



# Changeover Active Control

for Smartconvey loading systems



- **C.A.C.** is an option available on conveying systems **Smart-Convey**
- **C.A.C.** is designed:
  - to meter the material loaded in the dosing system
  - to calculate the required material needed for each dosing station
  - to calculate the number of loading cycles which has been duly completed



C.A.C. has the scope:

- to *inform the operator* when the material loaded in each single dosing station is enough to complete the set-up job order
- to get the job order completed leaving the *lowest quantity of residual material in the hoppers*
- to *reduce extremely the time* needed for material changeover and blenders cleaning



the **operator** has to set-up:

- Job order amount or production batch for each extruder (if gravimetric extrusion control is not supplied)
- the percentage of each component
- the bulk density of each component

the **C.A.C.** software then is capable to meter:

- the actual quantity of material inside any hopper
- the actual quantity of material being used in each loading cycle

*For gravimetric hoppers, metering is performed in a gravimetric way. For non-gravimetric hoppers and receivers, calculation is performed on a volumetric way*



# CAC

## how does it works

the **operator** must switch from *“scrap mode”* into *“production mode”*

the **C.A.C.** software then:

- starts metering the quantity of material needed to be loaded to complete the job order
- when the total quantity of material has been reached, gives a *warning to the operator*

*The operator is just alerted ! ... then he is free to take any suitable action*



# CAC

## how does it works

The operator can choose which individual component has to be metered by the C.A.C system

During the production process, the operator can freely change the layers percentage or layers density or layers receipt.  
The C.A.C. software will calculate accordingly and just-in-time the up-to-date quantities of each component to be loaded.



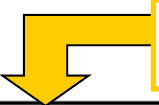
# CAC

# HMI

LOADING				11:19 Doteco
Lot to be produced (kg):	00000.0			
	A1	A2	A3	
Enabled	Yes	Yes	No	
Set (kg)	0000.0	0000.0	0000.0	
Loaded (kg)	0000.0	0000.0	0000.0	
Remain. (kg)	0000.0	0000.0	0000.0	
Cycle complet.	0000	0000	0000	
Cyc. remaining	0000	0000	0000	
Spec. weight (kg/dm³)	0.560	1.200	0.600	
	Reset	Reset	Reset	

MENU   Reset   Restore   Enter   <<

- **Production Batch (Kg)** (calculated by the software but suitable to be modified by the operator to compensate any eventual inaccuracy of the bulk density or any mistake on switching into the “production mode”), if gravimetric extrusion control is not supplied input is Set (Kg) for each extruder
- **Material already loaded (kg)** (monitoring)
- **Material to be loaded (kg)** (monitoring)
- **Loading cycles already done** (monitoring)
- **Loading cycles to be done** (monitoring)
- **Bulk densities** (amendable)
- **Loaded material reset**

EXTRUSION CONTROL 2			10:44:41 Doteco
Recipe: Recipe 1	Code: 001	TUBE	SHEET
Output	SP	PV	Status
Layflat Tube.....(mm)	<del>00990</del>	00990	
Trimmed Layflat.....(mm)	<del>00990</del>	00900	
Trim percent.....(%)		00009.1	
Film Density.....(g/cm3)	<del>001.000</del>	001.000	
Net Output.....(kg/h)	00674.4		
 <span style="border: 2px solid yellow; padding: 5px; display: inline-block;"><b>Scrap/Production mode</b></span>			
Trim	Scrap		
MENU	Alarms	Restore	Enter
		◀◀	▶▶

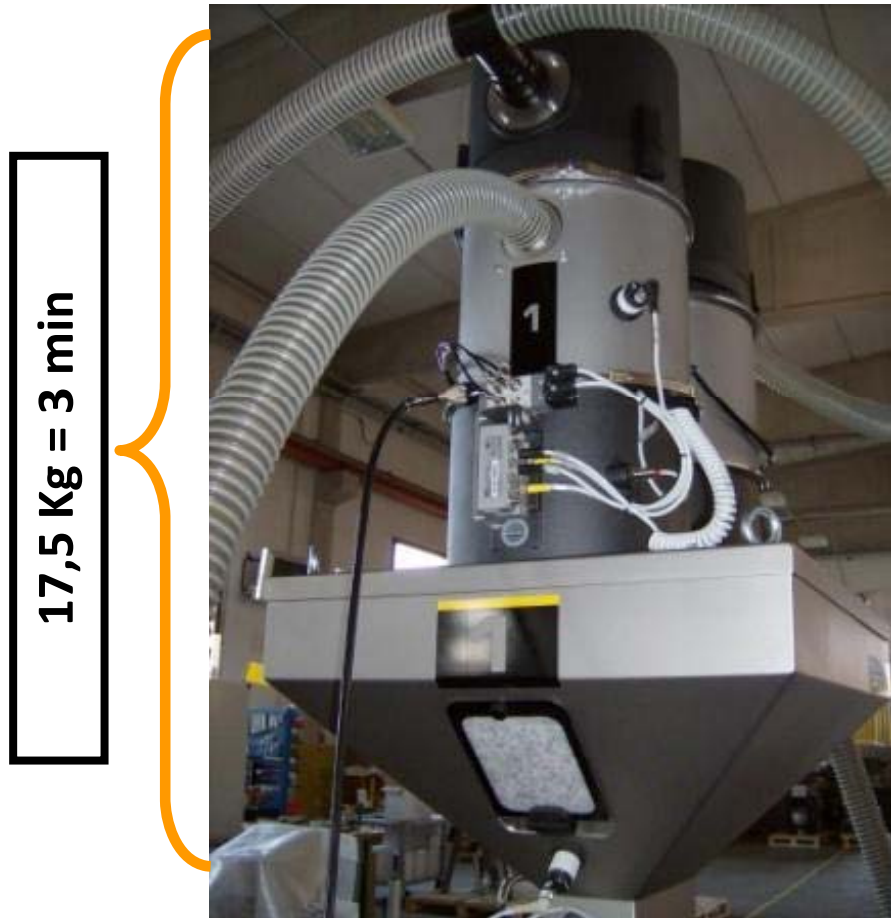




# CAC

## example of performances

material left in the blending system (blender + loaders)  
at the end of a job order



witout C.A.C.



with C.A.C.



# tested and certified quality

the 100% of Doteco systems are tested in the factory for a minimum of 24 h, in their operating conditions

for each system released, a test report is filled-up and filed, being always available

Rapporto di collaudo	
Rapporto di collaudo 1.7 20/04/2007	
Cliente	Commessa Doteco
PROVE CIRCUITO DI PROTEZIONE EQUIPOTENZIALE PE (NORMA EN60204-1 ED. '98) <input type="checkbox"/> Test di conformità all'impianto in tutti i punti previsti	
Eseguito da	in data
VERIFICA VISIVA MECCANICA ED ELETTRICA E REGOLAZIONE PNEUMATICA <input type="checkbox"/> Controllare che tutte le tramogge pesate non appoggino alla struttura <input type="checkbox"/> Taratura del regolatore di pressione dell'aria compressa a 6 bar (Grado K = 2 bar ed A = 2,5 bar) Taratura dei regolatori del cilindro tramoggia del batch e bloccaggio dei controdati	
VERIFICHE PROTEZIONI ED ALIMENTAZIONI ELETTRICHE <input type="checkbox"/> Verifica della presenza e del corretto dimensionamento dei fusibili di protezione <input type="checkbox"/> Regolazione della protezione termica della pompa di aspirazione e del mixer <input type="checkbox"/> Verifica della tensione primaria e secondaria del trasformatore <input type="checkbox"/> Verifica presenza protezioni elettriche <input type="checkbox"/> Verifica alimentazione modulo/i CM211 (GEC)	
IMPOSTAZIONE E CONTROLLI IMPIANTO <input type="checkbox"/> Personalizzazioni da direttore in rete <input type="checkbox"/> Codice software da oop gestionale. Per il download del software utilizzare i file pil della B&R presenti all'interno degli archivi. <input type="checkbox"/> Verifica delle comunicazioni seriali richieste <input type="checkbox"/> Inserimento parametri di base <input type="checkbox"/> Inserimento password <input type="checkbox"/> Peso batch da Batch Blender Designer	
TEST MANUALI INGRESSI ED USCITE ANALOGICHE E DIGITALI <input type="checkbox"/> Taratura celle di carico <input type="checkbox"/> Verifica corretto funzionamento ingressi digitali e corrispondenti attuatori (macchina e GEC) <input type="checkbox"/> Verifica corretto funzionamento uscite digitali e corrispondenti attuatori (macchina e GEC) <input type="checkbox"/> Verifiche corretto funzionamento uscite analogiche (macchina e GEC)	

