



high tech in PTFE-extrusion



### The extruding procedure with Ramextrudern

The Ramextrusion serves prior the production of profiles in PTFE. The profiles can be manufactured endlessly and cut by the continuous extruding on each length. The basic material, which ptfе powders brought consolidated into an extruding pipe heated on sintertemperatur and. At the same time with the compression the Extrudat is reforwarded by the extruding pipe and comes out at the end as finished profile suitable for the subsequent treatment.

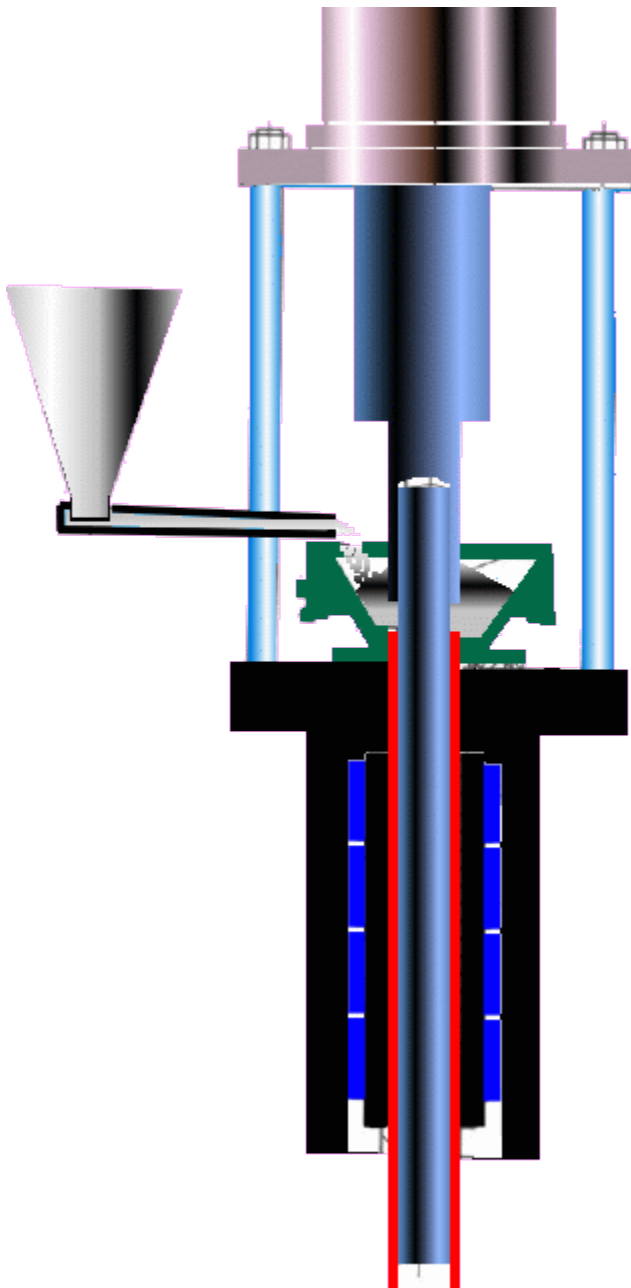
The ramextrusion is suitable for rods, tubes and other different profiles. Beside PTFE it is possible to extrude materials like for UHMW PE as well as their Compounds. CommonTec RAM extrusion is characterised by high-quality mechanical engineering and innovative control and automatic systems. Most advanced control and safeguards methods guarantee a maximum of precision both with the pressing procedure as well as in the sinter zone. Pressure and speed governors let the pressing process adjust individually to the respective profile. The temperature zones can be adapted to the respective requirements separately steplessly. Speeds, pressures and temperatures in the individual zones are continuously supervised and regulated. In order to ensure a continuous quality, once determined profile data can be stored and reused.

### Das Extrusionsverfahren mit Ramextrudern

Die Ramextrusion dient vorrangig der Herstellung von Profilen in PTFE. Durch die kontinuierliche Extrusion können die Profile endlos hergestellt und auf jede Länge geschnitten werden. Der Ausgangsstoff, das PTFE-Pulver wird in ein auf Sintertemperatur beheiztes Extrusionsrohr eingebracht und verdichtet. Gleichzeitig mit der Verdichtung wird das Extrudat durch das Extrusionsrohr weiterbefördert und kommt am Ende als fertig zur Weiterverarbeitung geeignetes Profil heraus. Die Ramextrusion eignet sich sowohl für Vollstäbe als auch für Rohre und sonstige Profilformen. Neben PTFE eignet sich das Extrusionsverfahren ebenso für UHMW-PE sowie deren Compounds.

Die CommonTec Ramextruder zeichnen sich durch hochwertigen Maschinenbau und innovative Kontroll- und Regeltechnik aus. Modernste Regel- und Überwachungsmethoden garantieren ein Höchstmaß an Präzision sowohl bei dem Pressvorgang wie auch in der Sinterzone. Druck und Geschwindigkeitsregler lassen den Pressvorgang individuell auf das jeweilige Profil einstellen. Die Temperaturzonen können getrennt stufenlos den jeweiligen Erfordernissen angepasst werden. Geschwindigkeiten, Drücke und Temperaturen in den einzelnen Zonen werden kontinuierlich überwacht und geregelt.

Um eine gleichbleibende Qualität zu gewährleisten, können einmal ermittelte Profildaten abgespeichert und wiederverwendet werden.



**CommonTec Ramextruder**

*to meet the customers needs*

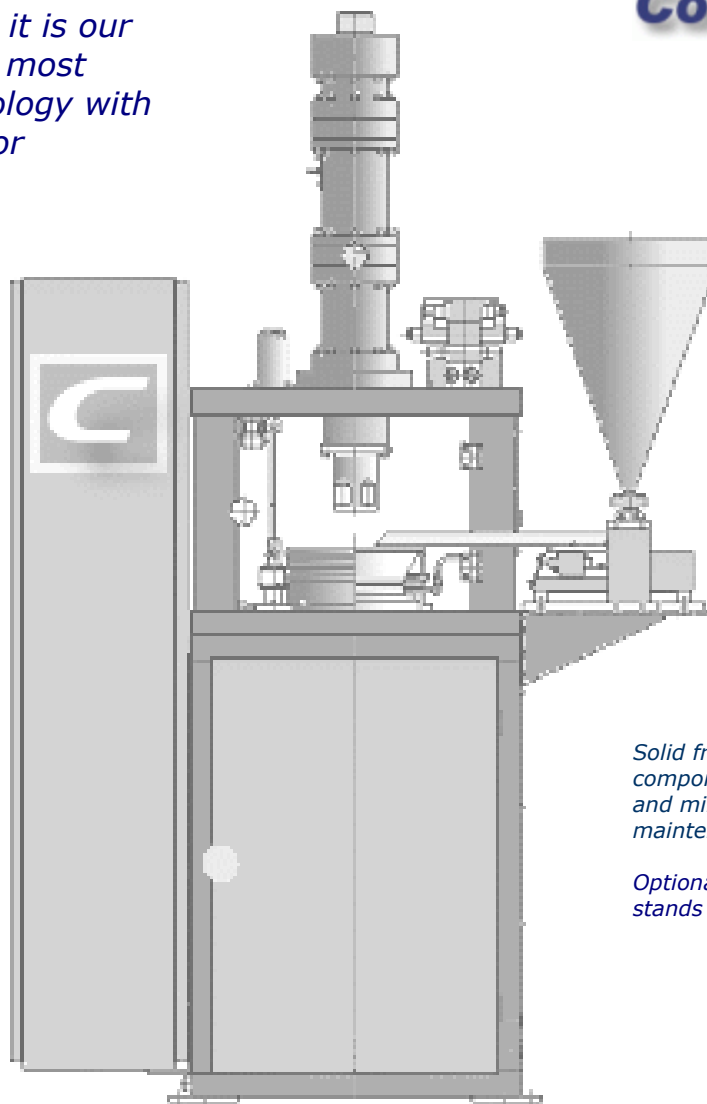
*With the development of the extrusion machines the high claim of quality was the center of our attention. Also it is our goal of uniting most modern technology with optimum sensor technology.*



*Most advanced control system for heating units, extrusion stamp, remote control, data logging or video monitoring.*

*Different PLC and PC-Systems available.*

*Powerful and high effective hydraulic unit with proportional technology and heavy duty press cylinders in highest precision*



*Different feeding systems available. CommonTec offers also complete lines of prefeeding and handling.*

*Solid framework and heavy duty components for a long lifetime and minimized costs of maintenance.*

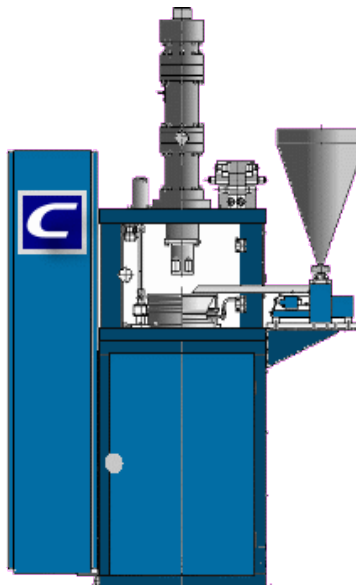
*Optional customized frames and stands*

*Very effective cooling system*

## Advantages of CommonTec Ramextruders

- Heavy duty design for long life span
- PC supported setup and maintenance saves unproductive times
- Constant high quality of the products through permanent sensing of the extrusion process
- Economical consumption of cooling water through thermostatic valves and optional automatically by sensors
- Connection possibility for a heated/cooled mandrel, especially for the manufacture of large thick-walled tubes.
- Uniform an exact dosing through vibratory dosing balance and optional dosing scale
- Possibility of stepwise extension to a complete automatic manufacturing system through modular construction
- Lower compressive force and careful processing in tube extrusion through movable mandrel
- Max. product quality through adjustment of the back pressure by means of special brake and permanent measure of the extrusion pressure.
- Wide range of extruder types for the different materials like PTFE, PE\_UHMW, polyimide and recycling material (chips of wood, coconut fibers, straw - growing raw material with polymer)
- Big range of additional equipment like different saws, feeders,brakes and handling systems
- Control systems of the latest technology possible with graphic display and interface to the PC
- For customized frames CommonTec offers also just the extrusion block with all necessary components. Let us know what you need.

# CommonTec Ramextruder



## Options

- Speed control** **S** All extruders are designed with proportional hydraulic valve for different speeds, like fast backstroke or slow extrusion speed. Optional to the manual speed control we offer processor controlled closed loop speed system. The speed system can be programmed with speed profiles like ramp, unlimited speed steps and „soft stops“. This gives you the opportunity to handel the powder carefully and as result the optimized extrusion and best quality.
- Pressure control** **P** In addition to the to the speed control, the extrusion process can also be optimized by a pressure control system. With not correct pressure ratios the pressure control valve intervenes correcting in the speed governor
- Heating controll** **H** The Heating system ist controlled by 3-point controllers for each heating zone. To optimize the extrusion process and for an optimum of product quality we offer a stepless PWM control system with fuzzy logic.
- Feeding system** **F** The powder feeding is regulated by a manual vibration feeder. Optional we offer automatic dosing scale to feed the the precise quantity. In particular with fully automatic function this option saves the constant monitoring of the extruder
- Remote control** **R** For mulitple extruders or a machine park we offer a remote control system for the central control station. All extruders can be connected to thisstation. All signals will be controlled and logged from office or other central place on a server. The parametric work can be handled from this server. The connection can be realized for example via RS485, CAN-Bus or LAN. Also can in case of LAN-connection the complete production be controlled via Internet.
- Data logger** **D** For the quality assurance those extruders can be equipped with a data recording systems. The data logger is a software solution to record continusly all nessecary datas. In particular the data logger facilitates the check concerning the ISO9000. All datas can be saved on a server or printed on a local printer.
- Cooling system** **C** The cooling system of all CommonTec Ramextruders are equipped with thermostatic valves. For the most effective consumption will be controlled by electronic sensors inside the frame

Model	Range Diameter	Compressive Force	Heating Zones	Rod	Tube	Options					
						S	P	H	F	R	D
CER075-050	3..75mm	50kN	4	X	-	-	-	-	-	-	-
CER075-075		75kN	4	X	-	O	O	O	O	-	-
CER075-100		100kN	4	X	-	O	O	O	O	O	O
CER075-150		150kN	4	X	O	O	O	X	O	O	O
CER100-075	3..100mm	75kN	4	X	-	O	O	O	O	O	O
CER100-100		100kN	4	X	-	O	O	O	O	O	O
CER100-150		150kN	4	X	O	O	O	O	O	O	O
CER100-200		200kN	4	X	X	O	O	X	O	O	O
CER200-150	3..200mm	150kN	6	X	X	O	O	O	O	O	O
CER200-200		200kN	6	X	X	O	O	O	O	O	O
CER200-300		300kN	6	X	X	O	O	X	O	O	O
CER200-400		400kN	6	X	X	O	O	X	O	O	O
CER300-300	3..300mm	150kN	8	X	X	X	O	X	O	O	O
CER300-400		300kN	8	X	X	X	X	X	O	O	X
CER300-500		500kN	8	X	X	X	X	X	O	O	X
CER300-750		750kN	8	X	X	X	X	X	O	O	X
CER400-300 <sup>3)</sup>	3..400mm	300kN	8	X	X	X	X	X	O	X	X
CER400-500 <sup>3)</sup>		500kN	8	X	X	X	X	X	O	X	X
CER400-750 <sup>3)</sup>		750kN	8	X	X	X	X	X	O	X	X
CER400-1000		1000kN	8	X	X	X	X	X	O	X	X
CER500-500	3..500mm	500kN	8	X	X	X	X	X	O	X	X
CER500-750		750kN	8	X	X	X	X	X	O	X	X
CER500-1000		1000kN	8	X	X	X	X	X	O	X	X
CER500-1500 <sup>3)</sup>		1500kN	8	X	X	X	X	X	O	X <sup>1)</sup>	X <sup>2)</sup>

- = not available O = optional X = in series

- 1) Server for remote control included
- 2) Data logger in Server included
- 3) worldwide „on side setup“ included

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