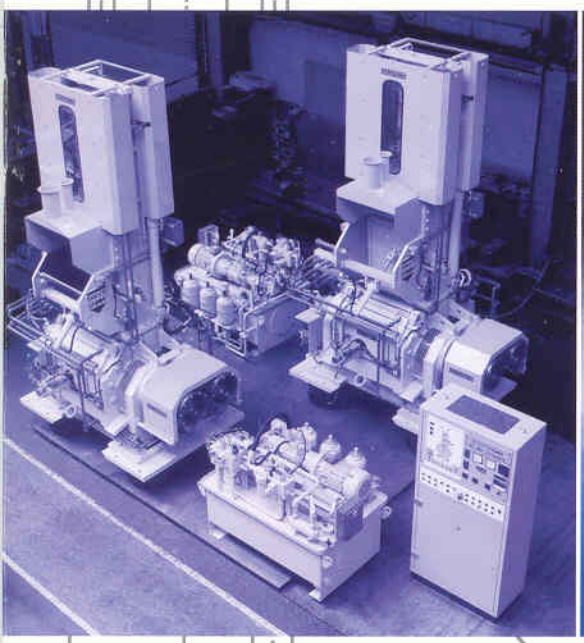
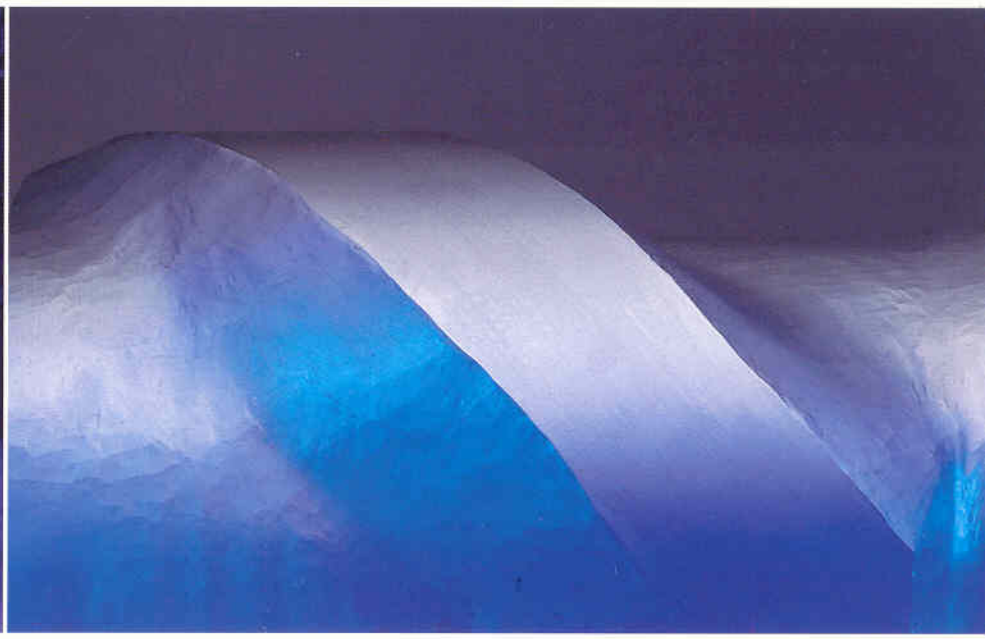
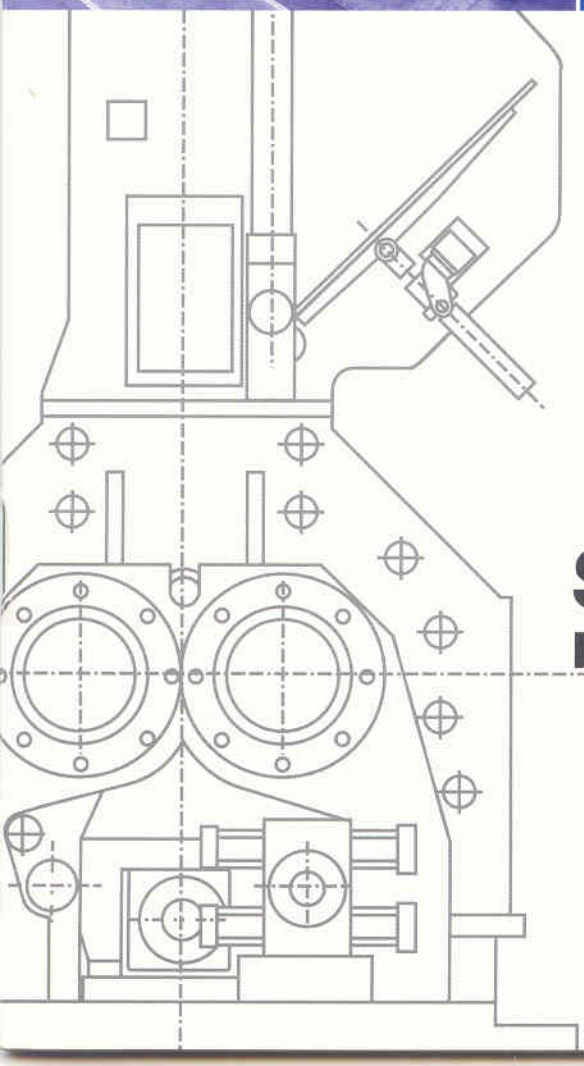
FARREL







Shaw Intermix®

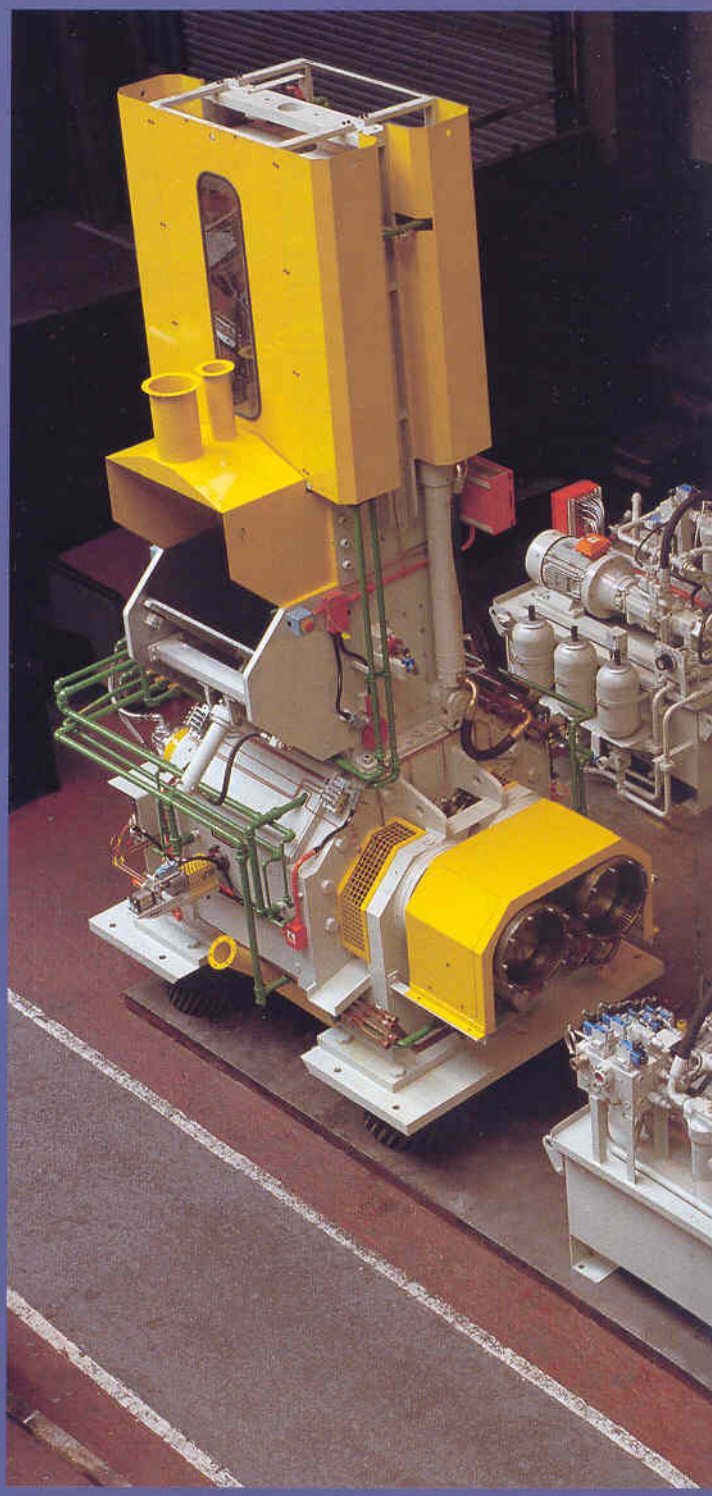
Mark 5 Series

FARREL

Farrel applies a broad technological base, research and development, and unparalleled application knowledge and experience to provide high quality and cost-effective polymer processing equipment, systems, and service.

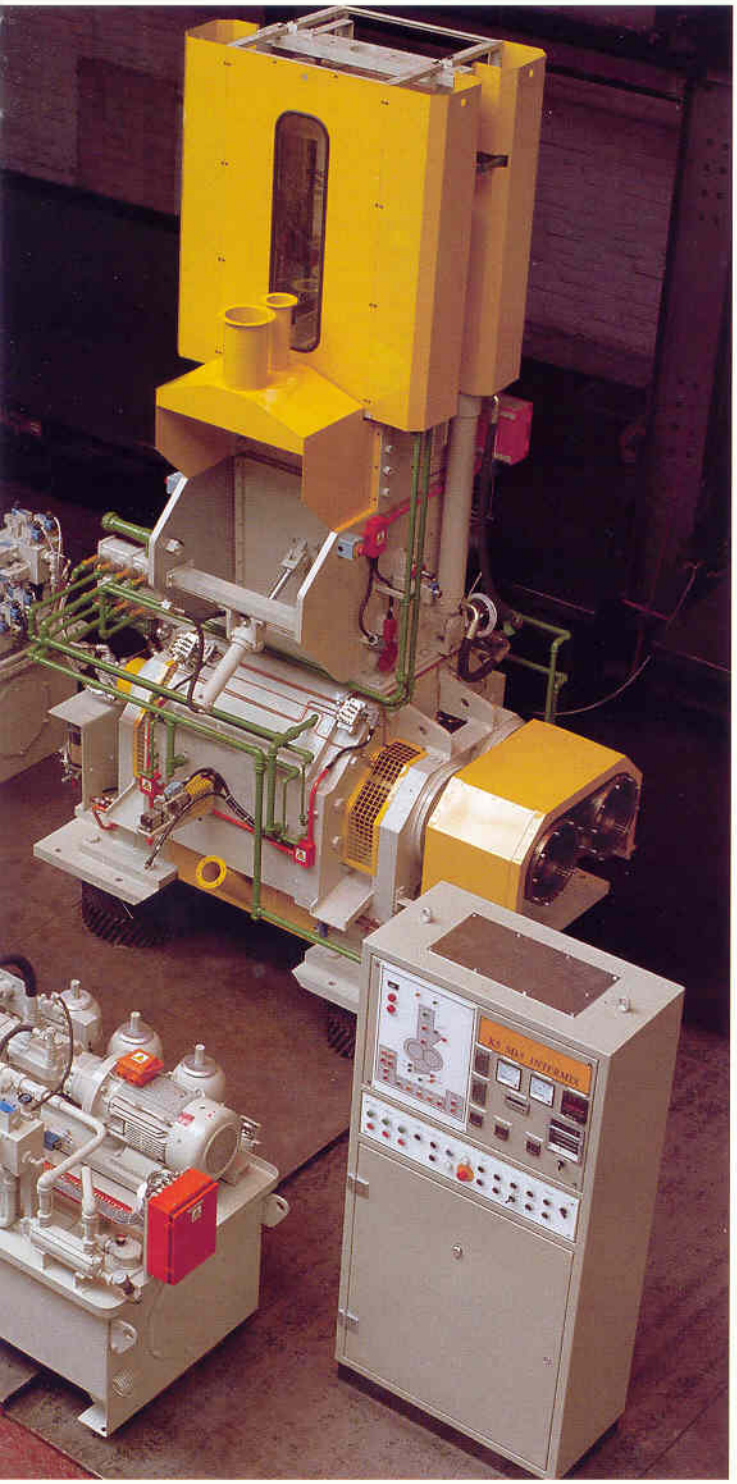
Building continuously on a tradition for invention and innovation, which began with the creation of the compounding industry's standard-setting Banbury Mixer, Farrel breaks ground by offering the newest generation of high-performance polymer processors, the Intermix, delivering significant application diversity, flexibility, and operational efficiency.

Farrel maintains operations across four continents, serving customers in numerous industries in over 50 countries. These customers benefit enormously from Farrel's commitment to the understanding and servicing of their processing requirements, and have come to recognize Farrel as an integral partner in their processing operations.



Farrel Shaw Mark 5 Intermix

Superior Internal Batch Mixing of Rubber and Plastics Compounds



The Farrel Shaw Mark 5 Intermix, superseding the Mark 4 Series, combines advanced processing, mechanical, and control system features to provide compounders with high quality dispersive mixing across a wide range of applications.

Continuous evolutionary advancements made over many years have kept the Intermix at the forefront of compounding for technical elastomer goods production worldwide. The Intermix meets and exceeds all critical performance benchmarks for today's complex compounding tasks, as well as those for the future.

- Uniform material mix through high dispersion and distribution mixing actions
- Batch-to-batch consistency
- Uniform viscosity throughout batch
- High energy input with exacting temperature control
- Durability and minimum rate of wear
- Rapid feed and discharge of batch
- Control system for complex processes
- Extended maintenance cycle

Mark 5 Intermix Advantages

An appraisal of an internal mixer's suitability for a particular compounding task must be based primarily on its efficiency in meeting two opposing requirements simultaneously: on the one hand, its ability to produce large volume batches with excellent dispersion of all compound components within short cycles, and on the other, its ability to effectively and rapidly mix the batch with a controlled temperature rise and a controlled energy-input into the material.

To achieve high performance, the mixer and the auxiliary support systems must work together to deliver optimal dispersion and maximum capacity while minimizing the amount of energy required. An effective control system must allow accurate command and control of all processing functions, and permit the exact setting of operating parameters to assure batch to batch consistency.

Intermix Applications

Automotive Products
Extruded glazing seals
Extruded automotive seals
Molded seals
Molded suspension joints
Tires

General Rubber Goods
Industrial Hoses
General Extrusions
Molded Goods

Electrical Cable Compounds
High tension sheathing
Halogen free low smoke

Plastics Compounds
PVC Flooring
EVA Suspension Pads

Custom Compounding
Nitrile
Neoprene
EPDM
SBR and NR
Silica

Specialty Compounding
Sporting Goods
Pharmaceutical Products
Rubber Footwear
Viton and Hypalon Materials

Processing

NR5 Rotors

Thermal efficiency

Higher fill factor

Temperature-compensated thermocouple system

Mechanical Design

Modular Construction

Large capacity

Wider charging throat

Clean material discharge

Durability

Technical Features

Consistent Hydraulic Hopper Ram

Dustproof drop-door seal

High energy input capability

Matched motor and drive system

Control System Options

PLC-based Controls for manual operation

Advanced PLC-based Controls for automatic operation

Upgrades and System Integration

Computer-Assisted Remote Diagnostics (CARD) System

Intermix Technical Data

Capacities with the NR5 Rotors (liters)

Increased fluid volumes lead to greater useful volumes

Intermix type	K0	K1	K2	K2A	K4	K5	K6	K6a	K7	K8	K10
Net Chamber volume (liters)	1.8	5.5	20	49	91	143	206	257	306	484	870
Batch Weight @ 70% fill factor (Kg)	1.26	3.9	14	34	64	100	144	180	214	339	609

Horsepower/RPM (based on material)

Intermix type	K0	K1	K2	K2A	K4	K5	K6	K6a	K7	K8	K10
Soft	.33	.68	2.16	4.86	8.78	14.18	20.25	27	35.1	60	70
Medium	.33	.68	2.57	5.67	10.13	16.2	23.63	31.05	39.15	60	70
Hard	.33	.68	2.97	6.48	11.48	18.23	27	35.1	43.2	60	70
Tread compounds	n/a	n/a	n/a	n/a	n/a	n/a	32.4	40.5	48.6	67	80

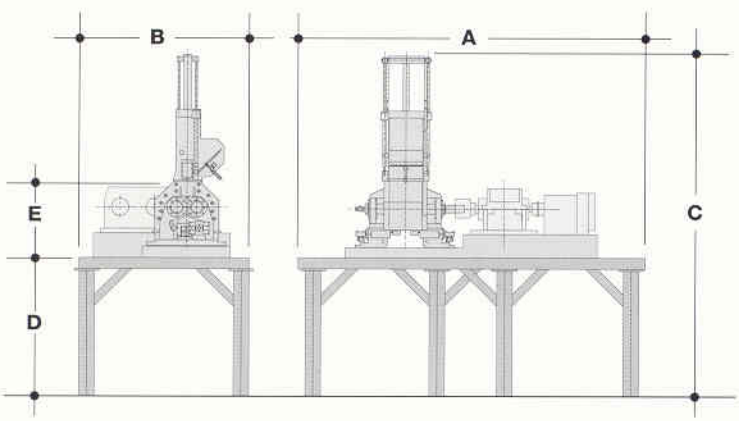
Kw/RPM (based on material)

Intermix type	K0	K1	K2	K2A	K4	K5	K6	K6a	K7	K8	K10
Soft	.25	.51	1.61	3.62	6.55	10.57	15.10	20.13	26.17	44.7	52.2
Medium	.25	.51	1.92	4.23	7.55	12.10	17.62	23.15	29.20	44.7	52.2
Hard	.25	.51	2.21	4.82	8.56	13.60	20.13	26.17	32.21	44.7	52.2
Tread compounds	n/a	n/a	n/a	n/a	n/a	n/a	24.16	30.20	36.24	49.96	59.66

Intermix Dimensions (mm)

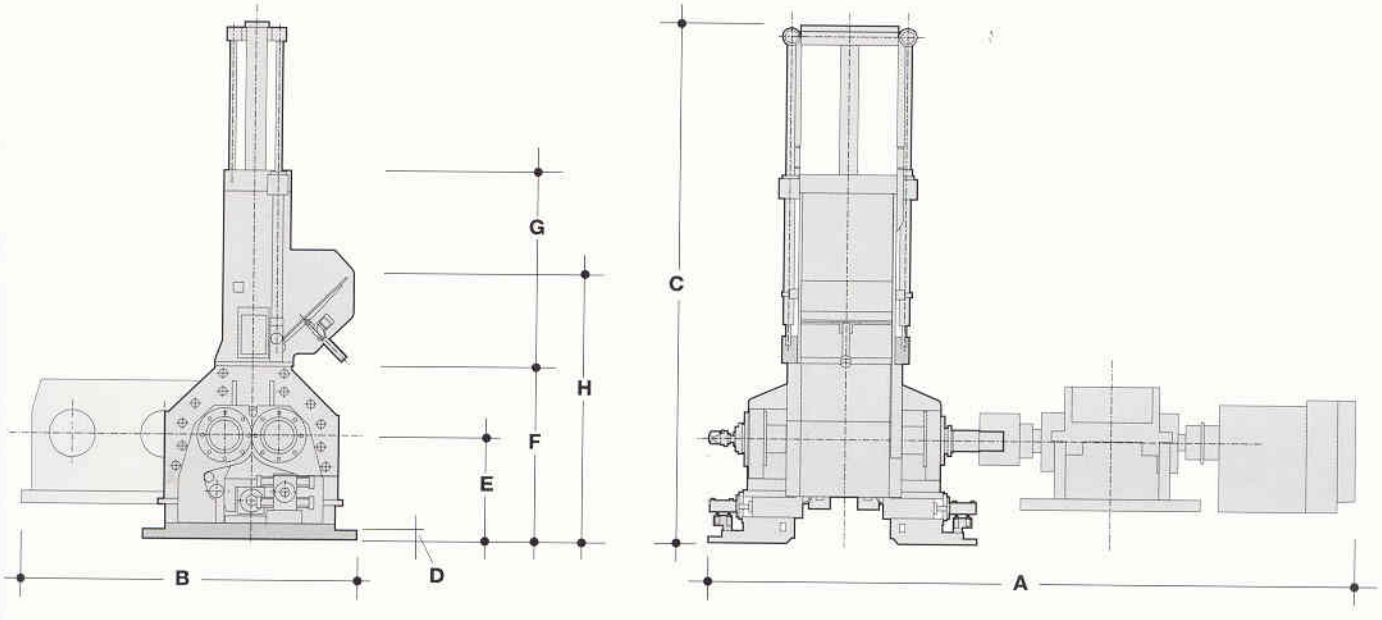
Mezzanine mounted

Intermix type	K0	K1	K2	K2A	K4	K5	K6	K6a	K7	K8	K10
Length A			6100	6700	700	8250	9705	10500	11050	11600	15090
Width B			3350	3600	4250	4450	4570	5000	5200	5350	5500
Height C			5900	6430	7420	7700	8950	9000	9800	10370	11280
Height D			2845	3000	3300	3300	3350	3350	3350	3350	3350
Height — platform level E			690	1200	1300	1520	2140	2200	2370	2440	2590



Intermix Dimensions (mm)

Intermix type	K0	K1	K2	K2A	K4	K5	K6	K6a	K7	K8	K10
Overall (including mixer, reducer and motor)											
Length — A	3000	3200	4600	5400	5950	6600	8750	9000	10000	11000	13000
Width — B	1200	1300	2300	2600	3200	3400	3500	4000	4200	4300	4500
Height — C	1800	2000	3000	3500	4100	4400	5600	5700	6400	7000	8000
Baseplate (height) — D	n/a	n/a	40	50	50	50	60	60	70	80	85
Baseplate bottom to rotor centerline — E	815	860	540	680	750	795	1080	1110	1170	1400	1625
Baseplate bottom to top of body — F	945	1035	870	1147	1263	1315	1802	1902	2008	2300	2438
Top of body to top of hopper: pneumatic — G	720	960	1780	2380	2610	2665	3443	3740	4130	4875	5395
Top of body to top of hopper: hydraulic — G	n/a	n/a	1815	2260	2647	2700	3543	3710	4060	n/a	n/a
Bottom of base to charging door — H	1105	1235	1310	1659	1914	2010	2742	2882	3088	3690	6815



Intermix Component Weights (kg)

Intermix type	K0	K1	K2	K2A	K4	K5	K6	K6a	K7	K8	K10
Complete	2000	2500									
Bedplate											
Body			3500	7000	9000	12500	21000	25000	30000	49000	55000
Hopper			1500	2000	2500	3500	6500	8000	9000	12000	14000
Reducer			1500	3000	5000	8000	11000	12000	17500	25000	50000
Motor			1000	1500	2000	2500	3000	3500	6000	7000	8000

FARREL

Knowledge, experience, service and the most comprehensive line of polymer processing equipment are applied to customer productivity and satisfaction.

Farrel provides the Single Source Solution with an entire line of compound processing equipment, customer support and process engineering services.

Principal Products

Banbury Mixers
Intermix Mixers
Calenders
CP Compact Processors
FCM Continuous Mixers
FTX Twin-Screw Extruders
Rubber and Plastic Hot and Cold Feed Extruders
Gear Pumps
Mills
MVX Continuous Mixers
Pelletizers
Tecnolab Laboratory Processors
Twin Screw Sheeters

Trademarks

BANBURY®
CARD®
CP-SERIES II™
ECO-GLAND™
FARREL®
FTX™
INTERMIX®
MVX™
MORIYAMA™
QUICK DISCONNECT®
RPI SYSTEM™
ST™
TECNOLAB®

Farrel Corporation has secured ISO 9001 registration in the United States and the United Kingdom.

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