

Internal Stirring Agitator

single and twin screw feeders

Because not every ingredient, flow rate, storage and process application is the same, Brabender Technologie offers a complete range of feeders.

Selection Criteria

The Internal Stirring Agitator, single and twin screw feeder is chosen where:

- the ingredient responds best to an internal stirring agitator (determined by test or experience);
- all stainless steel contact parts are required;
- ingredient temperature is above 80°C continuous;
- some special explosion proof motors are required.

The Design - Features and Benefits

- The large inlet dimension into the agitated hopper helps ensure no bridging in the extension hopper.
- Agitated hopper has vertical front/rear sides to maximize screw exposure to ensure screw is completely filled.
- Independent motor driven internal stirring agitator above screws ensures consistent agitation, even when screw speed is reduced.
- Several sizes of extension hopper, some are offered with vertical shaft stirring agitators.
- 304 stainless steel contact parts.
- AC motors with Woods Etrac variable frequency drives.
- For Loss-in-Weight control, the feeder is mounted on a scale with digital IDL-For DigiMASS-2 single load cell.

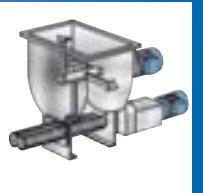
TWIN SCREW FEEDER
(extension hopper removed)
Large dimension inlet into agitated hopper. Two motors, one for the screw and one for internal stirring agitators.



SINGLE SCREW FEEDER
(extension hopper removed)
Large dimension inlet into agitated hopper. Two motors, one for the screw and one for the internal stirring agitator.



TWIN SCREW FEEDER / INTERNAL AGITATION



Feeder empties completely and can have Easy Clean Access Plate. With screw below the agitator, the feeder can be emptied completely by running the screw.



Internal Stirring Agitator

Single Screws

Diameter Size Range - 1/2 inch to 8 inches

Single Spiral Screws - These are the most common selection because they offer a very small surface contact area to the ingredient. Flow is smooth, low shear (reduced particle size degradation), and little ingredient build-up on screws.

They can be modified with center rods (for added strength for longer screws or bulk density above 90 lbs/cu.ft.). When reduced diameter screws are used, poor flowing ingredients need trough agitation to reduce the chance of bridging in screw trough.

Single Blade Screws - These are used for floodable ingredients to add more resistance to flow. Also, the screw is structurally very strong.

Twin Screws

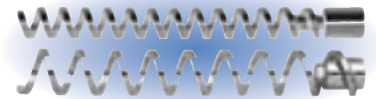
Diameters Size Range - 12 mm (smallest twin screw manufactured), 20, 40, 60, and 80 mm.

Twin Concave Screws - These screws are used for powders only due to small clearance between screw trough and tube. Twin concave screws produce high resistance to flow. The advantage of this screw is normally for feeding low rates (less than 10 lbs/hr. of poor flowing and sticky powders). The reasons for the twin concave's good success are:

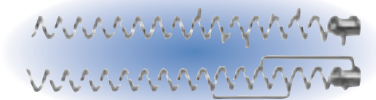
- The large inlet into screws reduces possibility of bridging in screw trough.
- Screws are self wiping, ensuring that the flight volume remains constant, hence maintaining accuracy.
- The flow of particles from the screws is in small quick pulses. This occurs since the screws have a low flight volume and are turned at high speed compared to single screws.

Twin Spiral and Twin Blade Screws - These offer the large inlet into the screws and since they are 180° out of phase with each other, the flow is smoothed (small, quick pulses).

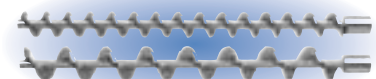
Single Screws



Single Spiral Screws

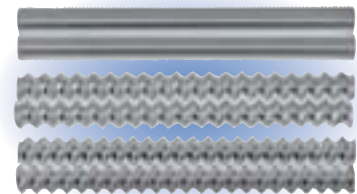


Spiral Screws with Trough Activation

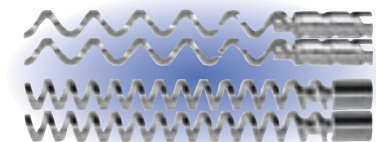


Single Blade Screws

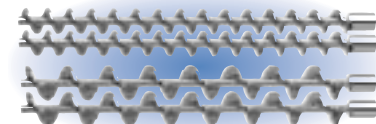
Twin Screws



Twin Concave Screws



Twin Spiral Screws



Twin Blade Screws