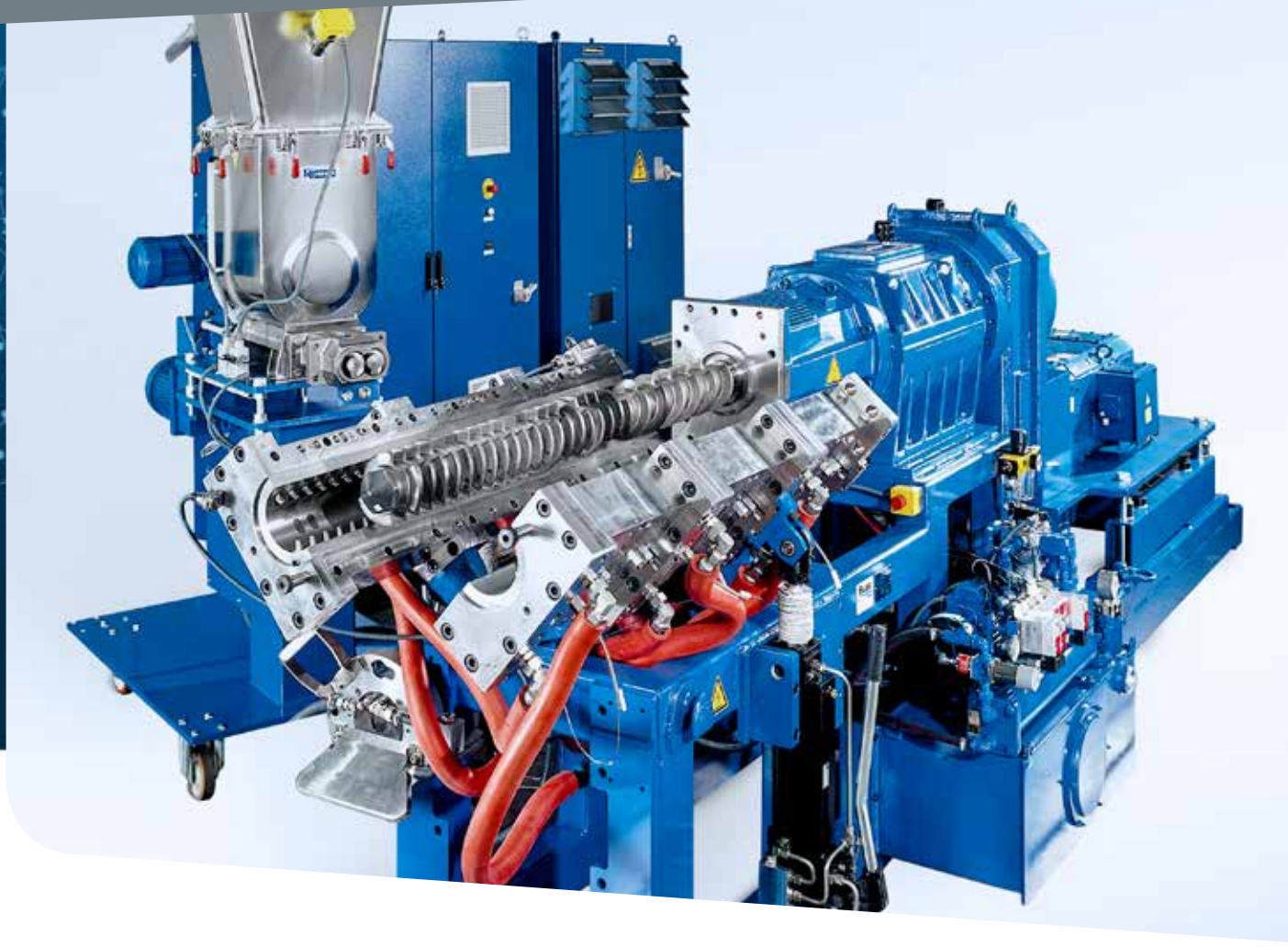
BUSS KNEADER TECHNOLOGY



PCS Series for EMC

Epoxy Molding Compounds (EMC) continue to be the top-of-the-line encapsulation material for protecting a wide range of electronic components such as integrated circuits (IC), diodes, transistors, and semiconductors. The superior electrical, mechanical, and chemical properties of EMC make them a natural for electrical and automotive applications. To take advantage of the outstanding qualities of EMC, compounding equipment has to provide excellent dispersion of high filler contents at low and perfectly controlled stock temperatures. Buss compounding technology has been supporting these elevated requirements routinely during the last 50 years and equally qualifies for molding compounds based on epoxy, phenolic, polyester, melamine, and urea resins.

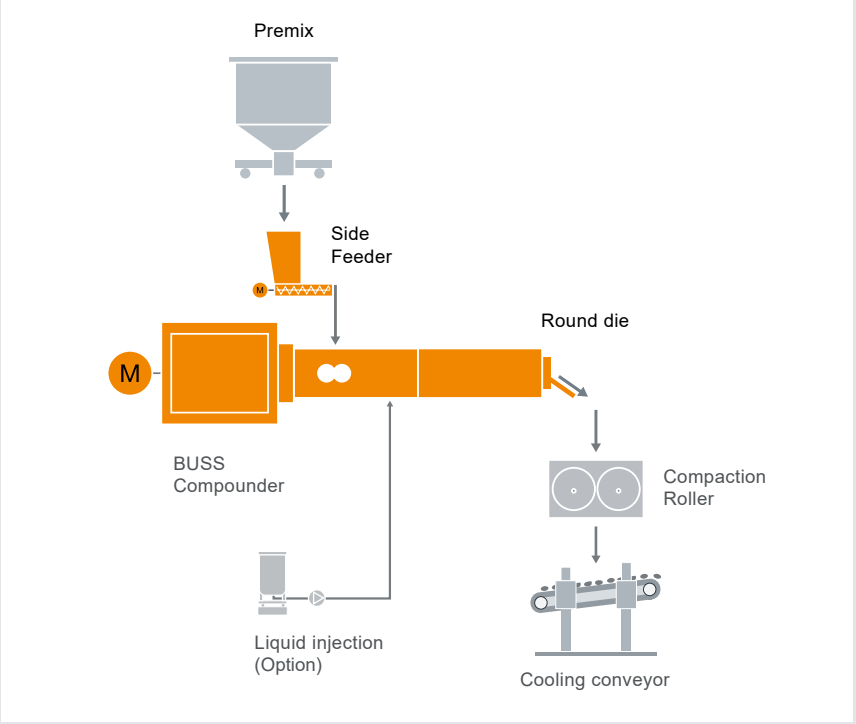
BUSS
excellence in compounding

The PCS Series supports highest-quality EMC compounding

Intensive distributive mixing at low temperatures
The BUSS Kneader achieves intensive distributive mixing through the combined rotation and axial motion of the Kneader screw, generating extensional flow, a large number of shear interfaces, and cross-channel mixing. The energy for melting and mixing is provided almost entirely mechanically.

Uniform, moderate shear rates
Moderate shear rates allow controlled mixing at low temperatures while imparting only the required shear for the specific task. A narrow shear rate distribution ensures uniform shear histories for each individual particle. This results in high quality compounding with reduced energy input.

Precise temperature control
The BUSS Kneader technology has been widely recognized for precise temperature control for more than six decades. The controlled energy input results from uniform shear rates combined with precise temperature monitoring by thermocouples mounted in pins along any position along the process section.



High filler loadings
Filler loadings up to 90% are enabled by additional inlet openings, split feed of fillers, removal of trapped air by back venting, and excellent conveying efficiency. Moderate shear rates allow perfect handling of the highest viscosities at such high loadings.

Highly wear resistant materials
Elements and kneading pins made of novel tungsten carbide alloys provide outstanding performance for highly abrasive applications such as EMC. The lifetimes are significantly higher than is the case with components made of traditional wear resistant materials.

Technical data

Type	BUSS Compounder				
	Screw diameter [mm]	Process length [L/D]	Screw speed max [rpm]	Drive power max [kW]	Throughput rates up to [kg/h]
PCS 70	70	8 … 14	250	30	200
PCS 100	100	8 … 14	250	75	500
PCS 140	140	8 … 14	250	110	1000
MKS 200	200	8 … 14	250	200	1800

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