



barwell Gear Pump

Continuous preforming

The **barwell Gear Pump** Preformer is a fully automated and highly advanced screw extruder and gear pump specifically designed to provide high levels of control and processing flexibility for the preforming or extrusion of almost any form of rubber compound.

- A continuous processing method making it ideal for long production runs reducing user intervention and increasing productivity
- A technologically advanced processing system providing optimum levels of dimensional stability and product consistency, accuracy and superior quality
- An intelligent process that ensures a very high level of temperature control providing versatility even for low temperature processing
- Complete processing flexibility combining extrusion, cutting and check weighing all in one machine
- A cost cutting solution which reduces material wastage and labour costs
- An operator-friendly system that requires minimal user training and is safe and reliable

Features

- Superior design herringbone gears for optimum flow
- 8" Touch screen user interface
- 2000 product database
- Fully automated
- Weigh scale loop system as standard
- Built in metal detector for material screening
- Standard 210 bar operating pressure (350 bar optional with general purpose head)



Superior Herringbone Gears



8" Touch Screen interface with 2000 product database

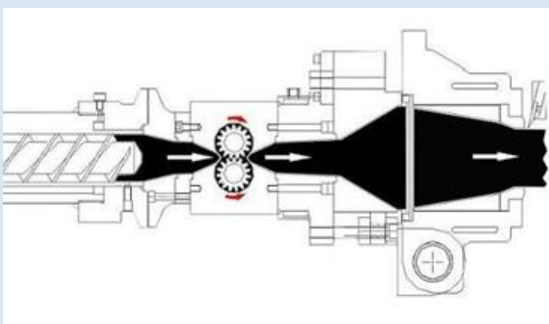


Weigh Scale loop system

How does the **barwell Gear Pump** work?

Excellent for the processing of sensitive materials

Material is delivered to the gear pump by a screw extruder which masticates the material prior to entry into the gear pump. The masticated material is pulled into the pump by the intermeshing gear teeth at a constant rate, irrespective of screw rotation speed, ensuring the gear pump cavity remains full at all times. Minimal shear is generated in the gear pump so increases in material temperature are kept to a minimum - important when processing temperature sensitive materials.



Provides precise control over dimensional stability

The material is then compressed at the outlet point at a constant rate enabling precise control over dimensional stability. The constant rpm of the gear pump and monitoring and regulation of inlet pressure help overcome extruder pulsing. This assists during strip feed change-over. The gear pump is independently driven but controls the screw rpm by means of inlet pressure monitoring.

Without a gear pump the pressure build up and extrusion uniformity is directly influenced by the screw rotation and compound variations. When a gear pump is incorporated into the system line these variations are monitored at the pump inlet and adjustments made automatically to maintain constant output flow.

Constant pressure ensures extrusion quality

Whilst the pressure at the inlet varies (due to material changes, variations in feed etc.), the pressure at the outlet of the gear pump remains constant. This ensures improved extrusion quality and tight control of extrudate dimensions.

How does the **barwell Gear Pump** work?

Greater control over plasticising effect helps the processing of difficult materials

By keeping the gear pump rpm constant, it is possible to influence the plasticising effect on materials by changing the screw rpm. Increasing the screw rpm increases the inlet pressure and also the compound temperature as greater mastication is achieved during the dwell time in the extruder barrel. This has significant advantages when processing difficult materials that need additional mastication to achieve output requirements.

Material flow through the gear pump is generally linear and therefore entirely dependent on the gear pump rotation speed. Increasing the gear pump rpm will automatically adjust the screw feed accordingly, maintaining the inlet pressure and cavity fill. This linear effect is not influenced by varying material characteristics.

Typical blanks produced on **barwell Gear Pump**



Processing Flexibility

- CR
- EPDM
- NBR
- HNBR
- SBR
- FKM
- ACM
- EVA



barwell Support ensures our machines are fully supported by expert care service programmes including, user **Training** and sharing of **Knowledge** to enhance machine performance.

barwell Gear Pump Technical Data

Technical Data		BPP70	BPP180	BPP320	BPP550	BPP1200
Length	mm	2330	3250	4350	5100	5900
Width	mm	1250	1900	1900	3000	3600
Height	mm	1600	1600	1750	1750	1750
Total Weight (Approx.)	kg	2500	2950	5200	6000	7400
Max Output	kg/hr.	70	180	320	550	1200
Max Pump RPM	rpm	55	50	40	36	30
Screw Size	mm	50	75	90	120	150
Screw L/D Ratio	-	10:1	10:1	11:1	11:1	11:1
Heating/cooling zones	-	3	4	5	5	5
Max operating pressure	bar	350	350	350	350	350
Max Die size	mm	64	64	140	190	190
Cutter Speeds (Variable)	-	50-500	50-500	50-500	50-500	50-500
Touch Screen controls	-	Y	Y	Y	Y	Y
Database	-	2000	2000	2000	2000	2000
Weight scale loop feedback	-	Y	Y	Y	Y	Y
Accuracy (volume) UP TO	%	+/-1	+/-1	+/-1	+/-1	+/-1
Extrusion only version	-	Y	Y	Y	Y	Y
Shoe Sole Head available	-	N	N	Y	Y	Y

All data is calculated with the machine being run under recommended operating conditions. It is recommended that tests are conducted during the machine specification stage to ensure that the machine will meet your requirements. Barwell recommends that as much information as possible is given before any purchase to ensure that the most appropriate machine is specified. Accuracy is based on a 10g blank weight and appropriate material preparation.