

## Technical Data Sheet

Pyrum Innovations® Recycling Unit  
incl. some additional equipment



Last update: 02.2019

### I. Technical Data of Pyrum® Thermolysis Unit

Pyrum Innovations® 5.000 to/a unit = 1 module	
Main characteristics	
Annual mass flow rate (granulate)	5.000 to/a
Hourly mass flow rate (granulate)	650 - 1.000* kg/h
Granulate size spectrum	3 - 15 mm
Hours of plant operation	7.800 h/a
Size of unit incl. Steelwork and stairs	11 m x 9 m x 25 m
Operation mode	continuous shift operation
Operating temperature	350 - 750°C (input depending)
Gas engine exhaust	according to Euro 4
End products quantities (depending on input material)	
Pyrum coke average	266 - 380* kg/h
Pyrum oil average	350 - 500* kg/h
Pyrum process gas	84 - 120* kg/h
Area requirements / storage capacity	
Technical Equipment	4.000 m <sup>2</sup>
Storage areas for End products	min. 1.000 m <sup>2</sup>
Granulate Storage	min. 70 to
Oil Storage	min. 40 m <sup>3</sup>
Gas Storage	min 15 m <sup>3</sup>
Environment and climate data	
Max. outside temperature	50°C
Min. outside temperature	-20°C
Max. temperature inside building	40°C
Min. temperature inside building	minus 10°C
Humidity max.	90%
Altitude of factory	< 300 m above MSL
Cooling water	25°C
Earthquake zone	none

\* depending on granulate size. The smaller the granulate, the higher the capacity of the unit.

The above mentioned data for one 5.000 to/a rubber granulate unit has the worst performance of all our processes. In order to increase the capacity of the Pyrum thermolysis unit there are the possibilities to use other input materials or an additional 5000 to / a unit. The capacity of a Pyrum Thermolysis factory can be increased in 5.000 to/a steps. The advantages of this modular principle are outstanding: Less maintenance requirements, perfect redundancy, the possibility of processing various input materials at once... and many more.

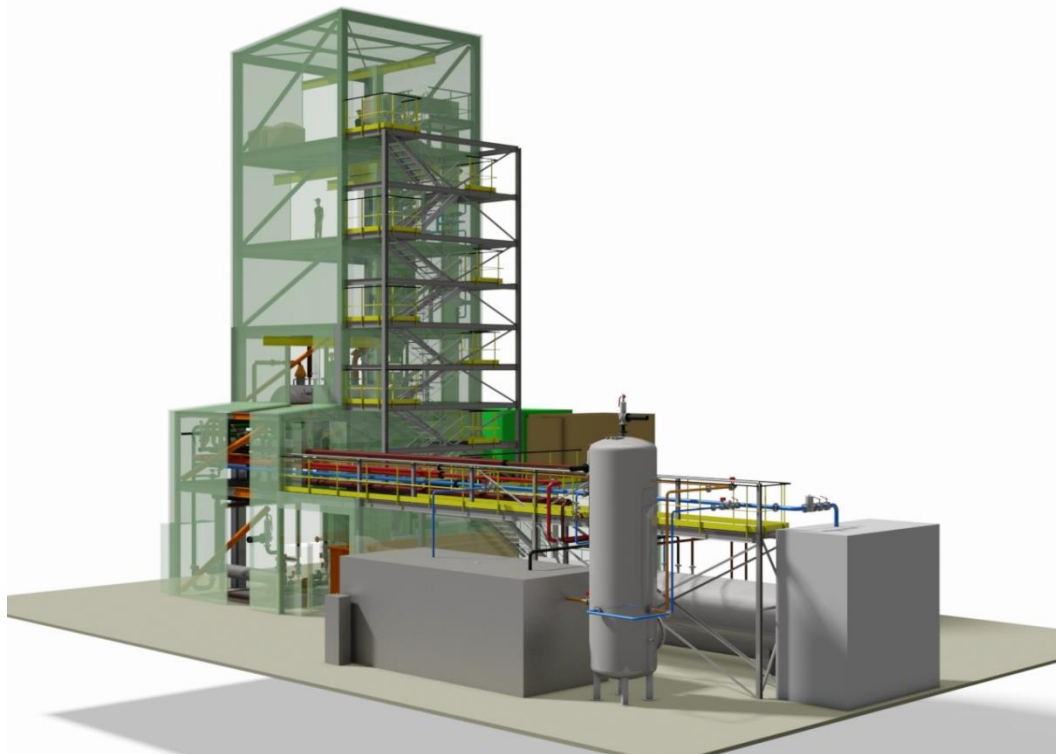
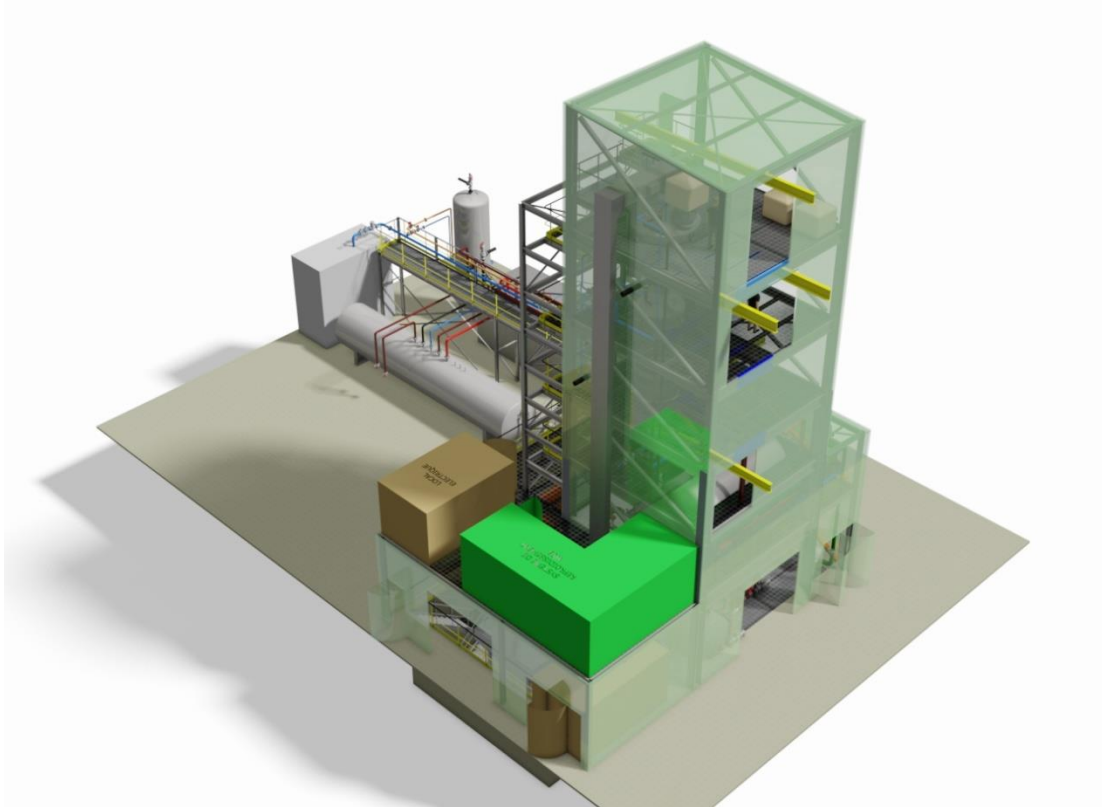


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incl. some additional equipment



### Plan of the Pyrum® Thermolysis 5.000 to/a Unit



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Ust-IDNr.: DE262048646  
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Supported by:



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### II. Shredder Unit for Granulate Production, Steel and Fiber Extraction

- All calculation are based on the following operation hours (a 24h operation is also possible):

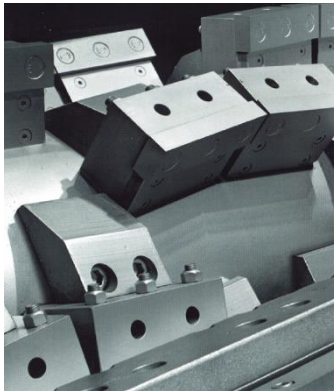

Operating hours			
	Rotor Cutting Mill	Granulators	Fine Cutting Mill
hours/day	6	14	16
days/week	5	5	5
days/year	250	250	250
hours/year	1500	3500	4000

- Technical Data of Rotor Cutting Mill:

Rotor Cutting Mill UC1300		
	Truck Tires	Car Tires
Hourly input capacity	6 to/h	6 to/h
Max. diameter	1.200 mm	-
Tractor tires (precutted/occasional)	1.600 mm	-
Max. tire width	300 mm	300 mm
Average weight 1 unit	63 kg	8 kg
Output material	ca. 50 x 100 mm	ca. 50 x 100 mm
Drive capacity	2 x 57 kW	
Voltage	400 V, 50 Hz	
Weight	23 to	
Packaging (not incl.)	7 x 40" container	

Granulator UG1600 S / UG1000 H	
Input material	ca. 50 x 100 mm
Hourly input capacity	3,5 to/h
Output material (rubber)	20-25 mm / 10-12 mm
Output material (steel)	12-25 mm
Drive capacity	117,5 kW / 167,5 kW
Voltage	400 V, 50 Hz
Number of knives (rotor)	40 / 30
Number of knives (stator)	8 / 5
Construction material	Hardox 400, 450
Weight	23 to / 19 to
Packaging (not incl.)	7 x 40" container

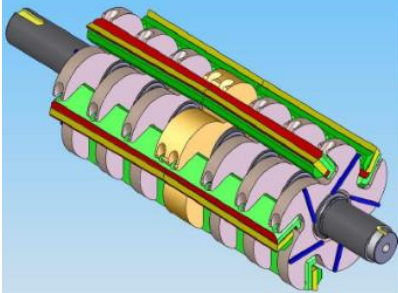



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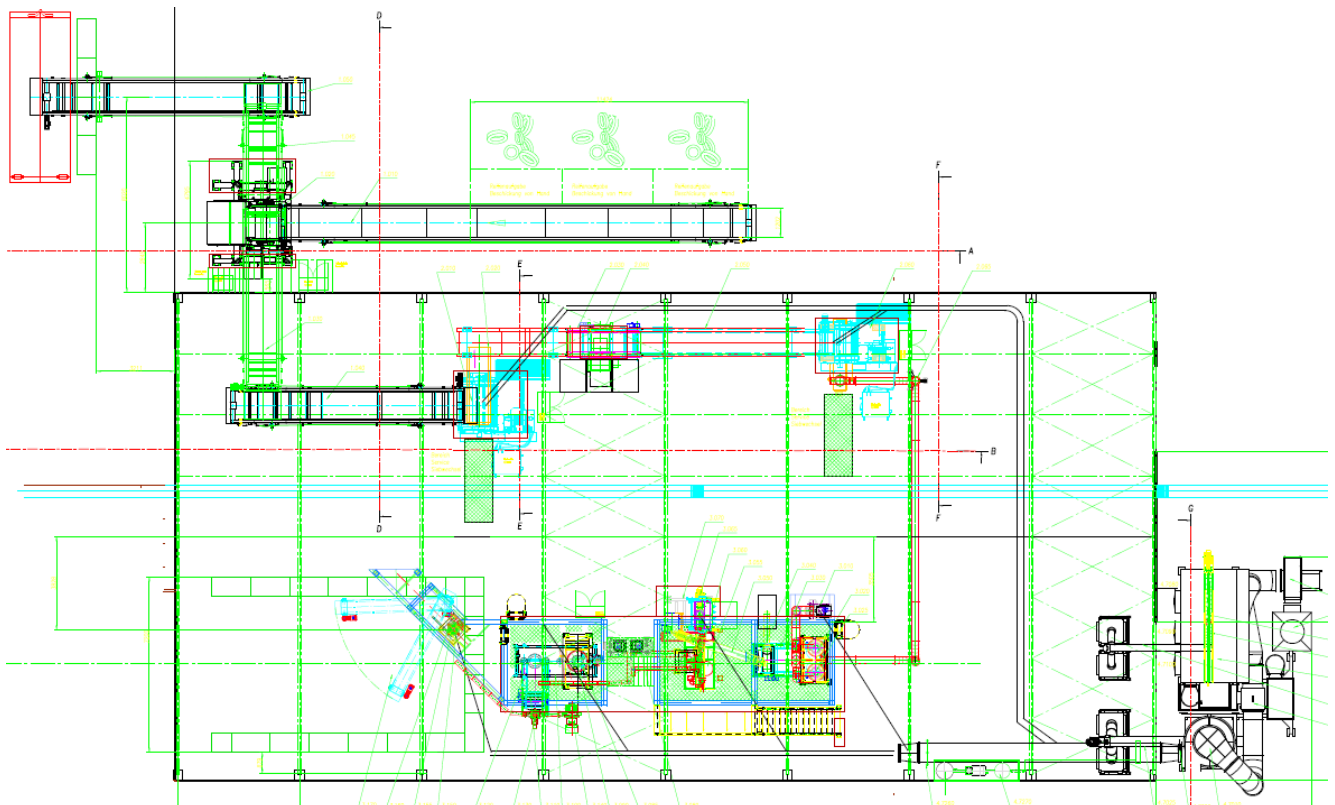
Fine Cutting Mill USM1000	
Input material	10-12 mm
Hourly input capacity	1-1,5 to/h
Output material (rubber)	< 6 mm
Output material (steel)	< 6 mm
Drive capacity	112 kW
Voltage	400 V, 50 Hz
Number of knives (rotor)	10
Number of knives (stator)	4 + 2
Construction material	Hardox 400, 450
Weight	5 to
Packaging (not incl.)	1/4 x 40" container

Output Purity		
Fractions	Truck Tires	Car Tires
Purity rubber fraction	95 %	95 %
Purity steel fraction	98 %	98 %
Purity fiber fraction	98 %	98 %

Output Quantity		
Fractions	Truck Tires	Car Tires
Average rubber fraction	70 %	65 %
Average steel fraction	25 %	20 %
Average fiber fraction	5 %	15 %

○ Plan of Shredder Unit (top view)



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### III. Cogeneration Unit

Cogeneration Unit		Exterior View
Format	40" container	
Total weight	38 to	
Length	12.192 mm	
Large	2.438 mm	
High	2.591 mm	
Output Electric Power	400 kW	
Output thermal energy	500 kW	
Output Voltage	230/400 V	
Frequenzy	50 Hz	
Engine		Interior View
Manufacturer	MAN	
Type	E 2842 LE322 V12	
Input	Pyrum process gas	
Noise emissions	45 dB (A) at 10m	
Thermal Efficiency	50,40 %	
Electrical Efficiency	39,30 %	
Total efficiency	89.7 %	
Number of cylinders	V 12	

### IV. Air Compressor

Air Compressor		Exterior View
Technical Data		
Type	GA 11- FF + tank	
Aspiration pressure	1 bar	
Engine power	11 kW	
RPM of engine	2.910 min-1	
Max. power consumption	12 kW	
Min. power consumption	2 kW	
Air temperature (output)	25° C	
Noise ISO 2151	60 dB (A)	
Output pressure	5,5 - 12,75 bar	
Input voltage	400 V	
Frequenzy	50 Hz	
Size	1.245/710/1.240 mm	
Weight	300 kg	

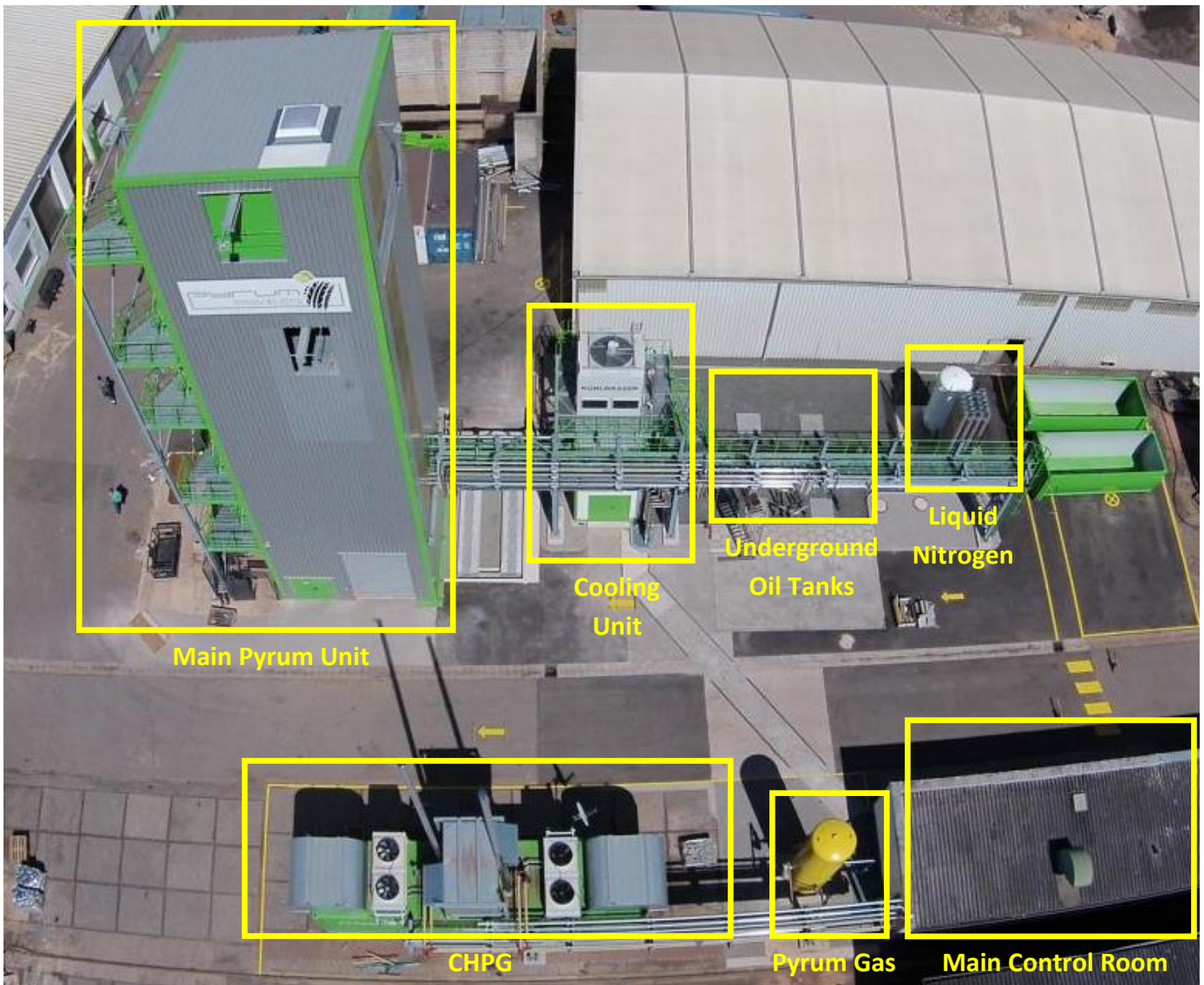
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### V. Example of a Factory

- 5.000 to/a Unit (Dillingen/Germany)



For more details please visit: [www.pyrum.net](http://www.pyrum.net)

or

write to : [contact@pyrum.net](mailto:contact@pyrum.net)