

Ullrich GmbH.
Glass is our world.

We, Ullrich GmbH founded in 1980, are your professional contact partner for the manufacturing of high-quality and innovative glass products. We offer you expert knowledge not only of semi-finished glass products - so-called GOBs -, but also when you need individual glass products manufactured exactly to your specifications.

The basis for our expertise and success is the constant further development of our technologies and manufacturing facilities which make us a unique partner in glass manufacturing worldwide. As a result, we can even offer you user-friendly solutions for your individual customer requirements.

Together with our partners, Zwiesel Kristallglas AG and IPROtec GmbH, we combine our development expertise for forward-looking business management and create additional synergies for our customers in solution-oriented process and facility development.

We are your partner for innovative and forward-looking glass technology solutions.



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Glass Technology Solutions

We deliver pre-formed GOBs which are suitable for double-sided glass moulded parts. GOBs are manufactured by directly injecting molten glass into the mould. The internationally patented **Tritan®** crystal glass is used for this.

Technical specifications

Refraction index	n_d	1.5221
Abbe number	V_d	56.75
Density	g/cm^3	2.52
Thermal expansion α (20°C; 300°C)	$10e-6 \cdot K^{-1}$	9.3

Glass semi-finished products

- GOBs are suitable for double-sided glass moulds
- A lens is thus moulded from the GOB through forming at approx. 400° - 850°C
- The advantage of glass moulds is the multitude of shapes which a moulded optical part can take (e.g. notches, openings, edgings)
- The lenses are used in the following fields:
 - * Lenses for photovoltaics
 - * Optics
 - * Secondary and primary lenses
 - * Projection lenses for the automotive industry

We are happy to advise you!

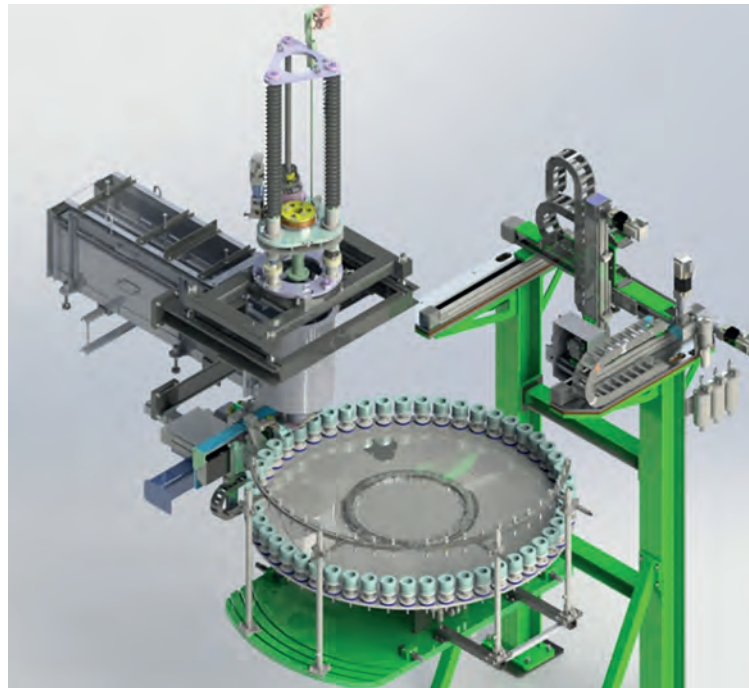
Us for you

We are happy to manufacture products according to your wishes and requirements and are happy to assist you with any questions in an advisory capacity at any time.

We offer the following sizes as standard:

Dia-meter	Weight in g	Depth in mm	Volume in cm^3
33mm	30.0	16.0	11.9
	45.0	22.1	17.9
	49.8	24.0	19.8
	53.7	25.7	21.3
	58.5	27.6	23.2
	60.0	28.3	23.8

Example of a GOB production facility.



Dia-meter	Weight in g	Depth in mm	Volume in cm^3
37mm	47.0	18.5	18.7
	60.0	23.6	23.8
	63.0	24.6	25.0
	74.0	29.0	29.4

45mm	80.0	22.5	31.7
	92.0	25.3	36.5
	94.5	26.0	37.5

50mm	104.0	23.6	41.3
	107.0	24.1	42.5
	113.0	24.9	44.8
	122.0	27.0	48.4
	126.5	28.0	50.2

54.8mm	122.0	23.0	48.4
	124.0	23.4	49.2
	129.0	24.2	51.2
	135.0	25.0	53.6
	139.0	25.7	55.2
	141.0	26.1	56.0
	150.0	27.7	59.5
	153.5	28.2	60.9
	157.0	28.7	62.3
	164.0	29.7	65.1
	170.0	30.7	67.5
	173.0	31.2	68.7
	177.0	31.8	70.2

58mm	181.0	29.0	71.8
	200.0	32.0	79.4
	230.0	36.0	91.3
	240.0	37.3	95.2
	265.0	40.5	105.0