



CTS ultralight composite cylinder



COMPOSITE TECHNICAL SYSTEMS

CTS

thirty years experience



CTS was formed to utilize thirty years of experience of its founders in the field of pressure vessels and has developed and perfected a totally innovative know-how.

CTS is a structure and an organization capable of grasping the global opportunities that the composite materials sector has to offer in the field of pressure vessels.

CTS has developed an innovative technology for the production of new types of type 4 composite cylinders with an ultralight liner made of PET (polyethylene terephthalate) and a much higher impermeability to gases (40 to 100 times more resistant than HDPE), containing the costs and increasing product reliability. This technology has been developed starting from type 1 cylinders (made of steel or an aluminum alloy) and has gradually evolved into types 2 and 3 (with a structural metal liner), and finally into Type 4 cylinders.

CTS has patented at international level, a very reliable and cost-effective system to produce this kind of new PET liner.



the product

new kind of type 4 high pressure cylinders

The company produces ultra-light composite cylinders (carbon-fiber-reinforced with an epoxy resin matrix) using a new technology protected by international patent filed.

features

Pet liner blown thermoplastic polyester
(up to 100 times more impermeable than the HDPE currently being used by competitors)

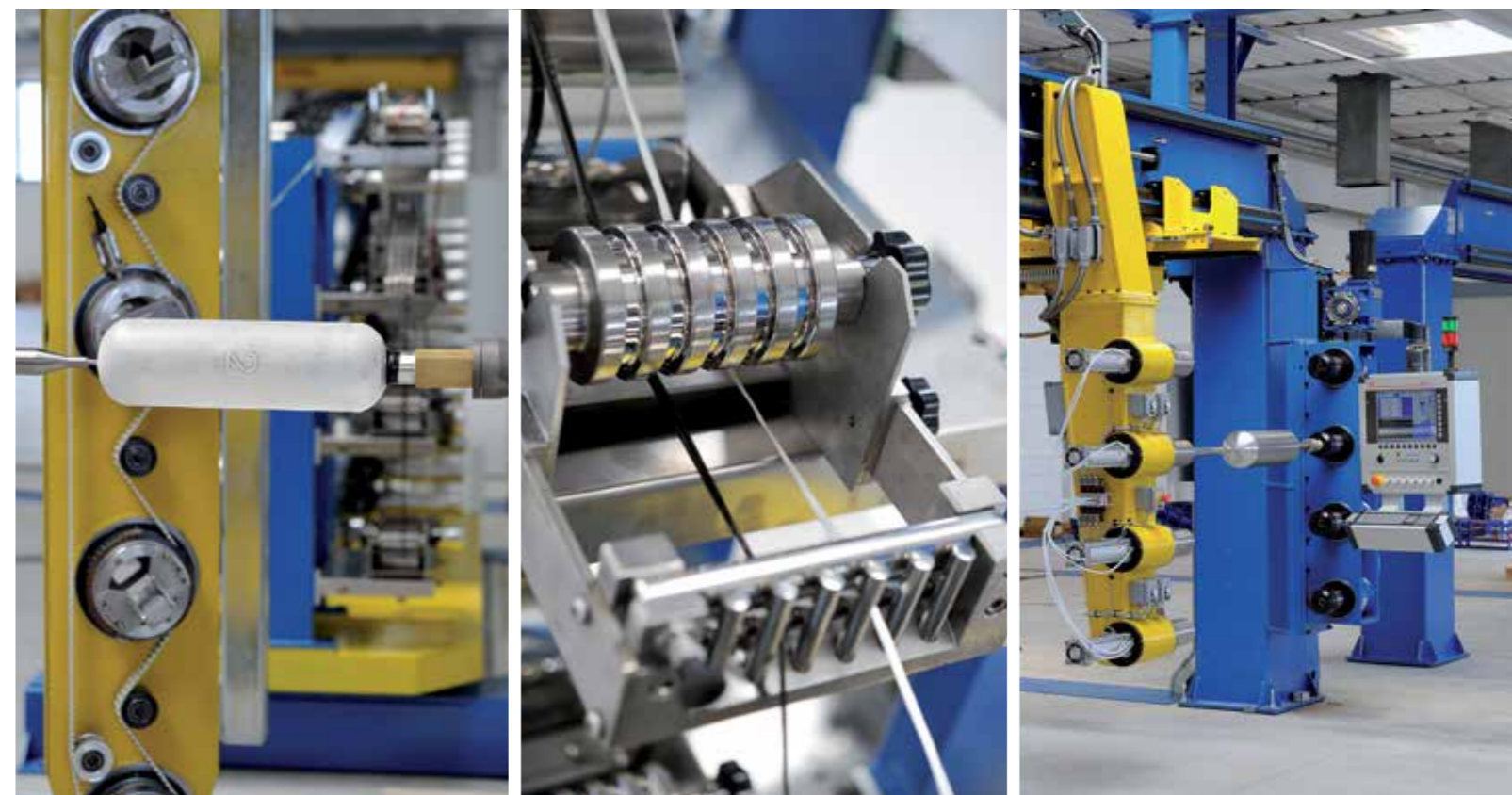
Boss made of Stainless Steel or Aluminium equipped with O-RING

Carbon fibre whit epoxy resin (for maximum resistance)



the manufacturing process

- Custom-built machinery
- Automated production line
- Quality control
- “Just in time production” and no need to setup again
- High flexibility
- Small quantities
- Laboratory with its own certification system



a wide range to suit every need

use and advantages

The volumes of the cylinders range from a minimum of 2 litre up to a maximum of 9 litre.



technical details

Fully wrapped composite cylinders for fire breathing apparatus

TYPE	PART NUMBER	INTERNAL VOLUME	SERVICE PRESSURE	DIAMETER	LENGHT	WEIGHT	THREAD SIZE	SERVICE LIFE
Name	Code	Litre	Bar	mm	mm	Kg		Years
CTS ULTRALIGHT 2L	02002	2	300	105	366	0,9	M18X1,5	Unlimited
CTS ULTRALIGHT 3L	03002	3	300	115	425	1,2	M18X1,5	Unlimited
CTS ULTRALIGHT 6,8L	068002	6,8	300	158	510	2,9	M18X1,5	Unlimited
CTS ULTRALIGHT 6,8L PLUS	072002	7,2	300	158	530	3,0	M18X1,5	Unlimited
CTS ULTRALIGHT 8L PLUS	084002	8,4	300	171	538	3,9	M18X1,5	Unlimited
CTS ULTRALIGHT 9L	09002	9	300	180	538	4,0	M18X1,5	Unlimited



Lightweight

the lightest cylinder of the market, approximately 30% lighter than an aluminium liner cylinder, 5 times lighter than a steel cylinder.



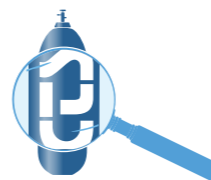
Durability and Performance (unlimited life)

according to en12245 cts cylinders shall withstand more than 12000 cycles up to 450 bar!!



Impermeability

tests were conducted at temperature ranging from -50° C to +80° C with no observed losses.



Portability

the patent allows to design cylinders with the same external dimensions (same diameter and length of existing cylinders) having a higher capacity and less weight.



Corrosion

any corrosion related problem is over.



Maintenance

thanks to the design of the boss can be unscrewed, the thightness can be maintained over time replacing o-ring if needed.



Flexibility

thank to the flexibility of its production process, cts can produce just in time small lots of 10 pieces.