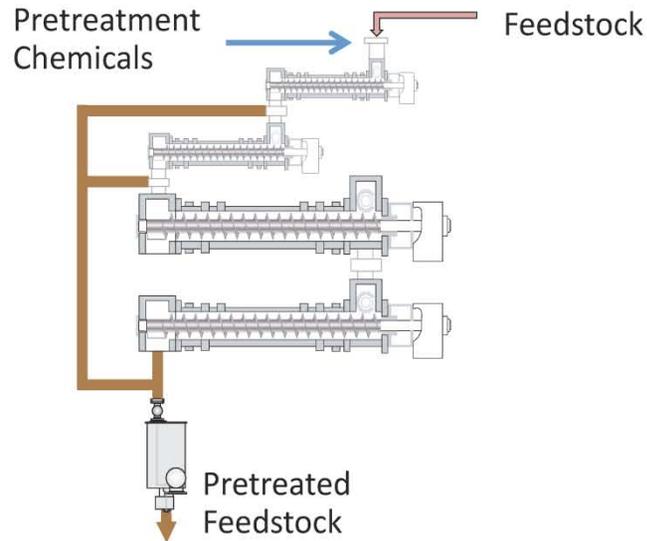
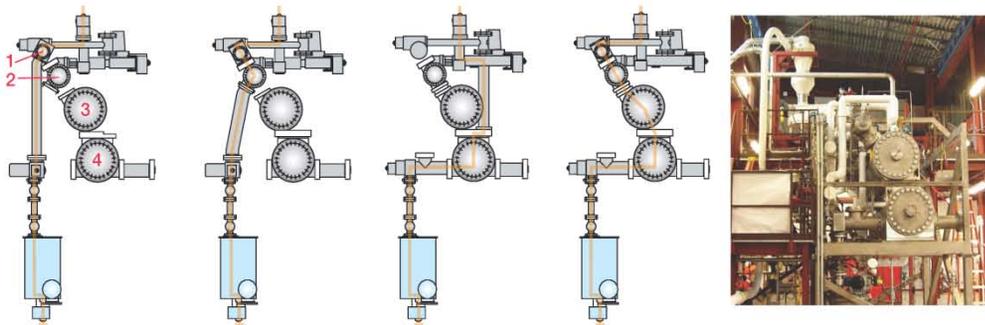


# Biomass Pretreatment Reactor System

*Versatile pretreatment system for a wide range of pretreatment chemistries*



- Different pretreatment chemistry/ residence time combinations are possible using these multiple horizontal-tube reactors
- Each tube is indirectly and directly steam heated to temperatures of 150°C to 210°C
- Residence time is varied by changing the speed of the auger that moves the biomass through each tube reactor



- Tubes are used individually or in combination to achieve different pretreatment residence times
- Smaller tubes made from Hastelloy, an acid-resistant material, are used with more corrosive chemicals and residence times from 3 to 20 min
- Larger tubes made from 316 stainless steel are used for residence times from 20 to 120 min