

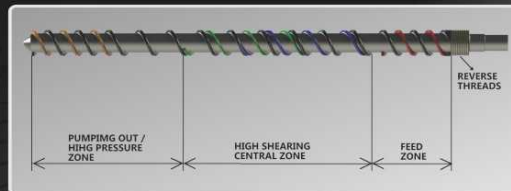
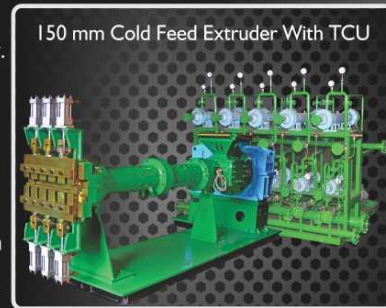
BAINITE

SINGLE SCREW COLD AND HOT FEED RUBBER EXTRUDER

Bainite make screw type rubber extruders are popular in rubber processing industries for highest output, continuous mixing, and consistent extrudate quality. We have hot feed extruder or cold feed extruder with suitable die head (like cross head, tube head, single or multiple tread heads upto 1250mm width, strainer head, or roller head) for your choice of application. Bainite offers duplex or triplex extruder for tire tread and side wall extrusion.

Salient Features & Benefits

- Designed for 24x7 operation and automatized - minimize your labor.
- Screws, made in alloy steel for better strength, are designed with biting features at the feed zone for homogenous mixing, accurate throughput and porosity free compounds.
- Screws completely heat-treated or stellite on the working surface for wear protection ensuring long-life, trouble-free and smooth running.
- Liners are either nitrided, case carburised or bimetallic in construction and is of wet design for efficient heat transfer.
- Solid barrels with spiral cuts at inner diameter also ensures efficient heat transfer.
- Design and material technology of the die head is adopted to withstand 700 bar max. pressure - eliminates any porosity, free of blisters or bubbles.
- Specially designed feed-roll assembly reinforces positive strip feed - giving you a leakage-free clean machine operation.
- Quick and effortless installation/shifting/relocation possible due to single base.
- Special Cold Feed Extruders designs available for feeding the Calender.



Hot Feed

Bainite make Hot Feed Extruders (L/D of 4:1 to 6:1) are economical choice for applications like treads and sidewall, pelletizing, strainers etc. Pre-heated rubber using cracker and warmer mill is fed into these extruders. A variant of this type is used as dump extruder below internal mixer in which screws are larger in diameter and a ram pusher is used for feeding dump.

Plain Type Cold Feed

Bainite make plain type Cold Feed Extruders finds applications in tubes, hoses, cable coating, bicycle tyre tubes, etc. The barrel is constructed in two or three sections depending upon L/D ratio. These are fitted with replaceable, hardened and wear protected liner for durability. The screws are critically designed to have gradually reducing pitch and flight depth in the central zone. Mixing of 2/3 different layers of compound flowing on different screw flight paths, facilitates high shear uniform mixing that gives you consistency in the homogeneity of the mixed rubber compounds.

Pin Type Cold Feed

Bainite make pin type Cold Feed Extruders have rows of pins radially inserted in barrel that divides the flow of rubber. Pins extend to the screw core and flights paths are discontinuous. This design causes high shearing zone (Central Zone) and creates different layers of rubber. These layers then mix with one another and results in well mixed uniform layer of compound.

The screw's special design involves a 6 or 8 flight start (with axial and radial tapering) at the feed section to impart a cutting action on the rubber strip. This reinforces positive feed towards central zone. The screw is of forged alloy steel and nitrided after machining on a special thread milling machine. The entire screw is ground smooth finish in working area and is centrally bored for water circulation (temp control). They carry threads at rear end to prevent the material flow in backward direction.

Our CFEs are fast replacing 2 or 3 warming mill setup together with Hot feed extruder. Please contact us for a economical solution. Output of CFE is also higher compare to HFE for same size screw.



Feed Roll Assembly

Feed roll assembly is of box type design that can be effortlessly removed/reinstalled without disturbing feed hopper. It help in positive feeding of rubber strips. The feed roll is positively driven from screw by inter connecting gears. The roll section can be opened manually or hydraulically for cleaning and maintenance. Both ends of feed roll surface is grooved to prevent rubber reaching the bearing and thus avoids any premature failure. An adjustable scraper blade is provided for continuous roll cleaning.



Head Profile

Bainite adopts latest flow simulation software to ensure that all die-heads are designed to have smooth flow of compound - spread in all directions under proper pressure and speed to eliminate any porosity. This, in turn, ensures that the final extrudate product are free of blisters or bubbles.

Screw Concentricity

Bainite recognizes that with screw having a cantilever design, there is possibility of screw tip area scoring against the barrel inner surface. Hence, particular attention is given so that the thrust bearing housing in the gear reducer output assembly is designed to ensure concentric alignment with respect to barrel inner bore across the length of the screw.

Screw Removal

Effortless screw removal is possible manually without any hammering through a special tooling attachment that is supplied along with the extruder.

COLD FEED EXTRUDER (PIN TYPE)	MODEL	CFE 75	CFE 90	CFE 120	CFE 150	CFE 200	CFE 250
	Screw Diameter (mm)	75	90	120	150	200	250
	Screw Length (L/D) <small>For Feeding Calendar</small>	12	12 to 14 12	14 12	16 12	16 12	16 to 18 12
	Screw Speed (r.p.m) <small>For Feeding Calendar</small>	40	Up to 60 45	Up to 50 35	Up to 50 28	Up to 35 20	Up to 25 17
	Motor Rating (KW) <small>For Feeding Calendar</small>	30	75 40	110 70	210 100	350 180	500 300
Capacity (ton/hr)	2 to 3	3.5 to 4.5	0.6 to 1.2	1.2 to 2.0	2.5 to 3.5	4 to 4.5	
HOT FEED EXTRUDER	MODEL		HFE 3.5"	HFE 4.5"	HFE 6"	HFE 8"	HFE 10"
	Screw Diameter		90	120	150	200	250
	Screw Length (L/D)		5	6	6	6	6
	Screw Speed (r.p.m)		Up to 60	Up to 60	Up to 60	Up to 60	Up to 60
	Motor Rating (KW)		22	60	75	150	210
	Capacity (ton/hr)		2 to 3	5 to 45	1.0 to 2.0	1.5 to 2.0	2.5 to 3.0



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