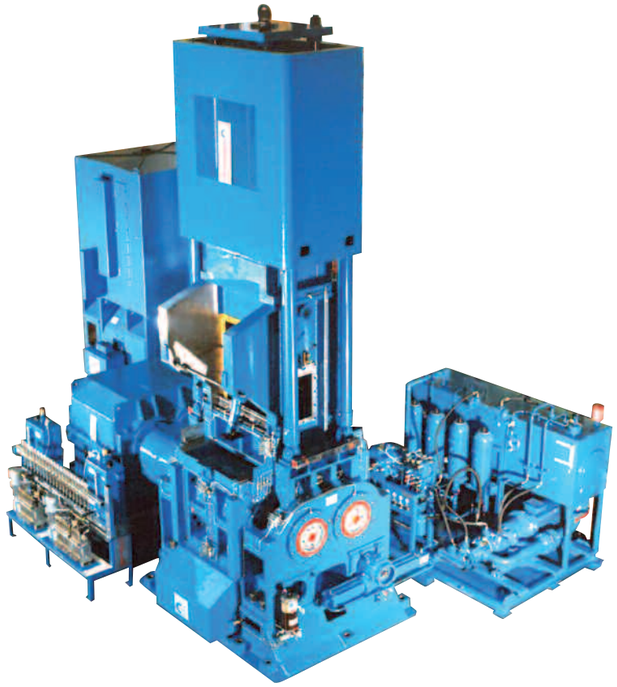

CARTER

INTERNATIONAL LTD

Carter of Rochdale is the name that embodies the ultimate quality in rubber and plastics engineering throughout the world.

An acute understanding of customer requirements and the ever changing trends of market forces have established Carter at the forefront of the industry.

A sensible business philosophy committed to long term research and development, together with enormous investment in both people and the most technically advanced machinery ensures a continuing policy of service and quality assurance that customers can really depend on.

Situated in the heart of the North West of England (just off the M62 motorway) you can easily visit Carter by air, road or rail through an accessible network of travel links.

CARTER INTERNATIONAL LTD.
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Lancashire, England OL12 OAA

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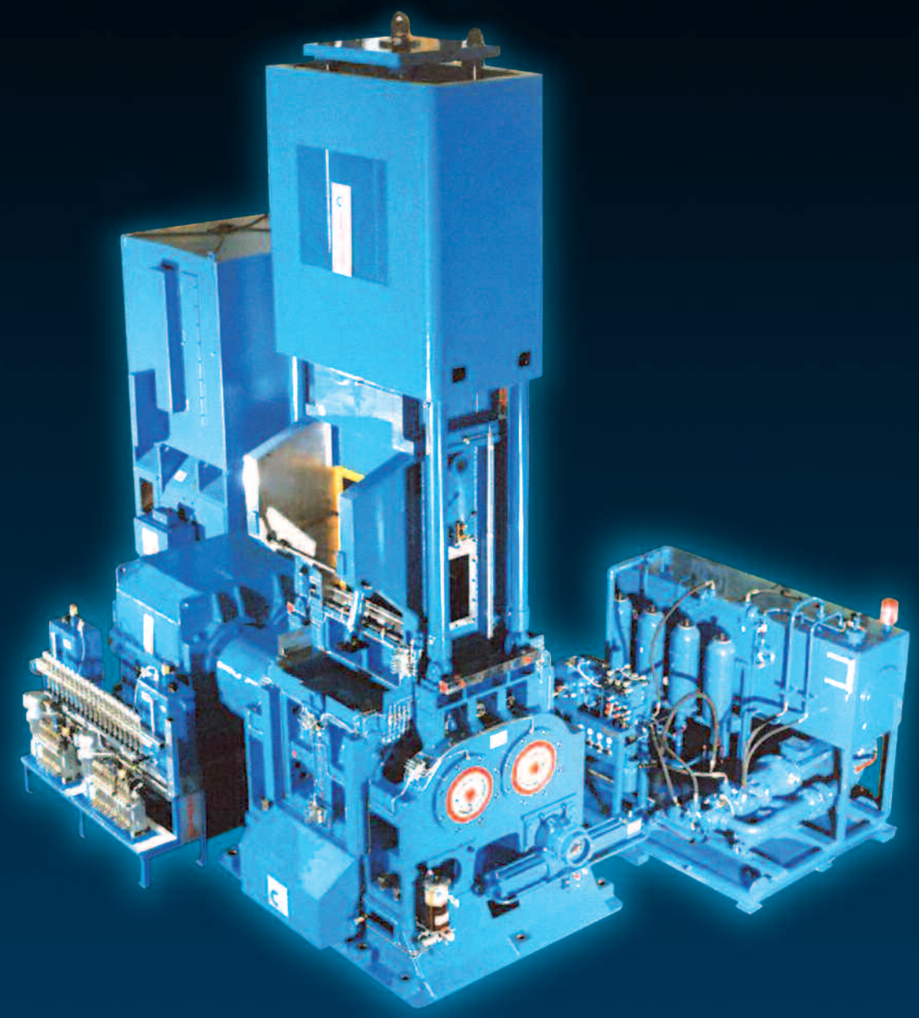
Web www.carter-mixers.co.uk

CARTER

Heavy Duty Internal Mixers



CARTER

INTERNATIONAL LTD

World Leader in Heavy Duty Internal Mixers

The name of Carter is renowned throughout the world for engineering excellence in the manufacture of rubber and plastics internal mixing machinery.

At their headquarters and large manufacturing plant based in Rochdale England, Carter offers a range of services unparalleled in mixing technology, from a fully operational in house laboratory mixer facility to full blown manufacture of high capacity mixers.

A totally integrated high tech drawing office team, supported with full in house CAD computer design facilities and complete manufacturing capability, offers a comprehensive range of first rate internal mixing machinery; from small 1 1/2 litre laboratory mixers to the larger 370 litre higher volume machines.

In addition to the complete manufacture of new mixers, mixers taken in part exchange are available for resale following a comprehensive reconditioning and refurbishment of body units and jackets, together with advanced rotor profiling to determine exact shape and volume requirements of existing machines. Also service exchange mixer body units, mills, stock blenders and ancillary equipment can be manufactured or modernised to meet customers' own specifications and needs.

Project planning and plant installation anywhere in the world is another vital part of the Carter service together with a 24 hour computer based stock control for spare parts or breakdown emergencies. This kind of unique service has resulted in Carter being accredited with the prestigious ISO 9001 rating for design, manufacture, installation and commissioning of rubber and plastic processing machinery, the hallmark of quality and service assurance.

Range, Performance, Consistency

Many Carter machines are shipped overseas for use in the production of high technology rubber and plastic compounds, so it is essential that high quality control standards are constantly maintained to meet rigorous production schedules in the most demanding environments.

Complete manufacture, machining, super hard welding, inspection, assembly and testing are undertaken in house, in order that customers have total reliability and efficiency with their production machines.

At the heart of a Carter mixer is the unique heavy duty Carter rotor assembly, which has been developed specifically to give excellent dispersion and increased output, whilst eliminating deadspots.

A much higher torque value is attained through the use of alloy steel rotors and heavy duty rotor blade tips ensuring a consistent mixing over an extended life period.

CAPACITY MIXER RANGE	MIXING CHAMBER VOLUME (LITRES)*	APPROX BATCH SIZE (KGS)**	TYPICAL TORQUE RATING (KWS)***	TYPICAL ROTOR SPEEDS (RPM)***
LAB MIXER	1.5	1.5	25KW D.C.	0 TO 180
LAB MIXER	4.0	3.75	50KW D.C.	0 TO 140
MK 1	17.5	16.4	45 TO 115	60 TO 120
MK 1 PLUS	19.5	18.3	50 TO 225	60 TO 120
MK 2	24	22.5	65 TO 300	50 TO 120
MK 2.5	45	42.2	90 TO 450	43 TO 120
MK 3	72	67.5	110 TO 665	36 TO 105
MK 3 PLUS	90	85	150 TO 700	36 TO 105
MK 4	100	93.75	175 TO 900	35 TO 105
CB120	120	112.5	200 - 1200	20 TO 120
MK 6	160	150	225 TO 1250	28 TO 60
CB200	220	206	300 - 1300	20 TO 60
CB 270	2 WING S 270	253	300 TO 1500	20 TO 60
CB 270	4 WING S 257	240	350 TO 1650	20 TO 120
CB 290	2 WING S 290	270	550 - 1650	20 TO 60
CB370	2 WING	333	2000	20 TO 60
CB 370	4 WING	310	2500	20 TO 60

SERVING THE WORLD WITH QUALITY AND ASSURANCE

Internal Mixer Features & Specification

ROTORS

Alloy steel construction for strength; computer designed for optimum performance; precision profile machined for volumetric accuracy, all ensuring the production of uniform compounds and high productivity.

COOLING SYSTEM

Superb cooling system design and the absence of hot spot points ensures uniform batch temperature control without localised heat build-up situations.

FEED HOPPER

Large steep charging area for rapid feeding. Radius bottom floating weight to present maximum cooling and mixing surfaces to the compounds. Variable position, variable pressure, auto deceleration and air saving circuits available. Dust extraction hood fitted as standard. Charging door pneumatically operated.

END FRAMES

Manufactured in CAST STEEL, which are far stronger than Meehanite and fabricated types for use under high pressure, high rotor speed applications. Large dust seal areas for greater maintenance accessibility.

DUST SEALS

Sealing areas remote from rotor ends for improved performance under all mixing conditions.

DISCHARGE DOOR

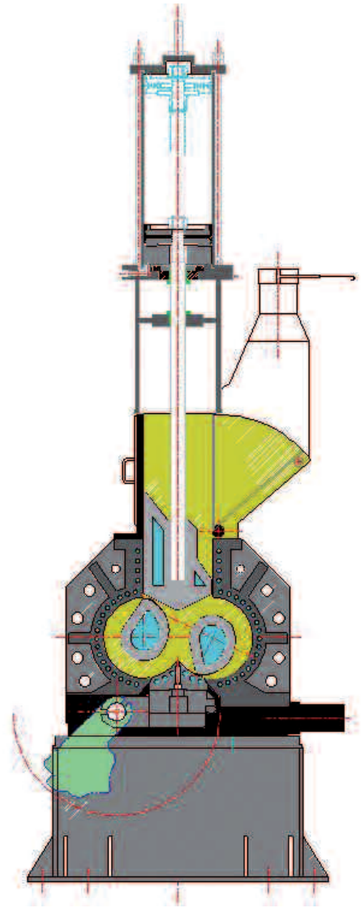
Manufactured entirely in steel for strength. Unique dual section designed door top ensures efficient batch dispersion and temperature control. Multi-cylinder Torqemaster type actuator fitted for fast discharge and closing cycles, without the maintenance problems associated with rotary vane type actuators.

BED PLATES

Various steel bedplate designs available to suit new or existing mixer positions.

OIL INJECTION

Various oil/liquid injection ports available in either the end frames, jackets (sides), or drop door top.



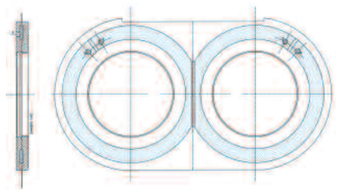
Heating / Cooling

Thermally efficient twin water circuit jacket sides, serpentine drilled to give full control over the chamber throat area.

Both floating weight and drop door complete with water circulation. Rotors with 'quick flow' water circuit, to give fast response to temperature changes.

Rotor wearplates with individual water circuits, to give controlled surface temperature, which also reduces temperature build-up at the dust stops. Thus making all surfaces which come into contact with compound fully controllable.

CARTER offers water tempering units made to suit each mixer size requirements. Steam or electric heating/water cooling, semi or fully closed circuits to suit customers' requirements.



The water cooled rotor end wear plates have been designed to minimise temperature build up and give extended life to dust seals.

Design

Construction

Easy access to working components can be gained and efficient system retrofits, upgrades and part replacements are available for a fast change over, should any component fail.

Large Capacity

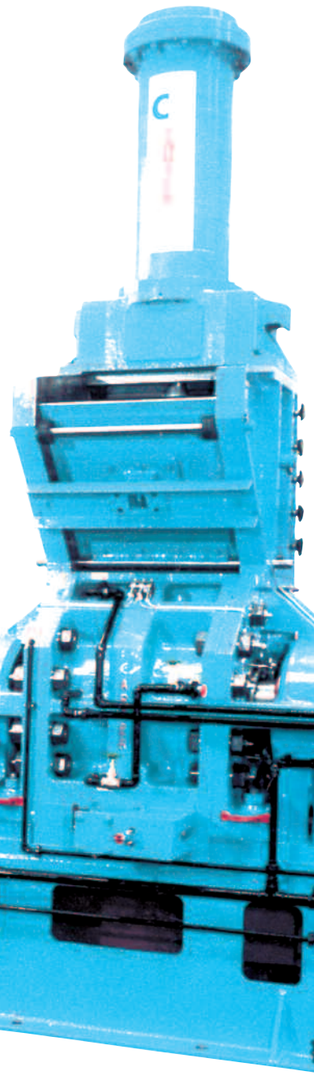
To minimise non-mixing time, a large feed opening allows rapid charge of all materials, wide sheets or of large quantities of powders, and a large drop door area reduces the difficulties of feeding downstream equipment.

Durability

To maximise the life of the components and minimise maintenance, all working components are engineered from high-tensile materials. Furthermore, all rotors come pre-hard coated and chamber hard coating options are available to combat even the most abrasive of materials.

Basic Specification

- Most sizes interchangeable with tangential body parameters.
- All mixers have hydraulic hinged drop door and latch.
- Large hopper throat for ease of feeding.
- Hopper door: Hydraulic or Pneumatic.
- Floating Weight: Hydraulic or Pneumatic.
- Alternative dust seal arrangements.
- Direct Drive or uni-drive gearbox.
- D.C. or A.C. Motor specification to suit customer i.e. Pipe Ventilated, C.A.C.W. etc.

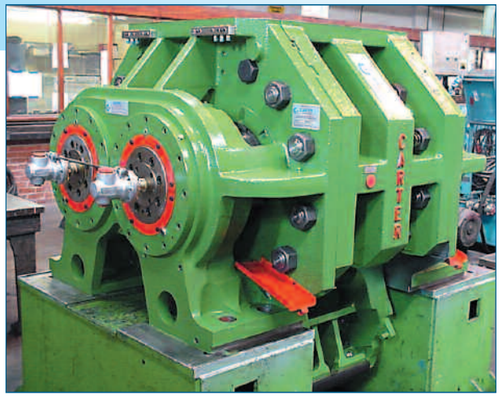


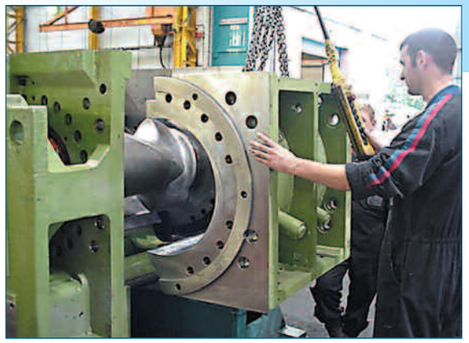
New and Refurbished Body Unit Exchange Facility

In addition to the manufacture of new mixer body units Carter offer a wide range of service exchange and reconditioned units.

A complete overhaul and modernisation of existing mixer body units can be incorporated with the most efficient and advanced Carter technology.

All new parts fitted, i.e. rotors, end frames, jackets (sides), drop door (gate) supports are manufactured to standard dimensions from heavy duty cast steel to ensure interchange ability with existing production line components.





Plant Installation and Turnkey Projects Worldwide

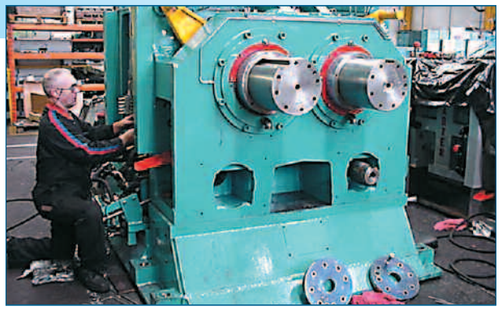
Carter have a vast experience of turnkey projects throughout Europe and in the expanding markets of the major Far Eastern producers, as well as the new developing regions of China and the Pacific Rim.

An experienced team of professional advisors, installation and commissioning engineers actively oversee the operation, from initial drawing office planning to final supervision of installation and monitoring commissioning runs.

Reliable Support and Maintenance

The support service structure within Carter is well established and maintains first rate specialist engineers around the clock providing prompt rapid reaction to immediate customer needs.

Long-term massive investment in key components and spare parts ensures a continual smooth running of all types of internal mixers and ancillary equipment.



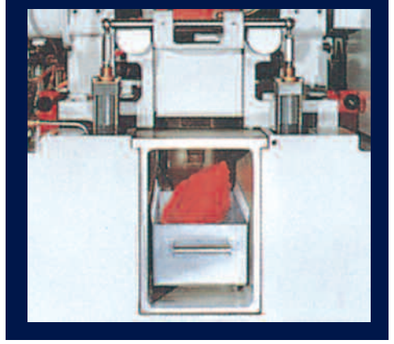
DESIGNED TO DELIVER OPTIMUM DISPERSION, QUICKLY AND EFFICIENTLY FROM EXPERIMENTAL COMPOUNDS TO SCALED PRODUCTION TRIALS.

Carter's commitment to product and service excellence means an in depth understanding of the requirements of an industry where change and new developments are constantly on the horizon.

That's why a continuous policy of refinement and development of our entire range has resulted in a new breed of internal laboratory mixers.

UNIQUE DROP DOOR DISCHARGE SYSTEM

- CLEAN, QUICK, SAFE DISCHARGE
- IMPROVES PRODUCTION
- BUILT IN SAFETY
- FULL METRIC SPECIFICATION
- DRILLED JACKETS/SIDES



Simple to operate and highly efficient, this new range of metric laboratory mixers gives you that competitive edge; putting you in the driving seat when it comes to developing new compounded and processing the most complex of plastic and rubber formulations.

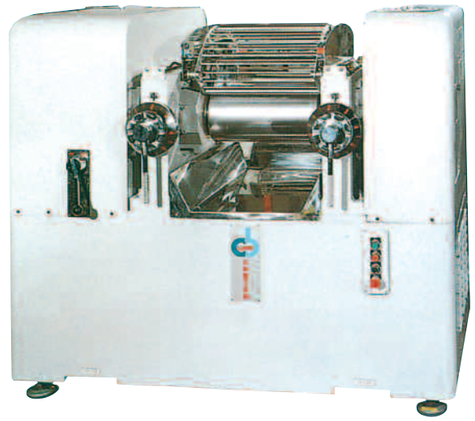
The unique Drop Door Discharge system not only gives you additional features for improved operator safety, it also streamlines production by being easier to clean.

Built to exacting standards of an all steel construction and metric specification, the renowned quality of a Carter mixer affords you the opportunity to mix for today with machines designed for the future.

LABORATORY MILLS

Carter's wealth of expertise and technical ability is evident in their range of versatile Laboratory Mills.

Suitable for both rubber and plastic compounds these sturdy compact units are designed to make the most of valuable floor space and maximise operational cycles by efficient temperature control systems. Standard features include even and friction speed selection, pneumatically operated scraper gear, automatic lubrication and full operator safety system.



OPTIONAL EXTRAS

- Single electrically heated oil temperature control units for both rolls to be maintained at the same temperature.
- Dual electrically heated oil temperature control units for accurately maintaining both rolls at different temperatures.
- Variable speed rolls.

Available in two sizes
6" x 13" (152mm x 330mm)
9" x 18" (229mm x 457mm)

DRIVE SYSTEMS

The range of 1.5 and 4 litre Laboratory Mixers are all fitted with variable speed AC Drives allowing the user to process the widest range of polymers.

In addition, the laboratory mixer control system can be fully integrated into a state-of-the-art computer control system. This feature allows control of the total mixer cycle enabling batch performance analysis with full data logging facility. Each mixer batch is provided with a full process status report for total accuracy and accountability.

LABORATORY MIXER SUPPORT

Carter International support all makes of laboratory mixers and mills with their team of specialist service engineers. Service contracts are available ensuring optimum mixer performance at all times.