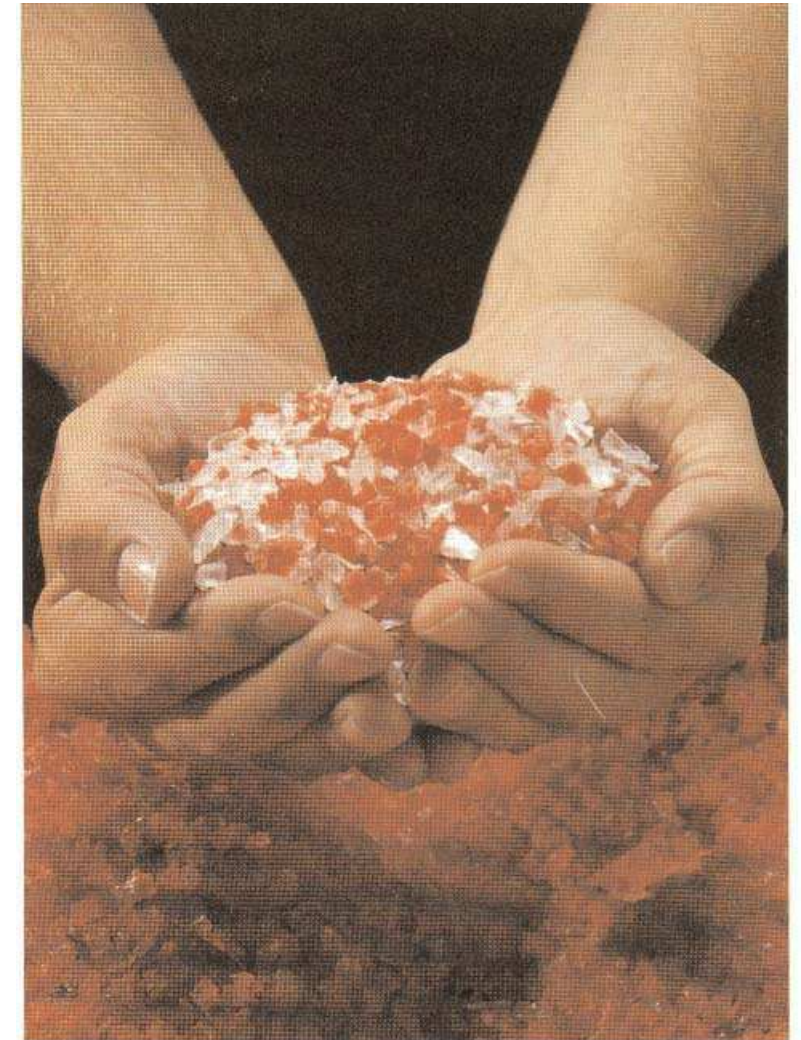


**Sampling:
From manual coincidence to
the representative sample.**



One of the leading chemists of our country recently observed that analyzing techniques have, by now, reached a point where the presence of almost anything could be proved beyond doubt - and that a high degree of certainty and accuracy. Hats off to such achievement because it widens our analyzing prospects and scope.

But, is this statement really as true as it sounds? And if it is, it doubtlessly applies to non - or pseudo-scientific areas.

The sampling situation looks a lot different as far as serious analytics are concerned. After all, the data and information obtained from such an analytic examination is based exclusively on a given quantity of substance acquired with the processes, which is, at best, rather little to rely on - milligrammes could already be of enormous size when it comes to analyzing.

This, however, is not what it's all about. What one already wants and has to know is the true makeup of existing quantities of the substance to be dealt with, regardless of its real nature, be it industrial base material or products, foods, water or air. In other words: no matter how sensitive the analyzing method and no matter how minute the sample required, it's all to the birds for as long as it is not absolutely certain that the quantity of sample really and truly represents an accurate and identical cross-section of its original source bulk under review.

So what really counts is the art of turning tons of original substance into milligrammes of identical makeup sample - in other words: The art of sampling. Anybody not mastering this art is bound to fail, even with the aid of most accurate and sensitive analyzing techniques - with or without computerized support, to produce any reliable data whatever.

The moral of the story: wrong sampling is inevitably resulting in wrong analytical data - even if the sample as such "appeared" to be identical with its original source.

Prof. Dr. G.Kraft, Kronberg/Ts.,
in the "Erzmetall"



If it's perfect sampling you are after ...

...SICON is the answer. Sampling is an art mastered by only a few world over. SICON has all it takes to make sure that sampling is in keeping with the requirements recommended by reputed analytics experts and set forth in applicable standard specifications, all of which ensure that samples obtained by way of the recommended and/or specified techniques are identical with their original bulk source.

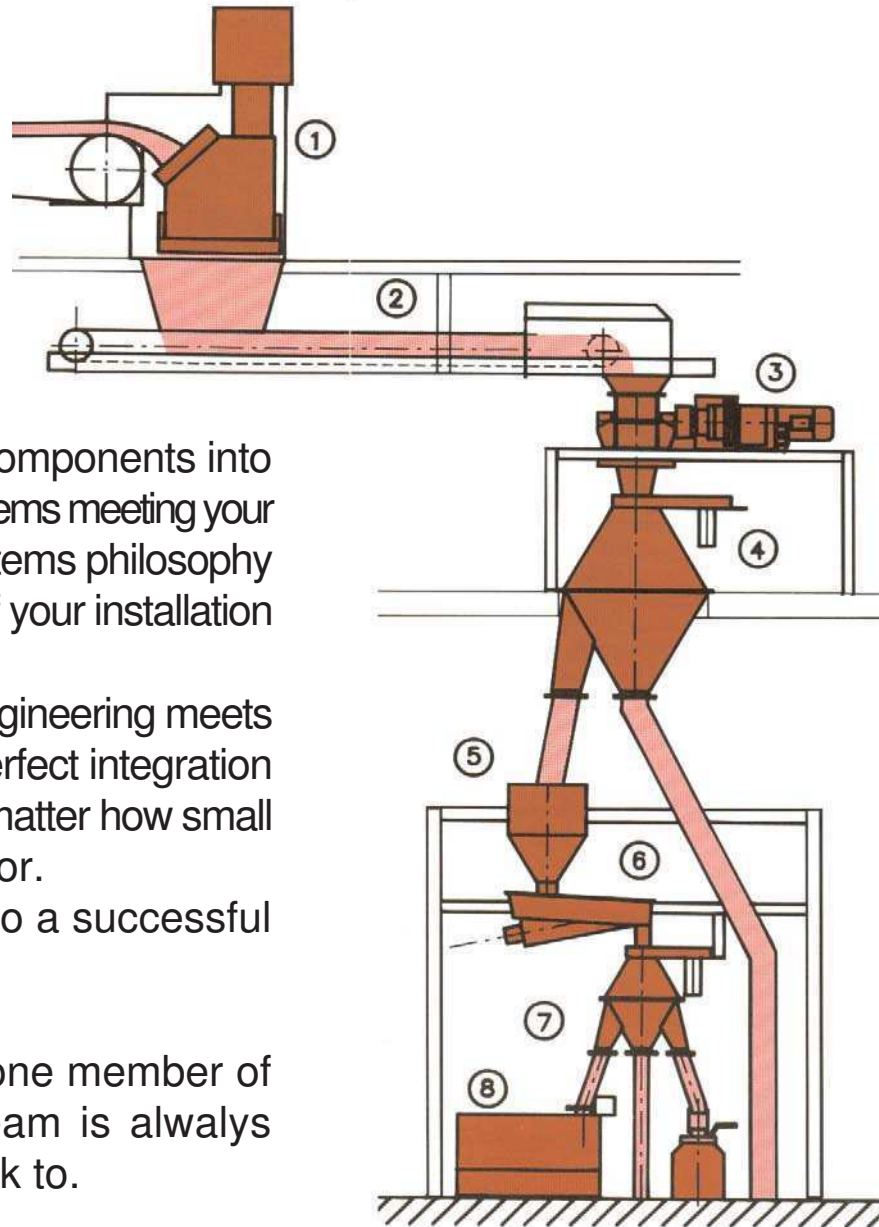
SICONs know-how stems from a world-renowned parentage: RETSCH Sample preparation & Analyzing Technology and RETSCH Anlagentechnik.

That's why all SICON-engineers are so perfectly familiar with your specific sampling-cum-analyzing requirements. True-to-original sampling is a real asset to your sampling-cum-production operations.

SICON systems and equipment are backed by references from satisfied users in 32 countries the world over. SICON-made sampling, sample preparation and sample transfer systems and equipment are primarily developed for and delivered to the bulk-handling and processing industries, i. e. ore, coal, cement, lime, gypsum, foods, feedstuffs, fertilizers, organic and inorganic substances, etc.



**Individual.
Automatic.
Representative.**



SICON combines Standard components into made-to-measure Sampling Systems meeting your requirements. The SICON systems philosophy provides for drastic reduction of your installation

Sicon application-orientated engineering meets any system requirement for perfect integration into your existing facilities, no matter how small or big and no matter what for. SICON turns any sample into a successful operating "exsample".

You may rest assured that one member of the SICON Engineering Team is always the right one for you to speak to.

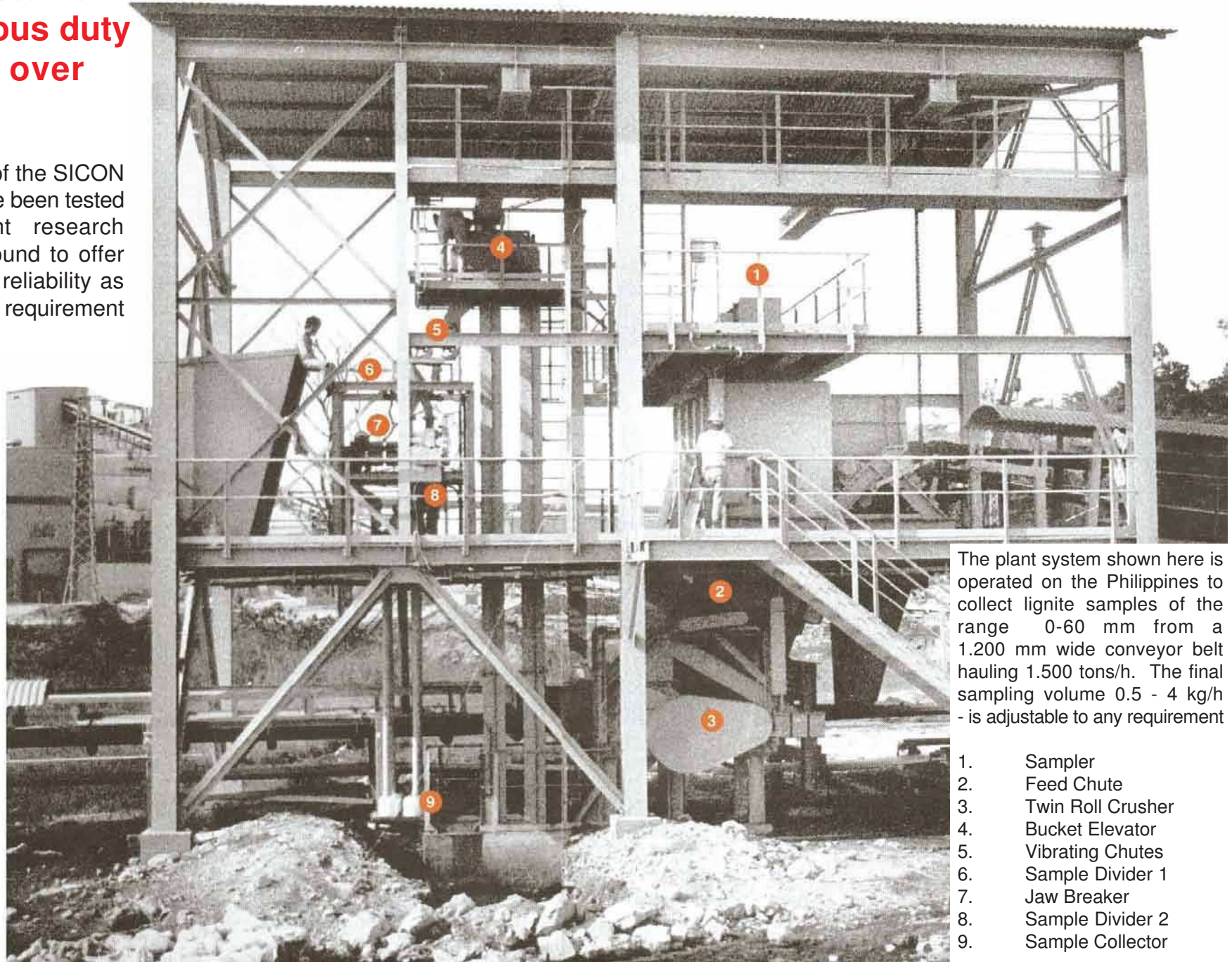
This diagram shows a system delivered to and installed in Belgium, with the following equipment items originating from the SICON Standard Programme:

- 1. Sampler
- 2. Conveyors
- 3. Twin Roll Crusher
- 4. Sample Divider 1
- 5. Collecting Tank
- 6. Vibrating Chute
- 7. Sample Divider 2
- 8. Sample Collector (Bottler)

This system is just one more of SICON custom-made Systems combined from SICON Standard components for maximum budget-price investment.

Exemplary: SICON-systems on continuous duty the world over

Many Systems of the SICON Programme have been tested by independent research institutes and found to offer an optimum of reliability as far as the major requirement



The plant system shown here is operated on the Philippines to collect lignite samples of the range 0-60 mm from a 1.200 mm wide conveyor belt hauling 1.500 tons/h. The final sampling volume 0.5 - 4 kg/h - is adjustable to any requirement

1. Sampler
2. Feed Chute
3. Twin Roll Crusher
4. Bucket Elevator
5. Vibrating Chutes
6. Sample Divider 1
7. Jaw Breaker
8. Sample Divider 2
9. Sample Collector

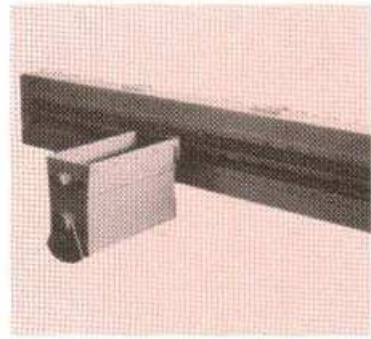
Exclusively SICON: Standard Components for sampling, sample preparation and transfer



SICON Samplers Typ LA oder SA

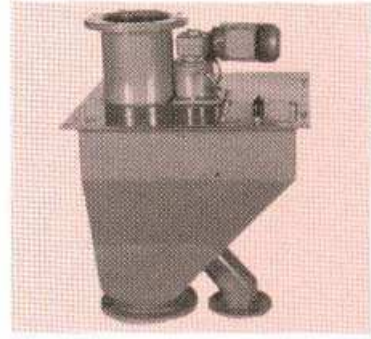
for use with Belt conveyors - width 2.000 mm max - at the point of dumping or transfer.
Operation: The sampling bucket passes through the material flow and collects a representative crosssection sample.

- Type LA - Sampling Bucket for particle sizes of up to 60 mm max
- Type SA - Sampling Bucket for particle sizes of up to 200 mm max



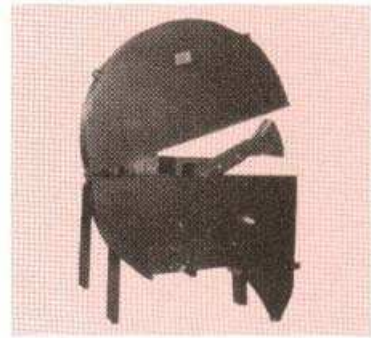
SICON Sampler Type SP 40

For use with Size ID 100-400 Gravity Tubes.
Operation: The take-off chute collects a representative cross-section sample.
Type SP 40 - for particle sizes of up to 50 mm. Pressure-containing Version available.



SICON Sampler Type HP

For use with Belt Conveyors - width 1.800 max. The sampling hammer passes through the material flow and extracts a representative cross-section sample. This is a particularly useful "above-belt" sampling unit for subsequent addition to existing systems.



Exclusively SICON: Standard Components for sampling, sample preparation and transfer



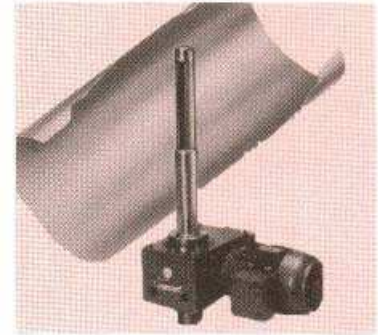
SICON Sampler Type PS

For sampling bulk material from hoppers, silos, bunkers, etc. Sampling worm screw for manual operation or electro-powered, with the sampled material directly fed into appropriate plastic, aluminium or specialty steel containers for subsequent processing.



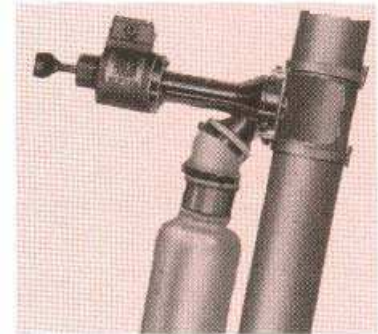
SICON Sampler Typ PD

Type PD 1 - for use with Gravity Tubes, Hoppers, Tanks, Silos, etc. Type PD 2 - for use with Airslide Chutes.



SICON Sampler Type PV

For use with pneumatic pressure-feed lines and pressurized tanks. Manual operation, or with electromagnetic or pneumatic power drive.



Exclusively SICON: Standard Components for sampling, sample preparation and transfer



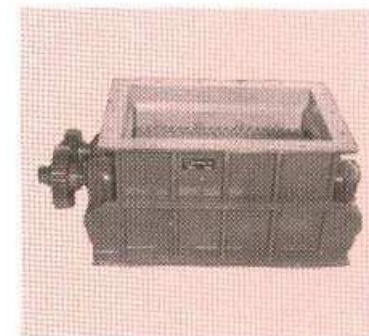
SICON Rotary Tube Dividers

For continuous operation with particle sizes of up to 60 mm (100mm Type DT). Available in various model sizes and versions and with adjustable dividing ratios between 1:10 and 1:250 (1:200 Type DT), and with one or more sample outlets.



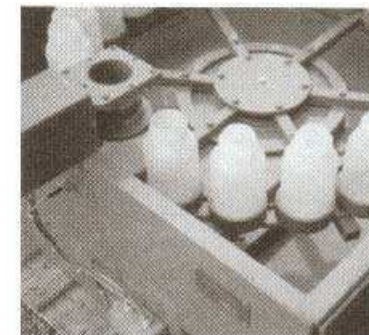
SICON Hammer mills and Twin Roll Crushers

For material preparation within Sampling Systems - or as Production Units, Heavy Duty design for continuous operation, with various power-drive types and grinding chambers combined and adapted to specific user requirements.



SICON Sample Collecting System Type FAG

For automatic collection of samples in bottles or containers of varying sizes.

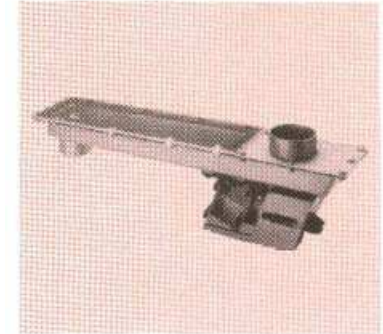


Exclusively SICON: Standard Components for sampling, sample preparation and transfer



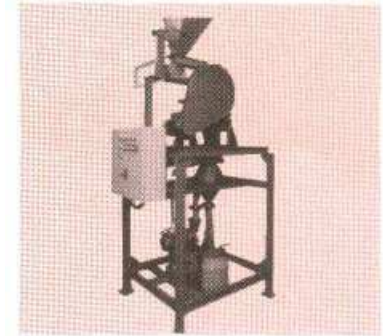
SICON Feed Units and Equipment

Vibration Chutes, Belt Conveyors and Buckel Elevators for continuous bulk transfer to any of the SICON systems and equipment as well as for any operational requirement in existing systems.



SICON small-scale Systems

For preparation and division of laboratory samples.

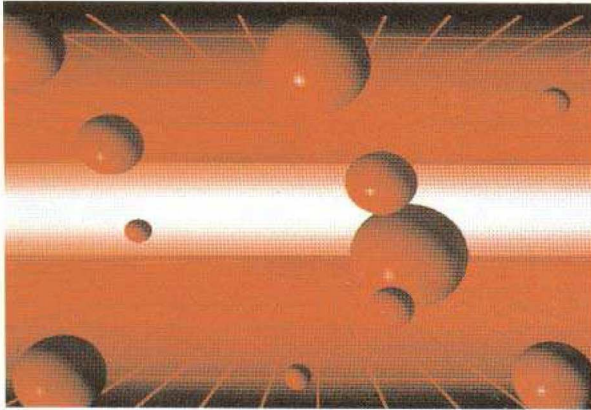


SICON Special-Design Equipment and Systems

for Sampling, Sample Preparation and Transfer, e. g. the Pneumatic Dispatch Tube System routing samples from source to lab, or the battery-operated Hand-Held Sampler for unproblematic on-the-spot random sampling, or the electric or stored-programme SPS Controller System for completely automated operations, or ...



SICON-Specialists have been developing, engineering, producing and installing Sampling Systems and Equipment for industrial heavy-duty application the world over for the past twenty years and more.



SICON-cum-user-coordinated problem-solving projects have lead to the development of systems and equipment meeting such industrial major requirement as are: minimum-main plus economical efficiency plus reliability.

SICON System-Features provide you with an effectice means to reduce your servicing and maintance costs and to optimize your analyzing efficiency. Decide in favor of SICON as a competent and resourceful partner when- and

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