

BUSS KNEADER TECHNOLOGY

PCS Series for Powder Coatings



PCS 70-15 R



BUSS

excellence in compounding



In answer to the increased requirements on processing powder coatings, BUSS has succeeded in significantly improving performance aspects of previous BUSS Kneader models. Especially in the areas of high-gloss, clear coatings and thin-film applications, the advantages of the extended PCS Kneader series fully come into their own.

The latest development from BUSS places customer benefits at the heart of things

The extended BUSS Kneader series PCS sets bench-marks for profitability, availability and user-friendly handling. Whilst it retains the proven operating principle of the BUSS Kneader, the process section in particular has undergone distinct modification.

As a result of extended processing length and higher screw speed, output and product quality have been considerably increased, with more favourable specific costs of investment.

BUSS customers benefit in several respects from the new PCS generation

The combination of increased output, higher process stability, optimized use and simple installation results in an excellent cost/performance ratio. In addition, the robust design and continuous improvement in construction materials ensure that the equipment retains its longevity.

Reference outputs for a PCS 70 line

Formulation	Output up to
Hybrid	700 kg/h
TGIC-free polyester	700 kg/h
High gloss, EP/SP, SP	700 kg/h
Polyurethane	700 kg/h
PT910 polyester, clear coating	500 kg/h
Textures	500 kg/h
Epoxy	500 kg/h



Laboratory Kneader PCS 30-11 R

Process section

The process section is available in 11 or 15 L/D. The extended process length increases residence time by another 35% resulting in optimized product qualities, especially for high-gloss, clear coatings and TGIC-free formulations.

The extended PCS geometry allows to process an extremely broad range of formulations, from high gloss to textured coatings, without changing the screw configuration (see table).

The proven BUSS Kneader working principle ensures excellent self-cleaning to allow for quick colour and formulation changes.

Temperature control

Thermocouples can be mounted in drilled kneading pins at various different points along the process section. Precise feedback on the melt temperature is ensured since the thermal sensor pins are in direct contact with the product melt.

The combination of a liquid heating and cooling system and an extremely precise monitoring of the melt temperature are the key criteria for successful compounding of thermo-sensitive materials – especially for highly reactive formulations.



PCS 70-11 R Process section

Service-friendly

Ease of handling and the fast adjustment times when changing products further increase the high availability of the PCS Kneader series. For cleaning and inspection, the Kneader barrel can be opened completely in just a few minutes



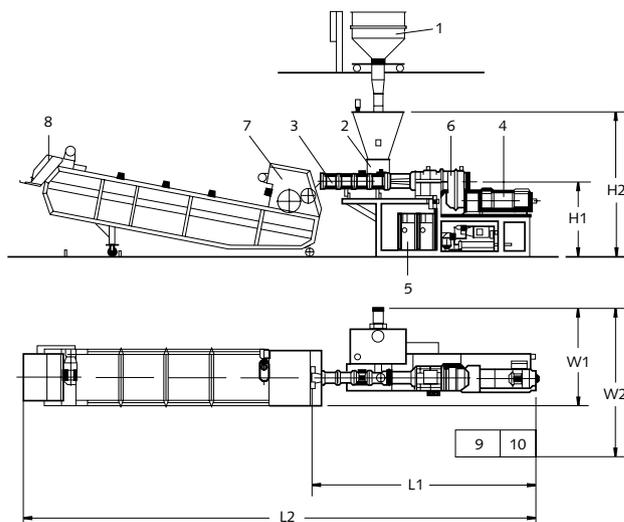
Pilot plant PCS 46-15 R

Features and advantages at a glance

- ✓ Extended processing length
- ✓ Increased residence time
- ✓ Optimized product quality
- ✓ Low specific energy input
- ✓ Improved wear-resistant materials
- ✓ Easy inspection and cleaning
- ✓ Short changeover times
- ✓ Rapid installation and start-up
- ✓ Wide range of formulations processed with one machine set-up

	PCS 30	PCS 46	PCS 70	PCS 100
Throughput rates up to	300 g to 40 kg/h	250 kg/h	700 kg/h	1500 kg/h
Feeding device				
Type	Inlet hopper	Inlet hopper	Side feeder	Side feeder
Hopper volume	1 litre	3 litres	50 litres	130 litres
Side feeder screw diameters	–	–	40 mm	60 mm
Drive rating	–	–	1.1 kW	2.2 kW
BUSS Kneader				
Process length	11 or 17 L/D	11 or 15 L/D	11 or 15 L/D	11 or 15 L/D
Screw diameter	30 mm	46 mm	70 mm	100 mm
Screw speed max.	500 rpm	650 rpm	650 rpm	650 rpm
Heating capacity	6 kW	2 x 9 kW	2 x 12 kW	2 x 12 kW
Drive rating max.	5.5 kW	30 kW	65 kW	110 kW
Cooling belt				
	CCCL 16/25	CCC 40/60	CC 80/60	CC 120/70
Cooling length	–	–	6 000 mm	7 000 mm
Belt width	–	600 mm	800 mm	1 200 mm
Dimensions				
Length	L1	–	2 200 mm	2 800 mm
	L2	–	3 500 mm	11 000 mm
Width	W1	–	600 mm	2 100 mm
	W2	–	2 200 mm	3 500 mm
Height	H1	–	1 200 mm	1 300 mm
	H2	–	1 500 mm	2 400 mm

- 1 Premix discharge station
- 2 Side feeder
- 3 Process section
- 4 Main drive
- 5 Heating/cooling units
- 6 Gear box
- 7 Cooling rolls
- 8 Crusher
- 9 Control cabinet
- 10 Drive cabinet



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