# Pharmaceutical primary packaging

Plastic packaging solutions for liquid formulations

gerresheimer

gerresheimer.com

# **About Gerresheimer**

# Plastic packaging solutions for diverse pharmaceutical applications

Gerresheimer Primary Packaging Plastics specializes in the widely varied spectrum of pharmaceutical plastic packaging within solid, liquid and ophthalmic applications, plastic vials and plastic bottles for personal care.

Our leading brands Duma<sup>®</sup>, Dudek<sup>™</sup> and Triveni for solid dosage, edp-branded PET bottles for liquid dosage and our ophthalmic products form part of a comprehensive and innovative product range. Our monolayer plastic vials are based on COP and offer inert contact surface and deliver a unique packaging safety feature to manufacturers of

# Innovating for a better life

Gerresheimer is an innovative system and solution provider and a global partner for the pharma, biotech, and cosmetic industries. The company offers a comprehensive portfolio of pharmaceutical containment solutions, drug delivery systems and medical devices as well as solutions for the health industry. The product range includes digital solutions for therapy support, medication pumps, syringes, pens, auto-injectors, and inhalers as well as vials, ampoules, tablet containers, infusion, dropper and syrup bottles and more. Gerresheimer ensures the safe delivery and reliable administration of drugs to the patient. With 36 production sites in 16 countries in Europe, America, and Asia, Gerresheimer has a global presence and produces locally for regional markets. With over 11,000 employees, the company generated revenues of around €1.82bn in 2022. Gerresheimer AG is listed in the MDAX on the Frankfurt Stock Exchange ISIN: DE000A0LD6E6.

Solid formulations

Liquid formulations



toxic or high potency drug solutions. Our standard range includes a wide choice of different types of containers and closures, PET bottles, eye droppers, nasal sprays, nebulizers, applicators, accessories as well as numerous customized developments.

Using our ideas and experience to produce intelligent, increasingly safe and user-friendly packaging solutions has enabled us to become an innovative partner to the global pharmaceutical industry. We know, understand and reinforce our customers business.



#### Ophthalmic and nasal applications



**Sustainable** plastic packaging

## **Plastic materials**

PET | R-PET | BIO-PET

As Gerresheimer Plastic Packaging is committed to environmental concerns we offer our PET ranges with different mixtures of post-consumer recycled materials.

We can produce bottles made of up to 100% R-PET.

## **Ecological aspects**

Besides using recycled materials, Gerresheimer is also motivated to help our customers contribute to the reduction of greenhouse gas emissions by using biomaterials. Biomaterials are the renewable alternative to conventional PE/PET.

Sugarcane is one of the substances used to make biomaterials. You take the ethanol from the sugarcane plant and then put it through a dehydration process to transform it into green ethylene. Afterwards the green ethylene goes to the polymerization plants, where it is converted into green PE/PET.

## **Technical features**

- ISBM technology
- PET, R-PET, BIO-PET
- bottles available in different colors
- Different mixtures of post-consumer recycled materials
- 3D CAD design software
- ISO 9001



# Gerresheimer Zaragoza pharma focused company with clean room

- new machines and molds





# Strong regulatory approach

We ensure full conformity of our products with the European pharmacopoeia, the United States pharmacopeia and the requirements for FDA registration with a Drug Master File as the standard. Knowing the extensive requirements of our customers we focus on providing a high level of documentation with our products.

- High level of documentation and registration
- Standard product database
- FDA and world-wide registration of all products
- US and Canada Drug Master File
- Product registrations in Russia, China and the Ukraine
- Food approval

# Specialist and quality leader in primary plastic packaging

Our manufacturing operations use state-of-the-art technology and apply the most rigorous quality and hygiene standards. They cover all production technologies from injection moulding and injection blow moulding to blow moulding processes. The majority of our production operations are carried out in modern classified clean-rooms or in clean conditions. All plants apply the rules of Good Manufacturing Practice (GMP) and are certified in accordance with ISO standards.

- Solution providing
- Good Manufacturing Practice (GMP)
- ISO certifications
- (ISO 9001, ISO 15378, ISO 14001, ISO 45001)
- Automated in-line controls
- Vision-based inspection system
- Class 7 (10,000) + class 8 (100,000) clean-rooms



# Strong quality culture

A strong quality culture supports our efforts to deliver excellent quality. The culture is defined by our shared beliefs, values and behaviour patterns.

- Quality attitude and team work
- Continuous improvements
- Systematic problem solving
- Quality by design
- Stable, robust, reliable and validated processes
- Risk-based approach

# Innovating for a better life



## **Success** through constant innovation

- Cover your needs with wide product family
- Full solutions with less material and same properties
- Competitive advantage via product differentiation
- Solution provider to customer challenges
- Vision for identifying future customer needs



## Reliability through excellent quality

- Strong quality culture based on right first time
- Deliver best-in-class products and services and a high level of documentation
- Strong regulatory platform and conform with EP and USP
- Certified according to relevant ISO standards and operate in classified clean rooms
- Deep understanding of patient safety and customer requirements



## Understanding through technical competence

- Complete solution provider and partner for new projects
- Extensive experience and know-how
- Optimized processes with high quality molds and machines
- Support with auxiliary processes
- e.g., sterilization
- Excellent technical support in order to run your production smoothly



## Flexibility through global presence

- One supplier and one responsibility - Understanding local market
- needs and regulations
- Uniform and state-of-the-art manufacturing conditions
- Global lean organization increasing the speed to market
- Easy transfer of production to another region





## Performance through commitment to sustainability

- We Rethink our processes and products for a more sustainable future
- We recycle our production waste 100%
- We design for recycling for over 20 years
- We challenge our suppliers social and economic impacts on carbon footprint
- We are standing for the healthy and social well-being of our employees



# **Liquid fomulations**







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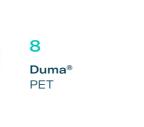


MD bottles PP18 neck PP28 neck

**Oral Care** 



Solid





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We offer a comprehensive range of edp-branded PET bottles for liquids and closures in HDPE and PP for different applications.

All our bottles can be supplied with caps, reducers and other accessories. Some are optionally available with a measuring cup that has a 2.5 to 10 ml scale or a measuring cup with a 5 to 20 ml scale. Some of our products are even compatible with glass accessories/bottles.

You can opt for one of the products in the standard range or design a product customized to your needs and requirements with our R&D team.

- PET bottles for liquid EDP brand
- PET containers for solid Duma® PET
- PET bottles for oral care
- Caps and measuring cups for PP18 neck, PP28 neck & Duma<sup>®</sup> PET
- Customized shapes
- Different colours available
- PP18 and PP28 caps compatible with glass, PE & PP solutions
- UV filter
- FDA registered, DMF type III, DMF no. 22946, US Drug Master File (DMF)
- Recycled materials





3 **PF** bottles PP28 neck





6 PL bottles PP28 neck











10 Complements

# ST bottles PP18 neck

# ST bottles PP28 neck

PET packaging for liquid

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	Ref.#	ml	ml	►mm◀		mm	Ref.#
ST10 PP18 PET 4,5	1104	10	14,8	23,0	54	PP18	10088
ST15 PP18 PET 4,5	1105	15	21,0	24,6	63	PP18	10088
ST30 PP18 PET 5,8	900	30	35,2	29,0	75	PP18	10088

- Material: Bottle PET, tamper-evident cap PP

- 3 ST bottles PP18 neck sizes ranging from 10–30 ml
- Can be supplied with other caps and reducers
- Bottles available in different colors



Ref.#	ml	mi	► mm ◄		mm	Ref.#	Ref.#
ST100 PP28ST PET 17 1103	100	119,5	46,0	100,5	PP28ST	10089	10100/10108
ST200 PP28ST PET 21 1094	200	222,0	55,3	125,0	PP28ST	10089	10100/10108
ST250 PP28ST PET 28 140	250	270,0	55,0	148,0	PP28ST	10089	10100/10108
ST300 PP28ST PET 27,5 1006	300	315,0	60,0	147,0	PP28ST	10089	10100/10108
ST500 PP28ST PET 35 1090	500	521,0	68,5	179,0	PP28ST	10089	10100/10108





- Material: bottle PET, tamper-evident cap PP, measuring cup PP
- 5 ST bottles PP28 neck sizes ranging from 100–500 ml
   Can be supplied with other caps and reducers
- Measuring cup can be supplied with the scale from
   5 ml to 20 ml in clear (10108) and white (10100) colour
- Bottles available in different colours

PET packaging for liquid

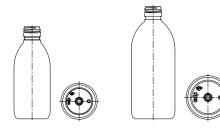
# PF bottles PP28 neck

# LP bottles PP28 neck



specifications

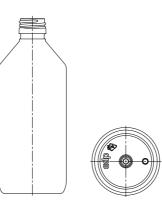
Ref.#	mi	ml	► mm ◄		mm	Ref.#	Ref.#
PF60 PP28ST PET 11,8 161	60	80,0	38,0	95,5	PP28ST	10089	10100/10108
PF 90 PP28ST PET 15 1110	90	97,5	40,7	101,6	PP28ST	10089	10100/10108
PF100 PP28ST PET 17 1093	100	115,0	44,1	107,0	PP28ST	10089	10100/10108
PF120 PP28ST PET 17,5 163	120	150,0	48,0	115,5	PP28ST	10089	10100/10108
PF150 PP28ST PET 17,5 164	150	175,0	49,0	126,1	PP28ST	10089	10100/10108
PF200 PP28ST PET 24 1095	200	222,5	52,1	144,5	PP28ST	10089	10100/10108
PF250 PP28ST PET 24 1096	250	283,0	58,0	147,7	PP28ST	10089	10100/10108
PF300 PP28ST PET 24 1123	300	313,0	60,6	145,5	PP28ST	10089	10100/10108
PF500 PP28ST PET 35 1089	500	526,0	70,0	180,0	PP28ST	10089	10100/10108



- Material: bottle PET, tamper-evident cap PP, measuring cup PP
- 9 PF bottles PP28 neck sizes ranging from 60–500 ml
- Can be supplied with other caps and reducers
- Measuring cup can be supplied with the scale from
- 5 ml to 20 ml in clear (10108) and white (10100) colour
- Bottles available in different colours



	Ref.#	ml	mi	► mm ◄		mm	Ref.#	Ref.#
LP150 PP28ST PET 21	520	150	170,5	52,5	112,75	PP28ST	10089	10100/10108
LP500 PP28ST PET 35	1091	500	520,5	69,5	179,00	PP28ST	10089	10100/10108
LP1000 PP28ST PET 50	1124	1000	1050,0	88,0	218,00	PP28ST	10089	10100/10108



- Material: bottle PET, tamper-evident cap PP, measuring cup PP
- 3 LP bottles PP28 neck sizes ranging from 150–1000 ml
- Can be supplied with other caps and reducers
- Measuring cup can be supplied with the scale from
   5 ml to 20 ml in clear (10108) and white (10100) colour
- Bottles available in different colours

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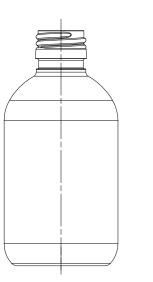
## OM bottles PP18 and PP28 neck

## PL bottles PP28 neck



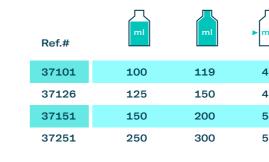
specifications

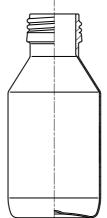
	Ref.#	ml	ml	► mm ◄		mm	Ref.#	Ref.#
OM15 PP18 PET 4,5	1117	15	20	25,5	56,35	PP18	10088	
OM250 PP28ST PET 24	1111	250	272	61,7	127,50	PP28ST	10089	10100 / 10108



- Material: bottle PET, tamper-evident cap PP, measuring cup PP
- 2 OM bottles PP18 and PP28 neck sizes ranging from 15–250 ml
- Can be supplied with other caps and reducers
- Measuring cup can be supplied with the scale from
   5 ml to 20 ml in clear (10108) and white (10100) colour
- Bottles available in different colours









mm •		mm	Ref.#	Ref.#
47	103	PP28	15127	41010
48	116	PP28	15127	41010
54	122	PP28	15127	41010
58	153	PP28	15127	41010

- Material: bottle PET, tamper-evident screw cap PE, measuring cup PP
- 4 PL bottles PP28 neck sizes ranging from 100–250 ml
- Bottles available in amber, white, clear
- Measuring cup with scale available from 2,5 ml to 10 ml
- Suited to standard filling and packaging equipment
- Manufactured under clean-room conditions

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# MD bottles PP18 and PP28 neck







### specifications

PP18	Ref.#	mi	ml	► mm ◄		mm
MD25	1143	25	29	22,0	96,8	13,15
MD30	1138	30	34	23,7	96,5	13,15
PP28						
MD60	1144	60	71	34,0	98,4	19,50

– Material: Bottle PET, cap PP

- 2 MD bottles PP18 neck sizes ranging from 25–30 ml
- 1 MD bottle PP28 neck size 60 ml
- Bottles available in different colors

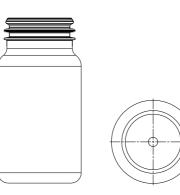








	Ref.#	ml	► mm ◄		mm	Label	Ref.#	Int. Des.*
DUMAPET 75 17	1058	75	45,5	73,0	33	37,7	4015	4015
<b>DUMAPET 100 20</b>	1036	100	45,5	89,5	33	54,0	4015	4015
DUMAPET 125 20	1037	125	48,7	96,5	33	58,5	4015	4015
<b>DUMAPET 150 20</b>	1038	150	51,4	100,0	33	61,5	4015	4015



- Material: bottle PET, cap LDPE
- 4 Duma® PET bottles ranging from 75–150 ml
- Bottles available in different colours
- Snap lock system
- Handy cap easy-open system
- Tamper-evident
- Available with integrated desiccant 4 g
- Caps available in different colours

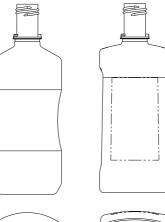


# Mouthwash



specifications

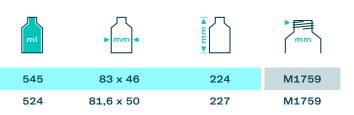
	Ref.#	mi
COL500 M1759 PET 41	724	500
COL500 M1759 PET 41	538	500



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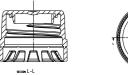
– Material: bottle PET, cap LDPE

- 2 mouthwash bottles in the size
   500 ml
- Can be supplied with cap

# Complements

## **PP18**

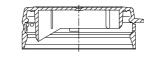




- Material: tamper-evident cap PP
- Suitable for ST, OM and MD bottles PP28 neck
- (see page 12, 16 and 18)
- Ref 10088 on page 12 and 16 corresponds to PP18 cap



Duma<sup>®</sup> Handy cap





- Material: cap LDPE - Suitable for Duma® PET containers (see page 19)
- Snap lock system
- Handy Cap easy-open system
- Tamper-evident
- Available with integrated desiccant 4 g
- Caps available in different colours
- Ref 4015 on page 19 corresponds to Duma® Handy Cap









## **PP28**



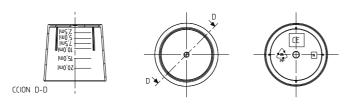


### - Material: tamper-evident cap PP

SECCON G-G

- Suitable for ST, PF, LP, OM and MD bottles PP28 neck (see page 13, 14, 15, 16 and 18)
- Ref 10089 on pages 13, 14, 15, 16 and 18 corresponds to PP28 cap

## Measuring Cup



- Material: measuring cup PP
- Measuring cup from 5 ml to 20 ml available in white and clear
- Ref 10100 and 10108 on pages 11, 13, 14 and 15 correspond to PP28 measuring cup

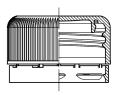
# Complements

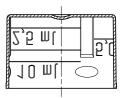


### 10



## PL bottles PP28 neck





- Material: tamper-evident screw cap PE, measuring cup PP
- Suitable for PL bottles PP28 neck (see page 17)
- Ref 15127 on page 17 corresponds to the cap
- Ref 41010 on page 17 corresponds
- to the measuring cup

# Standard and custom molding

Gerresheimer has a dedicated and committed R&D department

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Gerresheimer offers a wide range of services to generate product designs from initial product concept to the final shape. It is a process through final tool design 3D CAD software providing photo realistic rendered images. We can also propose mock ups for this initial stage.

## **Technical Evaluations**

We offer a full service, covering all technical and commercial aspects, from the unit tool to the first samples produced in the industrial mold. Our engineers have a vast experience and knowledge of product development.

## Service

We are customer-oriented, working hand by hand from the first draft to the production in our customers' filling line.



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# Customized

We offer unique diversity even in the standard range and we are happy to develop products for individual needs and requirements. Our machines give us maximum flexibility and allow us to adapt easily to any size of product series.

We cooperate with experienced coloring partners and we have the capability to develop specific master batches within short notice for pharma and para-pharmacy products.

We can also support our customers offering them outsourced service of sterilisation and decoration.

## Gerresheimer worldwide



## **Primary Packaging Plastics**

#### North America

#### Centor Inc.

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Pharmaceutical Plastic Packaging and Systems for South America is to be found in a separate catalogue