Belvac Production Machinery
Technical Bulletin
Information for Customers Operating & Maintaining Belvac Machines

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202/200 Die Necking

Belvac Production Machinery has provided necking solutions since 1982, most notably being the die Necker and Flanger. Fundamentally, the machine design was based on 211 through 207.5 diameter cans, supporting can lengths from 307 through 609 (50 cl). This full range flexibility extends to all neck reductions to the classic 202 plug diameter regardless of can OD.

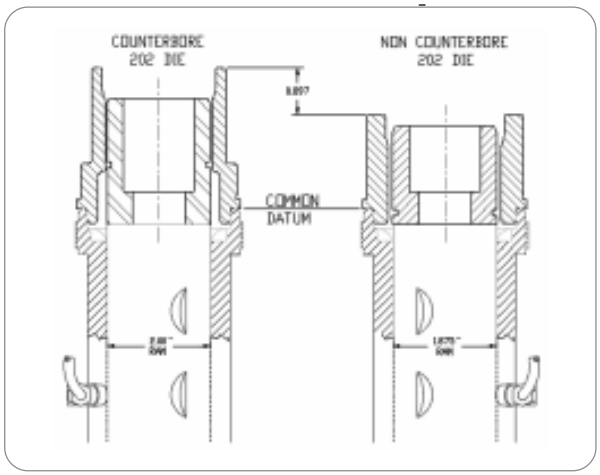
For can plants running 202/200 cans, conventional die geometry had to be lengthened by nearly 0.90" (23 mm) and a counterbore added to provide relief for the ram as it stroked into the die bore, due to the ram OD being larger than the die bore.

The lengthening of the die created the following disadvantages for the customer:

- Increased tooling costs
- Reduction in overall TCH capability to only 5.75" (146 mm) maximum
- Change in tinline datum creates non-standard setups as compared to conventional turrets with plug diameters of 202 or larger; additionally affects the setup of all other turrets (flanger, reformer, reprofiler, light tester and vision)
- Inability to run 211 diameter cans with plug sizes less than conventional 202 (2.060" / 52.3 mm) on a common machine

Belvac has engineered and successfully production tested a solution to this problem. By decreasing the ram OD from 2.000" (50.8 mm) to 1.875" (47.6 mm) the ram will stroke through a 202/200 bore unimpeded, hence no longer the need for a die with counterbore.

This is illustrated as follows:



In order to maintain maximum flexibility in our necking machinery, Belvac has adopted as "Standard" the 1.875" (47.6 mm) smaller diameter rams on all necking turrets processing plug diameters less than 202 (2.060" / 52 mm). This design decision accomplishes the following:

(*see back of this page*)

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- **TCH Flexibility**: Affording TCHs up to 609 (6.657" / 169 mm) for plug diameters as low as conventional 200
- **Can Diameter Flexibility**: The ability to run 211/200 can sizes on a common machine
- **Common Post-Necking Processes**: Standardization of components for flangers, reformers, reprofilers, light testers and vision turrets
- **Conversions from various can diameters to 202 can diameter** will maintain a common tinline, affording less diameter-specific change parts.

The following table of Belvac 595 Necking Tooling and Parameter drawings for various machine setups is in effect:

Necker Tooling and Parameter Drawing	Push Cam Stroke	Final Plug Diameter
2001201	1.375" (34.9 mm)	Greater than Nominal 202 (2.060" / 52 mm)
2001229	1.500" (38.1 mm)	Greater than Nominal 202 (2.060" / 52 mm)
2705097	1.375" (34.9 mm)	Less than Nominal 202 (2.060" / 52 mm)

Effective January 1, 2004, all new 202/200 595 Necking System machinery will be set up with conventional style 211 diameter tooling geometry in accordance with the above Necker Tooling and Parameter drawings. Counterbored dies are no longer necessary on new machinery or conversions on existing machinery to a 202 can diameter.

Contact Belvac Sales for more information.

All Belvac Technical Bulletins may be viewed on Belvac's web site, www.belvac.com.

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