



formulaEditor

Problem:

Blast furnace process is very complex. A huge amount of parameters need to be evaluated to early highlight operators anomalous conditions of the process.

Solution:

formulaEditor, on-line, guarantees:

- an easy tool for blast furnace operative parameter calculation
- a powerful user friendly graphic editor for formulas
- a set of indexes and factors to visually follow the blast furnace operation



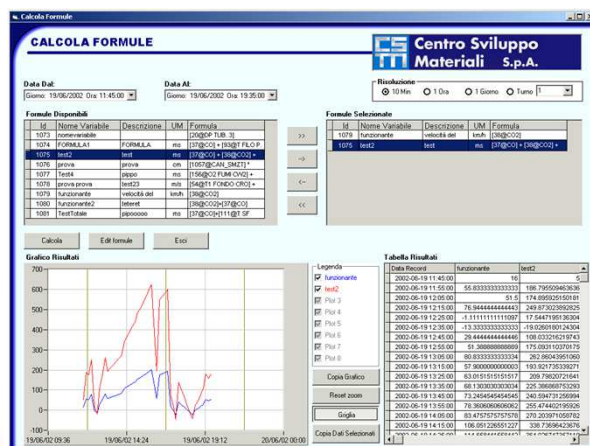
Throat

Shaft

Bosh

Raceway

Hearth

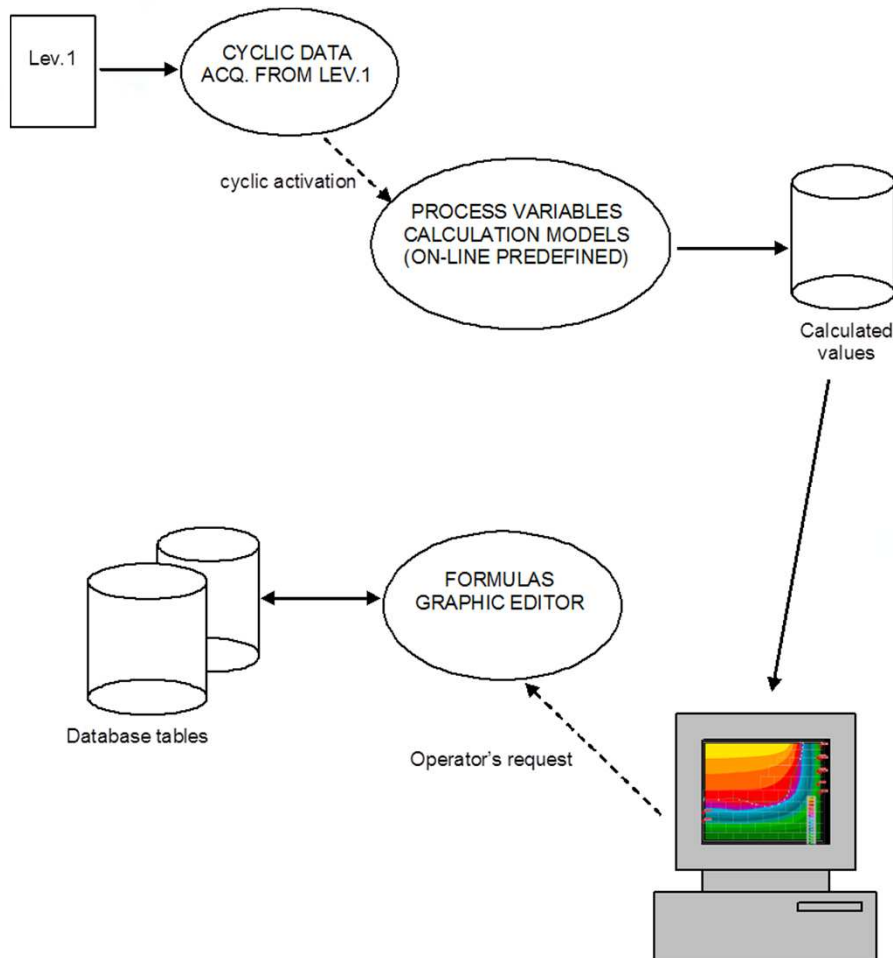


Benefits:

- On-line calculation of top gas, shaft, bosh and tuyeres main parameters.
- Gas volume and speed, CO&H₂ efficiency, thermal load index, partial and overall permeability factors, delta pressure, dry blast flow rate, oxygen enrichment, blast velocity, etc.

Industrial Arrangement:

L1 and L2 blast furnace process data available



Parameters on-line calculated:

tuyeres data: dry blast flow rate, oxygen enrichment, oxygen excess for additional fuel combustion, blast velocity, blast kinetic energy, raceway flame temperature

bosh data: gas volume and composition

shaft data: partial permeability factors, overall permeability factor, delta pressure, root of melting zone, shaft gas velocity, solution loss,

top gas data: gas volume, velocity, CO and H₂ efficiency, lower heating value, thermal load index