

# br5cs

### Thermoforming machines for vacuum forming





CMS is part of SCM Group, a technological world leader in processing a wide range of materials: wood, plastic, glass, stone, metal, and composites. The Group companies, operating throughout the world, are reliable partners of leading manufacturing industries in various market sectors, including the furniture, construction, automotive, aerospace, ship-building, and plastic processing industries. SCM Group coordinates, supports, and develops a system of industrial excellence in three large, highly specialized production centers employing more than 4,000 workers and operating in five continents. SCM Group: the most advanced skills and know-how in the fields of industrial machinery and components.

CMS SpA manufactures machinery and systems for the machining of composite materials, carbon fiber, aluminum, light alloys, plastic, glass, stone, and metals. It was established in 1969 by Mr Pietro Aceti with a vision of offering customized and state-of-the-art solutions, based on the in-depth understanding of the customer's production needs. Significant technological innovations, originating from substantial investments in research and development and take-overs of premium companies, have enabled constant growth in the various sectors of reference.

Cms plastic technology

CMS Plastic Technology makes state-of-the-art numerically controlled machining centres and thermoforming machines for processing plastic materials. The brand is the result of a winning synergy between the technical-industrial experience in thermoforming of the time-honoured Villa company, founded in 1973, and the milling know-how of CMS. Following constant investments in research and innovation, CMS Plastic Technology is known as the sole partner for the entire process from thermoforming and trimming to the manufacturing of models and moulds, to maximise productivity.

CMS Plastic Technology is the key player in many sectors, including automotive, aerospace, construction machinery, caravans, buses, railway industry and bathtub production.

### Scm@group a team of excellence





# br5cs

APPLICATIONS	4-5
BR5S	6-7
COMPONENTS	8-9
SOFTWARE	10-11
SERVICE	12-13
THE RANGE	14-15

a company of scm@group

## **APPLICATIONS**



mass transport | healthware and wellness | caravans | anitary ware



# The **IDEAL** thermoforming machines.

consumer goods | automotive | refrigeration





Thermoforming machines for vacuum forming

4

### **BR5CS TECHNOLOGY BENEFITS**

#### **IN-LINE THERMOFORMING**

The BR5CS series offers remarkably strong production capabilities and fully automatic operation with no need for interventions by the operator. The loading-forming-unloading cycle is carried out in-line on the BR5CS.

- Higher production quality and quantity
- Positive and negative moulding capabilities
- Safe and fast mould change
- Sheet preheating system to increase machine capacity, avoid thermal shocks and allow high-quality thermoforming even with problematic materials in a high-productivity environment
- Dimensions: from 1500 x 1000 mm to 2500 x 1600 mm

#### **KEY BUYER BENEFITS**

- + 53% shorter learning time by using simple and user-friendly software that manages machine parameters and includes programming wizards. All variables are saved in a single program for repeatable results, even after years.
- likelihood of rejects and 25% faster restart times.
- reduces the thermal shock to the material.
- + In-line machine design with toothed chain conveyor system. The sheets are automatically centred and transported with extreme precision. The thermoformed part is unloaded by resting on the edge of the workpiece and without ever touching the formed part (this solution is ideal for workpieces with significant negative drawing).



+ Intelligent heating management with thermal vision and advanced management using the exclusive CMS ThermoProphet function (patented). A thermal imaging camera allows point-to-point detection of the thermal impression of the sheet and automatically modifies the working percentages to guarantee the highest quality even in the presence of environmental variables. 55% lower

+ Productivity boosted by 33% by the preheating system that significantly reduces the cycle time. The use of the twin (upper and lower) preheating function allows the first part of the reheating cycle to be performed while the previous workpiece is cooling and also

## **COMPONENTS**

Cooling with telescopic taps



Quick mould changeover



Camp frame with automatic control



Electronic bubbling control



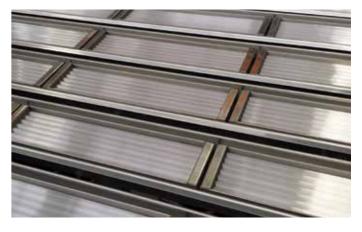
Optical pyrometer for monitoring heating and cooling

Quartz heaters





Mould carts with a mould lifting system



Ceramic heaters

### **SOFTWARE**

CMS SUPERVISOR	MAST	ER				
AMASTER (administrator)	PLC connected	Sheet 1300 x 800	Date: 06/09/2016 Hours: 09:13			
	[10.39.1.2]	Standard cycle	Production lot Total/produced pieces 0/0 Droductinity (parti/b)			
2 3 🛞 🛞 🐨		Erame for acrilic off				
Machine ON		Bubble on time	Productivity (pezzi/h) OFF # heat °C cool °C vacu Pause cycle			
		Standard ejection air				
Machine AUTO		Vacuum on mould slowing down				
000000	Input status	Plug assist OFF				
			Bubble height [mm] ¥acuum [bar			
		Second heating OFF	0			
	Output status	Upper heater backward delay OFF				
		Box cooling until end cycle OFF	388			
OFF CONTRACTOR		E Cooling end cycle OFF C				
WAITING COMMANDS						
Upper heater + Vacuum delay	+	+ Release delay + Sucker lift				
0" 90" - 0" 90" - 0" 5"		_ 0" <u>5</u> " _ 0"	0" 0FF 0FF			
Decompression 🛖 Bubble delay 🛖 ¥acuum		+ Release Sucker lift				
delay 0" 5" - 0" 5" - 0" 43"		- 0 53 h upward de	0"			
Decompression + Bubble	+ Cooling delay	+ Mould downward delay + Sheet separation	+ OFF ()			
	- 0" 5"	_ 0" <u>1</u> " _ 0"	0" -			
Sustain delay + Mould upward + delay	+ Cooling	+ Expeller	+			
0" 10" - 0" 2" -	- 0" 10"		0" —			
Sustain + +	+ Water mist delay	+ +	+			
	- 0" 5"		-			
Heating + Cooling + pyrometer delay +	+ Water Mist	+ +	+ Heating pyrometer +			
pyrometer delay 0" 10" - 0" 5" -	- 0" 999"		- 12.1°C 147°C - OFF			
Acrilic time + Upper heater + back delay	+	+ +	+ Cooling pyrometer +			
0" 10" - 0" 5" -	-		- 22.6°C 50°C - OFF			
	Sheet lo	ader Drives mm FRAME -3  MOULD 0				
	File in use D:	:\br3\ricette\TST2.br3				

#### Frame size changeover and electronic reduction plate

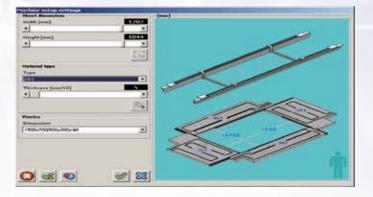
#### Synoptic system for simplified axis programming

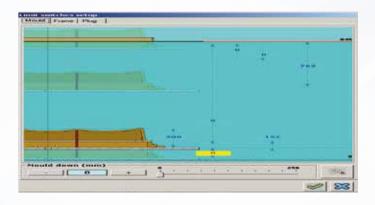
Programming is simplified by comparing the sheet dimensions to the heating oven

Variable heating power according to material temperature

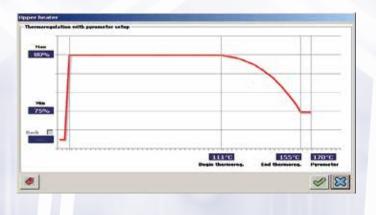
#### **MAIN SCREEN**

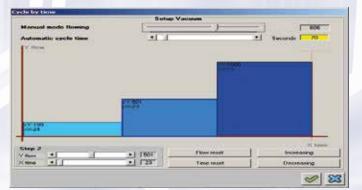
- User-friendly
- Touchscreen-ready
- Diagnostics, automatic cycle, process parameters, sensors and productivity parameters all on one screen
- Direct links to the set-up screens from the main screen





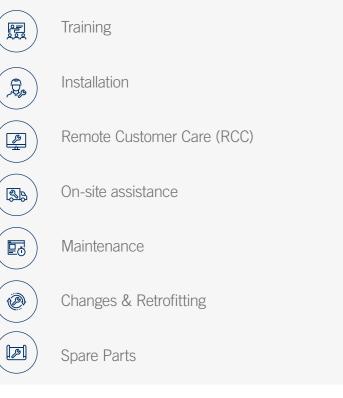
-	- 00	-	-	88	08	-000	-	-		-	-	-	
-	and in some little	The second	No. of Concession, Name	the state of the	1000	and the second	1.000	1000	1000	11111	1000	Concession in the	-
-	1000	States 18	-	and its	-			-	-		1000	1000	-
005	1000	1.981	-	-	-	and the		THE .	SPR-	ALC: NO.		100.00	-
08	COLUMN 2 IN	and the	ALC: NOT THE OWNER OF	and.	8.01		and the second		and the second second		1000	1000	-
SEX.	11000	A COLOR	1000	100		895		CON		Contract of	100	1.000	-
-	ALC: NO	-	1000	and a		400	-		and it	1000		and a	-
01	11980			1000		100			-	111	111	1000	
-	1.1.0	1000	-			100			4111	100	-	100	-
-	100.0			816		188	188				-	100	
-	1.110.0	-	- meth	and a	-	180	144	-			1955	1000	-
OR	1000				199	188	100	198			100	100.00	
-	11000	it creb il	1.000	1000	194	199	100	1.00	<b>INCOME</b>	1000	100	1001	-
UNE .	No. of Concession, Name	114 11	481	-	100	100	1100			-	-	10000	-
-	1000	CONT.	-		-	100	198					1000	
-	C. Common State	1000	445	and it	4.00	185			ereit	-	-	100	-
-	100.0	1000	8.18.		-			-			-	1000	
-	a demonstration		18.85	ALC: NAME	8.74		845	1000	1000			1000	-
08	1100.0	100 100	-	4.4		2012	Contract of		and a		-	100	-
-	0.000.000	1.000		1000	-	-		100	1.11	1000	100	1.00	-
108	11100	al seattle	1.8	100	8.64	841	ALC: NO	1000	and the	COLUMN TWO	STR. 134		-
-	A DESCRIPTION OF	1.000	100	100	-			100	are o	1000	100	1000	-
08	11000	-		1000		410	100	1000	100	I COMPANY	1000	and the second second	-
-	CONTRACTOR OF	11007	1100	and the Real Property lies, in such as the real property lies of the r	114.2	1000	ALC: NO.	1100.00	1000	1000	201000	100	-
-	100	-	-			188			-			-	-
Tele		58	A 1 1 1 1 1	Sale and	2.00	1	discharge.	1	-	Contract of	141		218







# **SERVICE** OUR TECHICIANS BY YOUR SIDE ALL OVER THE WORLD



# A GLOBAL PRESENCE FOR BEST-IN-CLASS SERVICE

- 36,000 different codes to serve machinery of all ages;
- 1 central warehouse at the headquarters in Zogno and 6 bases around the world fully integrated at IT level and controlled by a shipping optimisation software to reduce waiting times;
- 98% of orders available in stock;
- spare parts guaranteed thanks to a scrupulous control process and validation via our internal quality laboratory;
- availability to draw up recommended spare parts lists based on client needs, to reduce down time to a minimum;

# THE RANGE OF CMS PLASTIC TECHNOLOGY

# FOR PROCESSING PLASTIC MATERIALS



**BEAMS SAWS** 



HELIX

THERMOFORMING MACHINES



**EIDOS** 

BR5 CS



**BR5 SPECIAL SPA** 





**TECNOCUT PROLINE** 



T-MAXI

**BR5 HP** 



#### MASTERFORM



#### **TECNOCUT SMARTLINE**



C.M.S. SPA via A. Locatelli, 123 - 24019 Zogno (BG) - IT Tel. +39 0345 64111 info@cms.it cms.it

a company of scm@group