECTS: all those defects that without being critical may cause a failure, breakdown or substantially reduce the suitability or usefulness of the article.

MINOR DEFECTS: all those defects which do not substantially reduce the usefulness of the product as for its intended purpose; or defects representing a deviation from the established standards, not having any appreciable effects on its use or effective operation. Appearance defects.

3.3 GENERAL TABLE OF DEFECTS

The AQL (Acceptance Quality Level), defined according to defects, are the following:

Critical defect:	AQL = 0.25
Major defect:	AQL = 1
Minor defect:	AQL = 4



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3.3.1 Table T1 Description and classification of defects

<i>Description and classification of general defects</i>	<i>Critical</i> A.Q.L.= 0.25	<i>Major</i> A.Q.L.= 1	<i>Minor</i> A.Q.L.= 4
Breakage or disassembling		X	
Incorrect materials		X	
Delivery incorrectly labelled			X
Internal or external dirtiness			X
Incorrect quantity			X

Table T1 defines, by describing and classifying, the defects.

The batch will be representative of one continuous production (i.e.: one pallet is considered as one batch).

The sampling procedures and the acceptance criteria are determined with reference to ISO 2859 rules (or Mil. Std 105 D); the Customer shall apply the same criteria.

The sampling programme shows the number of pieces for each batch which need to be controlled as well as the criteria to approve and accept the batch (acceptance or refusal numbers).

3.4 WARRANTY

Gualadispensing guarantees that the product is in compliance with what expressly agreed and specifically indicated. This warranty lapses after one year from the date the goods were shipped.

The product's technical features and performances are verified and approved through internal tests carried out directly both by Gualadispensing and the Customer.

Tables T defines the batch acceptance criteria.

In the case of an acceptable batch (according to the table above) there is no warranty for defects and/or for the lack of the properties promised and any claims lodged by the Customer will be anyway examined, in order to detect the causes and apply the appropriate corrective measures.

The unacceptable batch will be replaced without charging any costs to the Customer, who shall claim neither for damages nor ask for the reduction in prices, nor the rescission of the contract.



4. PERFORMANCES AND TEST METHODS

Note: in general, if not explicitly written, all the tests will be carried out using water.
The tests will be carried out using only bottles defined between Guala and the customer.
In the following test procedures we often use the statement "normal condition of usage":
with this expression we mean three consecutive full actuations of the sprayer in a time of 2 seconds (a rate of 90 strokes per minute).

4.1 Consumer characteristics: performances and description of test methods.

4.1.1 Priming

a) Description

The number of operations to prime the pump

b) Test methodology

Fill 20 bottles and screw the sprayers; open the pump rotating the nozzle in the ON position and actuate the pump. Count the number of operations (normal condition of usage); do not count the actuation with complete dose.

Carry out the test with bottle in up-right position.

4.1.2 Dose

a) Description

The quantity of product dispensed during a complete actuation of the trigger.

b) Test methodology

Fill 20 samples, operate the pump by applying the force near the joint pin of trigger lever. Record the weight variations of complete pack (trigger and bottle) for 3 consecutive cycles of 10 operations each, in normal condition of use.

4.1.3 Atomization

a) Description

The atomization is the capacity of a sprayer to dispense the product in tiny drops and with a spray pattern.

b) Test methodology

Fill 20 bottles, prime the pump (complete atomization on the full stroke of the trigger); after priming the pump, spray on blotting paper from the proper distance and measure the diameter of the spray pattern.



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4.1.4 Foaming

a) Description

The foaming is the capacity of a sprayer to dispense the product as a foam

b) Test methodology

Fill 20 bottles with the foaming product, screw the sprayers on the bottles and prime the pump (complete actuation on the full stroke of the trigger). After priming the pump, put the sprayer in front of the glass panel, where you have to foam, from the distance defined (see tables below); carry out a full actuation in normal condition of usage (as above defined) on the surface, taking care that the surface is initially dry.

Check the quality of the spray pattern verifying the diameter and the adhesion on the surface.

For Laundry/Carpet test must be done with the trigger at 45°, from a distance of 10 cm. The paper layed down on a flat surface.

4.1.5 Working life

a) Description

The sprayer performance shall not deteriorate after a long-term operating cycle.

b) Test methodology

Fit 10 samples on the proper machine (the reference is the Guala machine) and submit them to an operating cycle of 5,000 operations (60 operations / min, samples in up position). Then check the performances in straight position and compare them with the target.

4.1.7 Leakage test

a) Description

No drops of the product shall be visible on the external body.

b) Test methodology

Fill 20 bottles (be sure that the bottles are in accordance with the technical specifications), screw the sprayers on the bottles.

It is possible to carry out the following test:

Put the samples horizontaly at room temperature ($20 \pm 3^{\circ}\text{C}$ or $68 \pm 5.4^{\circ}\text{F}$) and keep them in that condition for 1 hour (put white blotting paper under the bottles to mark leakage).

After 1 hour look for leakage

If a defect is present (bottle or trigger) it will become evident within 1 hour.

The test is carried out on the whole package, if the result is negative the complete package has to be verified to define if the leakage is caused by the trigger.



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4.2 User characteristics: performances and description of test methods .

4.2.1 Overall dimensions

a) Description

The measured values shall be in accordance with the values recorded on the drawings enclosed with relevant tolerances.

b) Test methodology

Dimensional survey of the value.

4.2.2 Dip tube length

a) Description

The dip tube length is defined from the end part of the bellow to the end part of the tube. This means that only the part of the tube inside the bellow is not considered.

b) Test methodology

To measure the length then it is necessary to use a rule having care to keep the tube straight; read the measure.



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Table T2 - SUMMARY OF CHARACTERISTICS AND TARGET SPRAY VERSION

Characteristic	Target	Critical A.Q.L.= 0.25	Major A.Q.L.= 1	Minor A.Q.L.= 4
Priming	10 full strokes max (at a rate of 90 strokes per minute)	X		
Dose (output per stroke)	1.2 ± 0.3 ml (upright position) 0,0406 ± 0,0102 oz (upright position)		X	
Spray pattern diameter	250 mm ± 30 mm (from 25 cm) 9,8" ± 1,25" (from 9,8")			X
Dip tube retention force	Min: 15 N - 3,37 Lbf (new Samples)		X	
Dip tube length	According to the product code (± 2mm or 0,08" of tolerance)		X	
Dip tube bending	See enclosed drawings			X
Screw on torque	Min: 230 N*cm; Max: 290 N*cm Min: 20,4 Lbf*Inch; Max: 25,6 Lbf*Inch		X	
Screw off torque (Immediate)	Min: 300 N*cm Min: 26,5 Lbf*Inch			X
Leakage between trigger components	No leakage after 1 hour at R.T.		X	
Working life	5.000 actuations (all the functional characteristics within the tolerances)			X
Aesthetics	As approved visuals – spray and foam			X
Overall dimensions	See enclosed drawings			X

Table T3 - SUMMARY OF CHARACTERISTICS AND TARGET FOAM VERSION V20

All the spray characteristics are considered excepted those following reported.

Characteristic	Target	Critical A.Q.L.= 0.25	Major A.Q.L.= 1	Minor A.Q.L.= 4
Foam pattern dimension V20	200 ± 30 mm (from 20 cm) 7,87" ± 1,25" (from 7,87")			X
Overall dimensions foam version V20	See enclosed drawings			X

Table T4 - SUMMARY OF CHARACTERISTICS AND TARGET FOAM VERSION V30-V40

All the spray characteristics are considered excepted those following reported.

Characteristic	Target	Critical A.Q.L.= 0.25	Major A.Q.L.= 1	Minor A.Q.L.= 4
Foam pattern dimension V30-V40	70 ± 30 mm (from 20 cm) 2,75" ± 1,25" (from 7,87")			X
Overall dimensions foam version V30-V40	See enclosed drawings			X

Table T5 - SUMMARY OF CHARACTERISTICS AND TARGET STREAM VERSION

All the spray characteristics are considered excepted those following reported.

Characteristic	Target	Critical A.Q.L.= 0.25	Major A.Q.L.= 1	Minor A.Q.L.= 4
Stream	a jet			X
Overall dimensions Stream version	See enclosed drawings			X



5. COMPONENT LIST – MATERIAL

Component	Material
SHROUD	PP
CHASSIS	PP
ACTUATOR EXTENSION	PP
NOZZLE	PEHD
BELLOW	EVA
TRIGGER LEVER	PP
FOAMED GASKET	Foamed PE
DIP TUBE	70% PELD + 30% PEHD (from reel) or PP (pre-cut)*
SCREW COLLAR	PP or PEMD
FOAM DEVICE (Optional)	PP
NET (Optional)	PP

* In the dip tube from reel the cut is done at 45° .

In the pre-cut dip tube the cut can be done at 30° or can be a "dovetail" cut



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6. PACKING

The trigger sprayers are adequately packed and sent to the Customer.

In the definite quantity, the sprayers are placed in cardboard boxes.

The type of packing is suitable for internal handling and storage 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 has to be reported on the transport document.

6.2 Packing specification

Each pallet shall be stretch-wrapped with plastic film.

Box sizes (cm): **60x50x38 cm or 24"x20"x15"**

No of units per box: **480**

Box weight: **11,7 to 14,3 Kg or 26,3 to 32,1 lb**

Pallet sizes: **100x120x245 cm or 40"x 48"x 96"**

No of box per pallet: **24**

No of units per pallet: **11.520**

Box weight and dimensions can change according to the product configuration and to environmental conditions (for example humidity percentage variations).

6.2 Packing identification

Each box is identified with a proper label that indicates:

Batch number	Production date
Customer's product code	<i>Guala's product code</i>
Delivery address	Line no.
Quantity per box	Box no.
Customer Description	Customer Code



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6.3 Storage specification

The temperature of the area where the pallets are stocked at the Customer's shall not be lower than 10°C (50°F); the relative humidity shall not be kept high for long periods, i.e. shall not be higher than 70 - 80%, since this could cause the breaking of the packing cartons.

The pallets should be kept in the production department at least 24 hours to settle to room temperature $20 \pm 3^{\circ}\text{C}$ or $68 \pm 5,4^{\circ}\text{F}$ before being used (if the sprayers have been stocked in a warehouse at low temperature it is necessary to leave the pieces in a warmer place for an enough period of time in order to allow the pieces to reach the above mentioned room temperature).

In order to prevent defects to the box/product just one pallet can be put on another one. Guala Dispensing suggests to use FIFO system in the usage of the stock or a completely stock rotation every six months.

Note : make sure that the fitting process is carried out at room temperature $20 \pm 3^{\circ}\text{C}$ or $68 \pm 5,4^{\circ}\text{F}$ and in any case not under 17°C or $62,6^{\circ}\text{F}$.



7. CUSTOMER TECHNICAL SERVICE AND COMPLAINT MANAGEMENT

7.1 Customer technical Service and Complaint Management

Customer technical service supports the customer providing with all necessary information and technical documents to permit the proper usage of Guala's products in the capping process. In case of complaint, *Gualadispensing* will investigate the causes and provide for corrective actions (whether needed) in order to avoid the repetition of the event.

To achieve this aim following information will be requested:

- number of defective pieces and percentage;
- description of the fault;
- date of production;
- batch number. etc.

Guala dispensing is not liable for his own product after one year from the shipment date.

Note: representative samples are requested too.

7.2 Responsibility

The company's liability is merely limited to those material or manufacture defects directly ascribable to Gualadispensing.

Any Gualadispensing responsibility is to be excluded in case the Customer does not prove to have correctly used and kept the trigger sprayer.

Moreover Gualadispensing is not liable when the trigger sprayer is used:

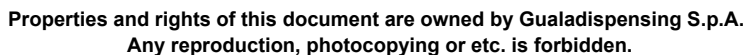
- a. with bottles not examined or out of specification;
- b. with untested products;
- c. with methods, times and conditions during the filling and storage process not meeting the ones stated in this specification.

8 ENCLOSURES

- S3DR003A-00-T3
- S3DR003A-00-T2
- S3DR010A-00-T3
- S3DR010A-00-T2
- S3DR008A-00-T3
- S3DR008A-00-T2
- S3DR009A-00-T3
- S3DR009A-00-T2
- S3DR003A-00-T6

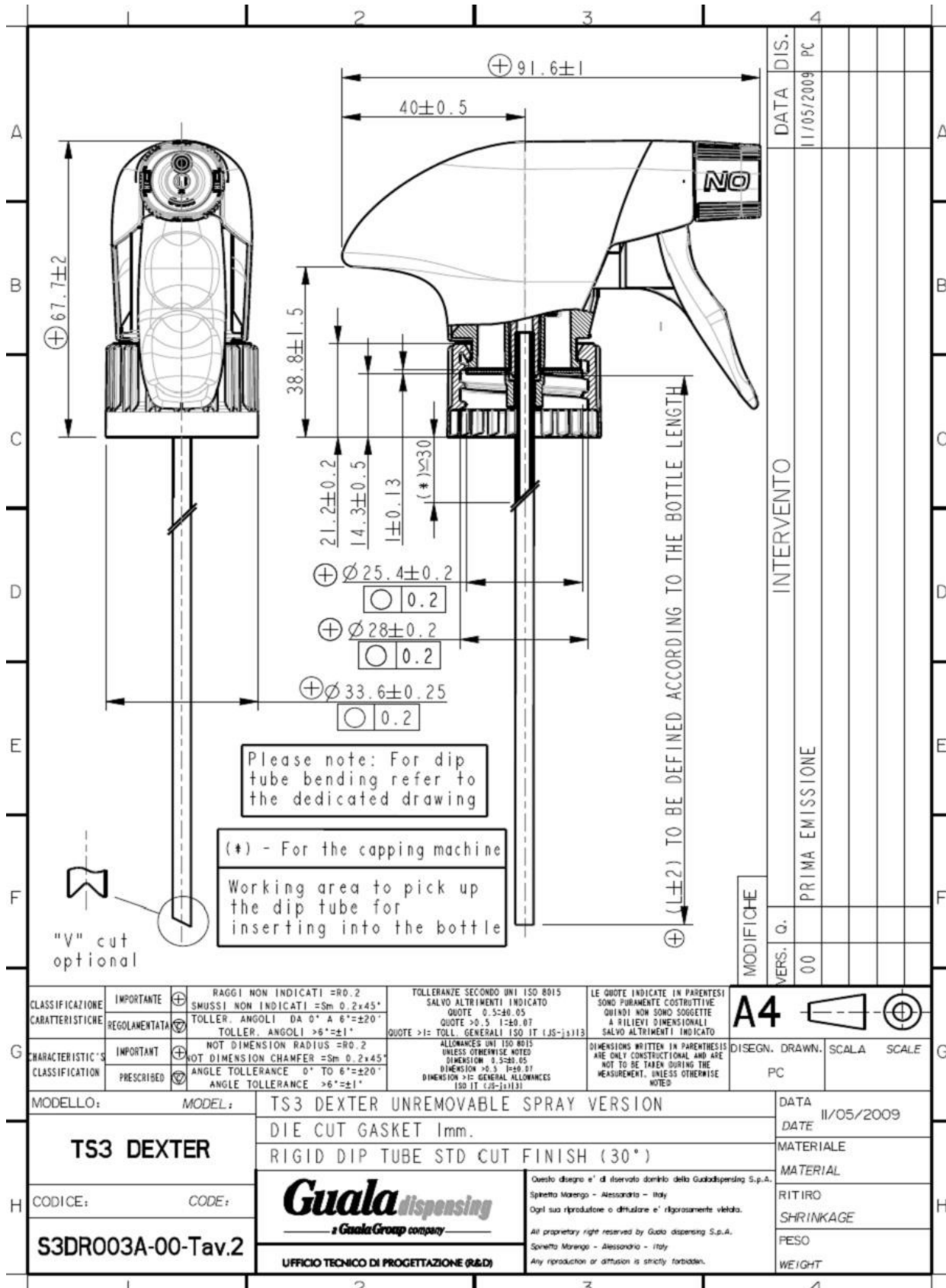


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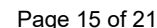


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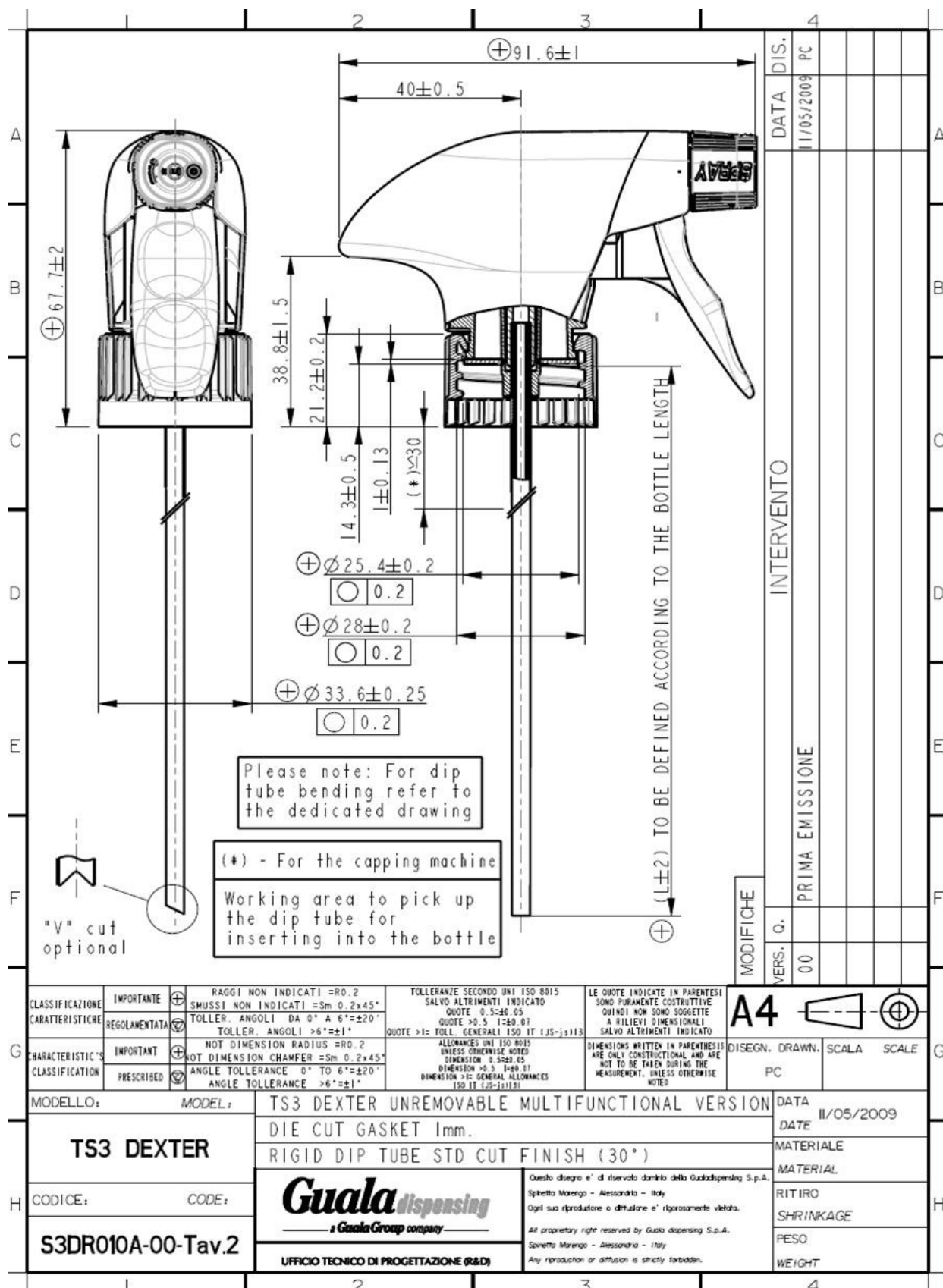
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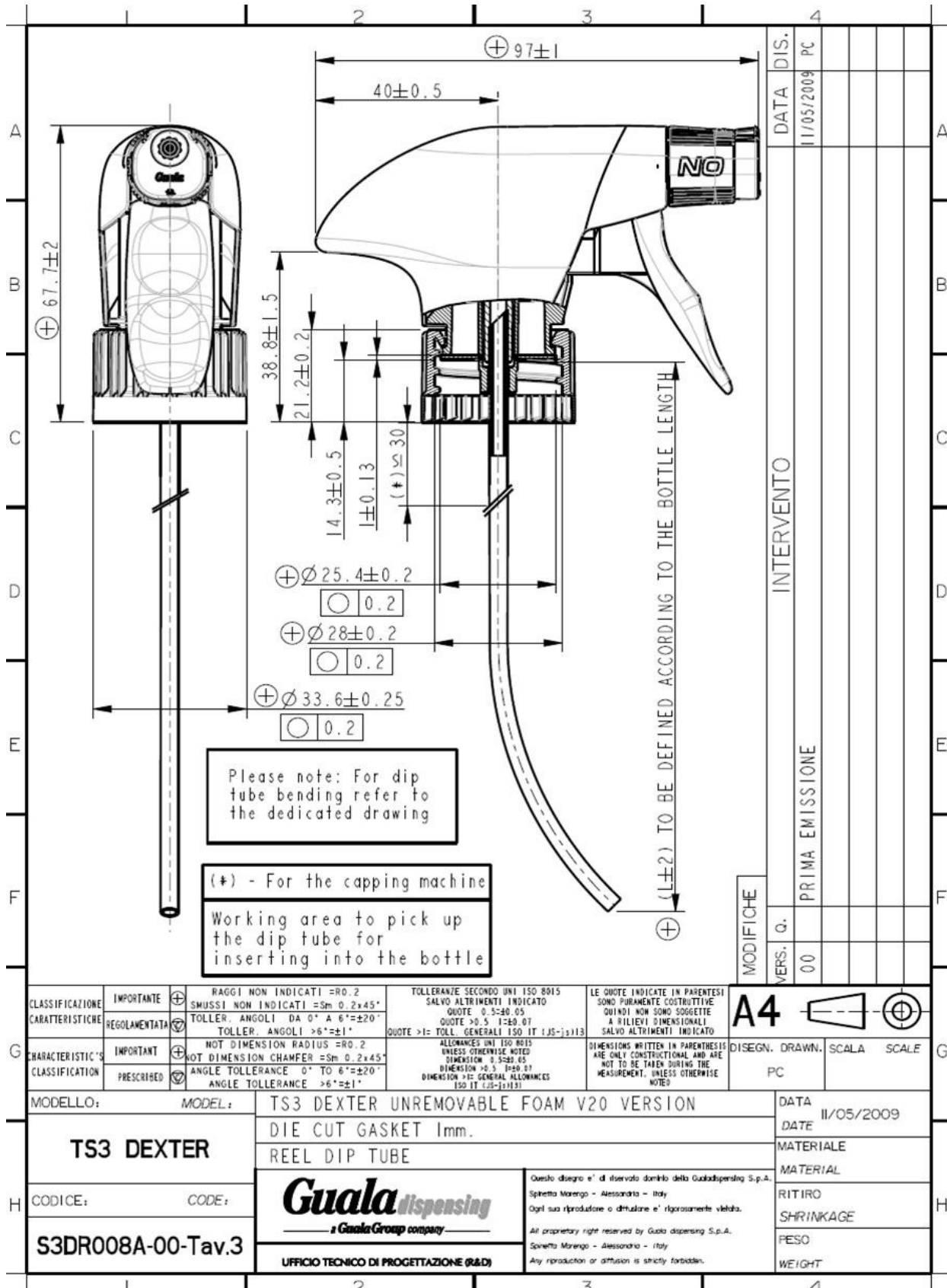
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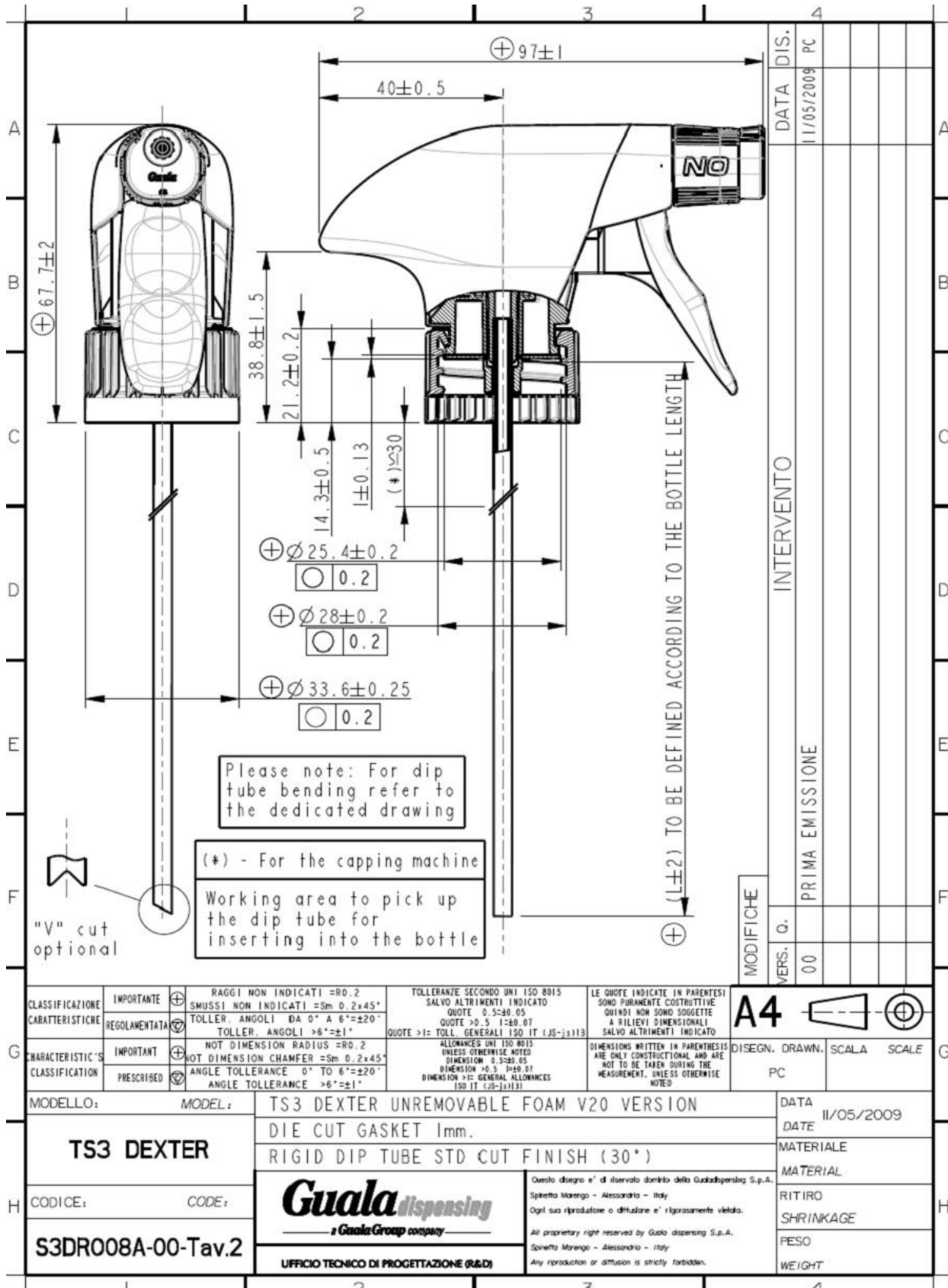
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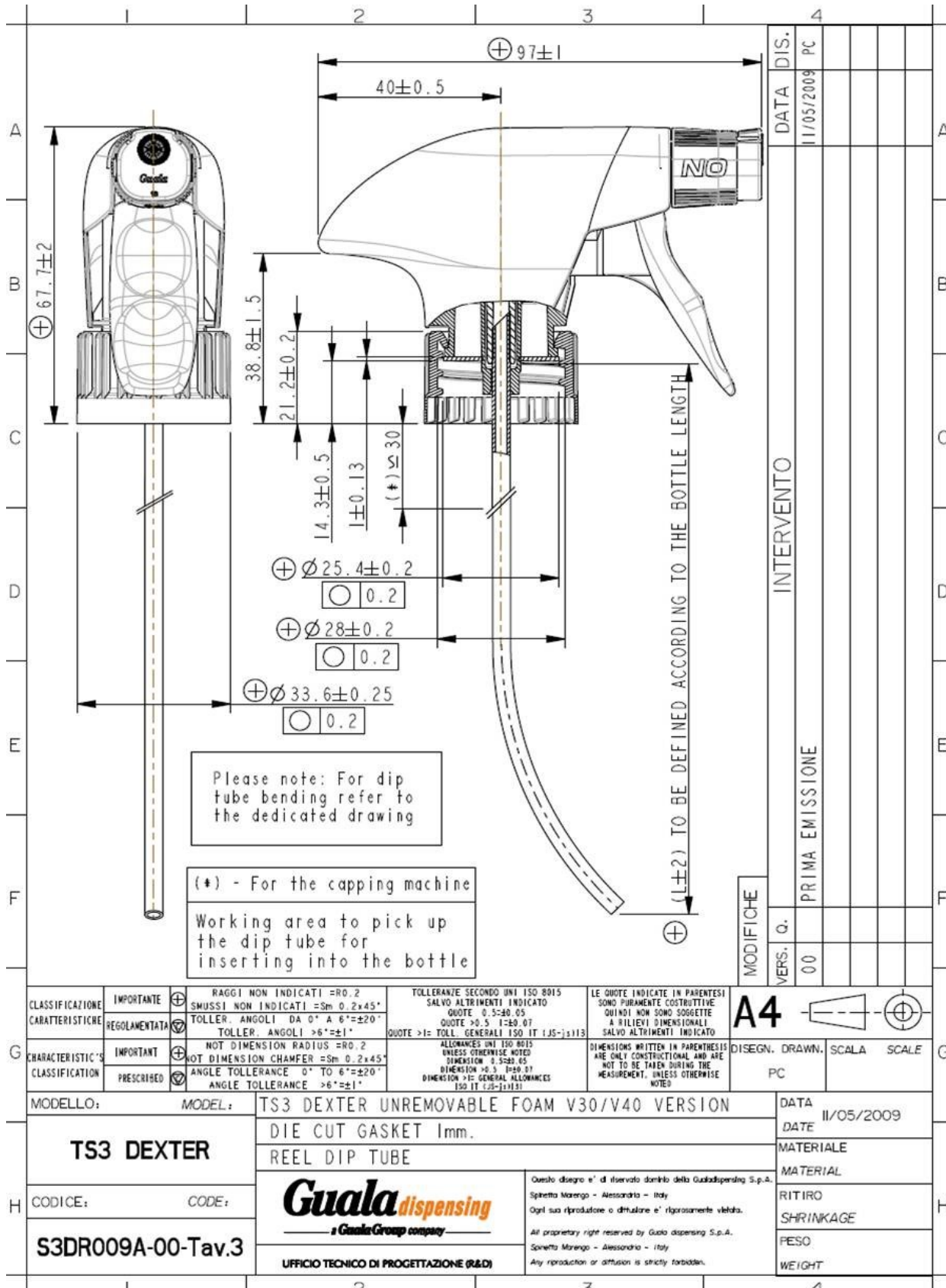
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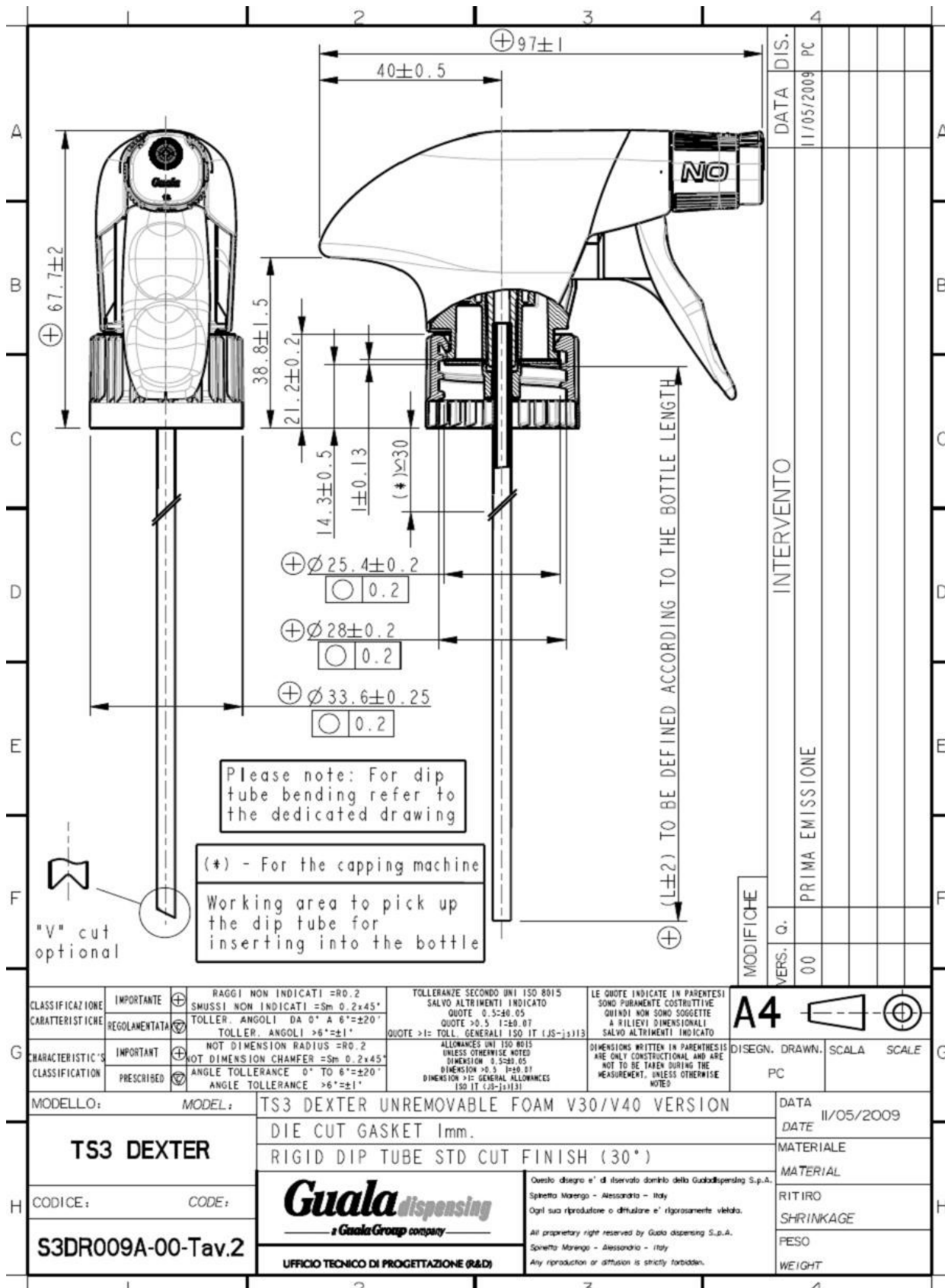
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TS3 DEXTER

TS3 DEXTER UNREMOVABLE SPRAY VERSION

DIE CUT GASKET Imm.

DIP TUBE BENDING LIMITS

Guala dispensing
— a Guala Group company —

TS3DR003A-00-Tav.6

UFFICIO TECNICO DI PROGETTAZIONE (R&D)

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CLASSIFICAZIONE CARATTERISTICHE

IMPORTANTE	⊕	RAGGI NON INDICATI = R0.2 SMUSSI NON INDICATI = Sm 0.2x45°	TOLLERANZE SECONDO UNI ISO 8015 SALVO ALTRIMENTI INDICATO QUOTE 0.5-40.05 QUOTE >0.5 1-40.07 QUOTE >1: TOLL. GENERALI ISO IT 1:JS-j11/13	LE QUOTE INDICATE IN PARENTESI SONO PURAMENTE COSTRUTTIVE QUINDI NON SONO SOGGETTE A RILIEVI DIMENSIONALI SALVO ALTRIMENTI INDICATO
REGOLAMENTATA	⊗	TOLLER. ANGOLI DA 0° A 6° = ±20° TOLLER. ANGOLI >6° = ±1°	ALLORANZE UNI ISO 8015 UNLESS OTHERWISE NOTED DIMENSION 0.5-40.05 DIMENSION >0.5 1-40.07 DIMENSION >1: GENERAL ALLOWANCES ISO IT 1:JS-j11/13	DIMENSIONS WRITTEN IN PARENTHESES ARE ONLY CONSTRUCTIONAL AND ARE NOT TO BE TAKEN DURING THE MEASUREMENT, UNLESS OTHERWISE NOTED

CHARACTERISTIC'S CLASSIFICATION

IMPORTANT	⊕	NOT DIMENSION RADIUS = R0.2 NOT DIMENSION CHAMFER = Sm 0.2x45°		
PRESCRIBED	⊗	ANGLE TOLERANCE 0° TO 6° = ±20° ANGLE TOLERANCE >6° = ±1°		

MODELLO: MODEL: TS3 DEXTER UNREMOVABLE SPRAY VERSION

TS3 DEXTER

CODICE: CODE: S3DR003A-00-Tav.6

DATA DIS. 11/05/2009

PC

INTERVENTO

PRIMA EMISSIONE

MODIFICHE

VERS. Q. 00

A4

DESIGN. DRAWN. SCALE

PC

RITIRO SHRINKAGE

PESO WEIGHT