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Industrial Weighing Systems

BAYKON SQC
Statistical Quality Control



BAYKON SQC SOFTWARE

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WHY BAYKON SQC?

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What is net weight control?

Ensuring net weight tolerances of prepacked products according to European Directives 76/211/EEC - 75/107/EEC

Monitoring of the missing and excessive weighing risks during production process and taking corrective measures.

WHY BAYKON SQC?

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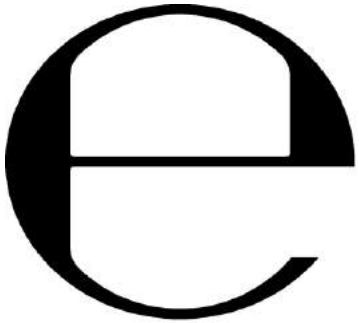
What does net weight control relate to?

- Compliance with directives and regulations
  Ensuring regulation on weight and volume control of prepacked products, GMP,.....
- Unintentional incomplete filling
  Company image
- Unnecessary overfilling
  Profitability
- Control production process
  Performance analysis, corrective intervention and adjustments, maintenance of filling machines
- Calibrated traceable equipment
- Human factor management
  Trained staff for duty



WHY BAYKON SQC?

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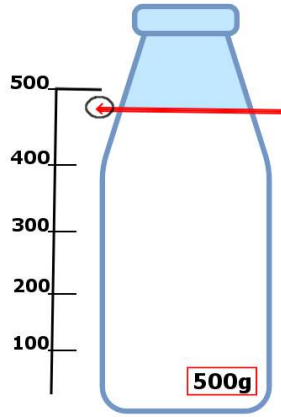
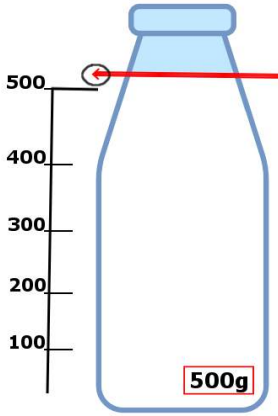
Why we monitor and check net amount ?



Incomplete Filling

- Consumer rights risk
- Money penalty risk given by authorities
- Incompatibility with the quality system



Excess Filling

- Production inefficiencies
- Material loss and waste

NET WEIGHT CONTROL

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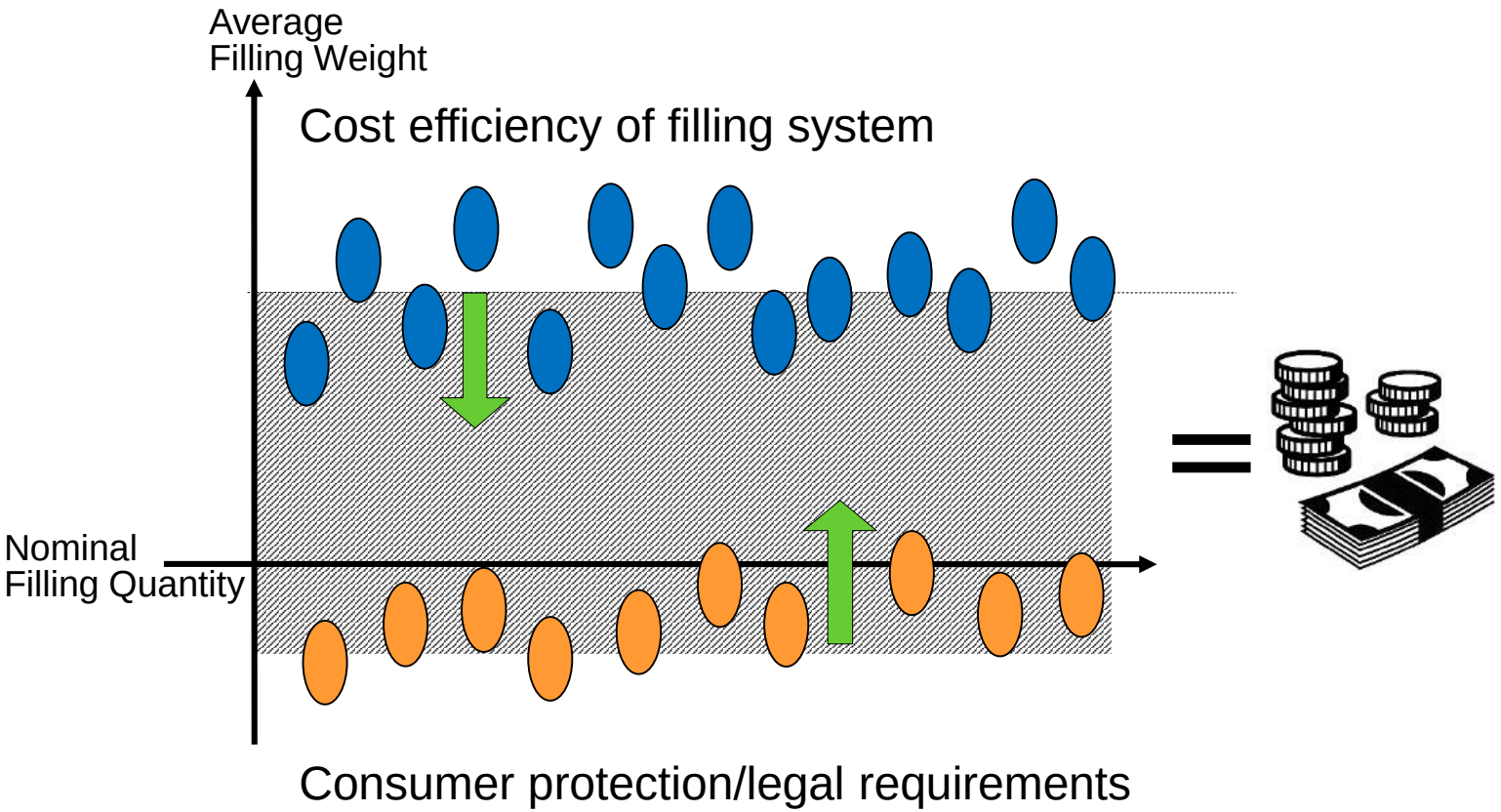
Target of net weight control

- Minimizing the distribution of production
- Optimizing average weight



EXCESS FILLING

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Excess filling cost

1 kg price of the material	10	USD	A
Package quantity produced in one day	100.000	pieces	B
Nominal filling quantity	100	gr	C
Number of days in per year	250	days	D
The average value of the product filling	101	gr	E
Consumption of the machine	2	gr	F
Excess filling per package	1	gr	H = E - C
Excess filling per day	100	kg	I = B x H/1000
Excess filling per year	**25.000**	**kg**	J = D x I
Cost of excess filling per year	**250.000**	**USD**	K = A x J x 1000

EU REGULATION

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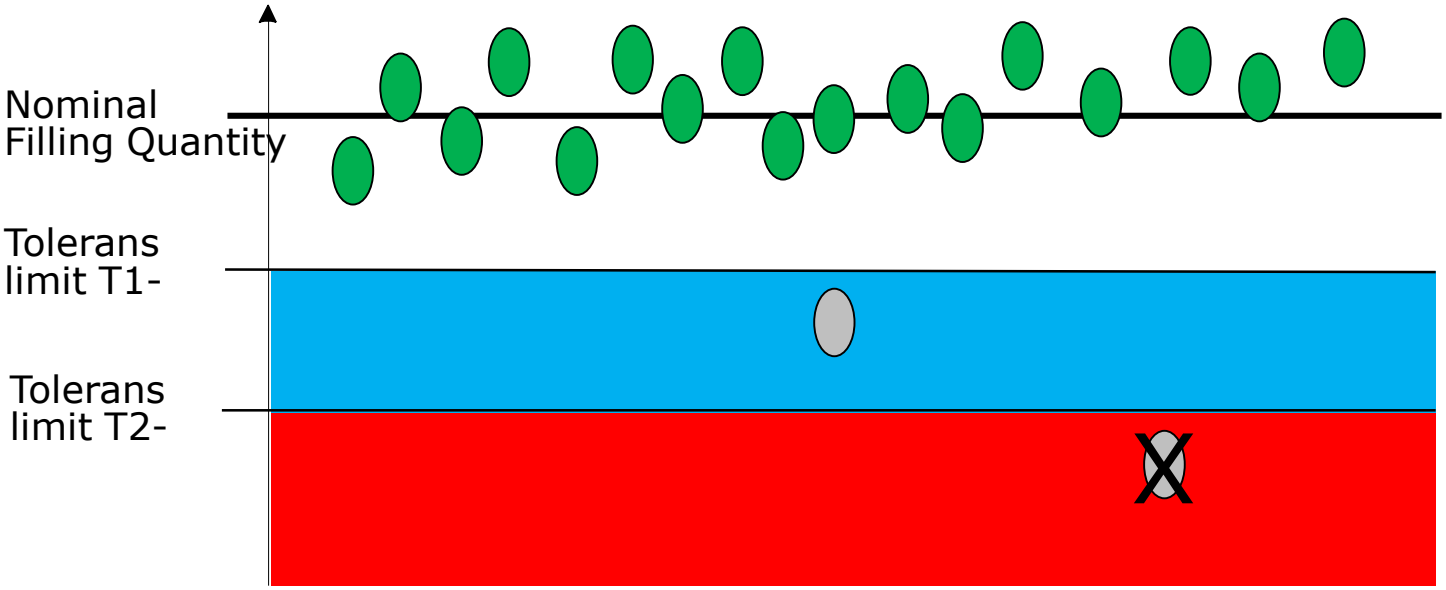
- The average weight of a party has to be equal or greater than the declared weight of package
- The amount of incomplete filling between T2 and T1 should not exceed certain limits.

  * the number of samples should be approx. in % 2
- No product can be below T2 – limit



SPC MODULE

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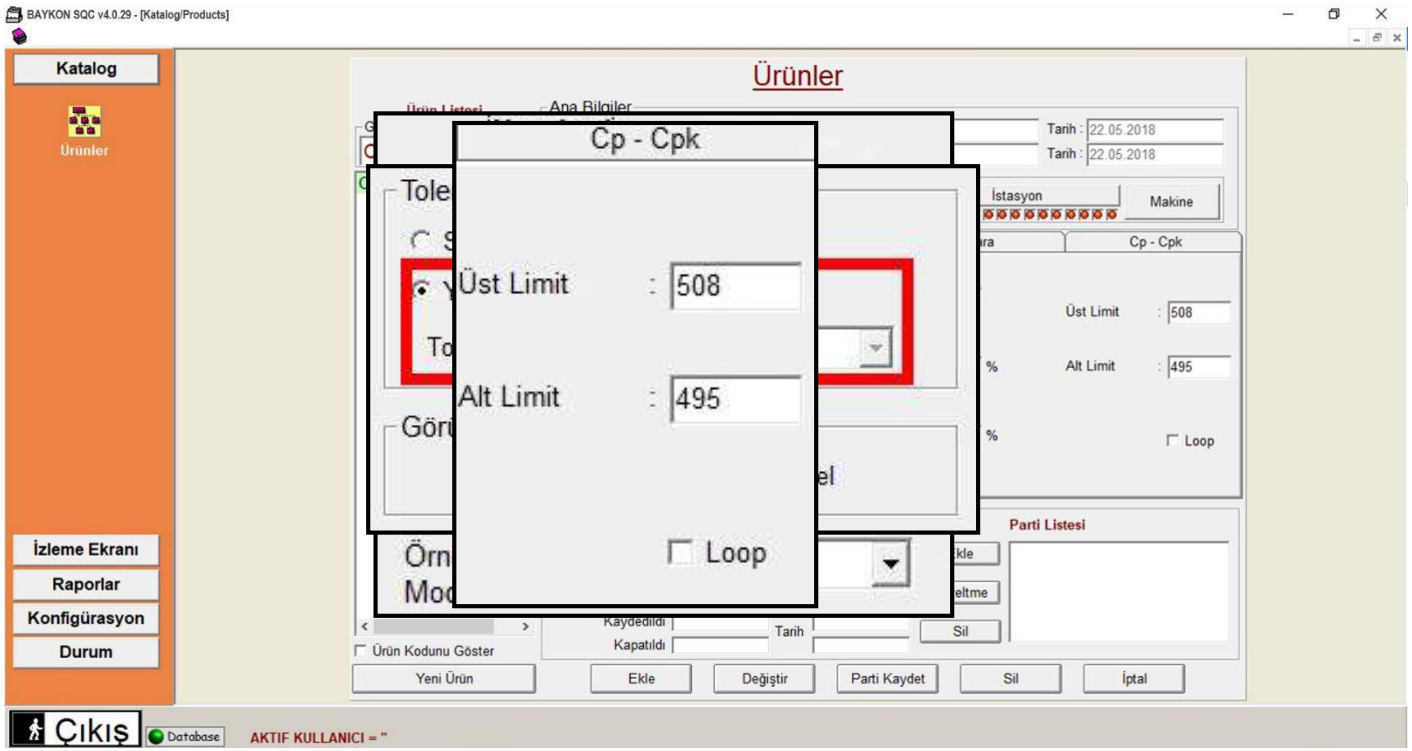
SPC module provides appropriate statistical methods during production to support control of filling process and maintenance activities.

Thus, prevents operation and product errors, reduces maintenance costs and increases productivity.



SPC MODULE

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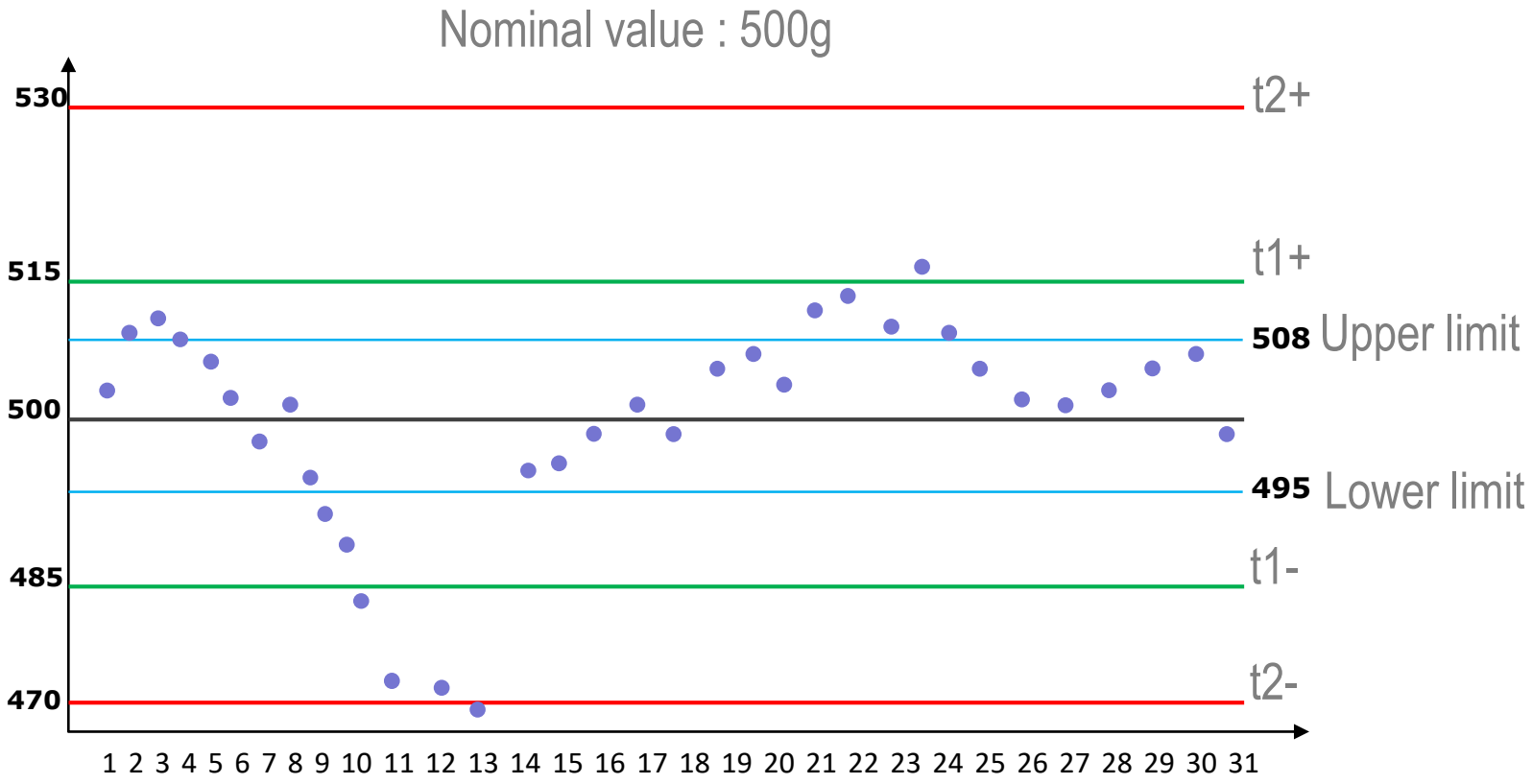

SPC MODULE

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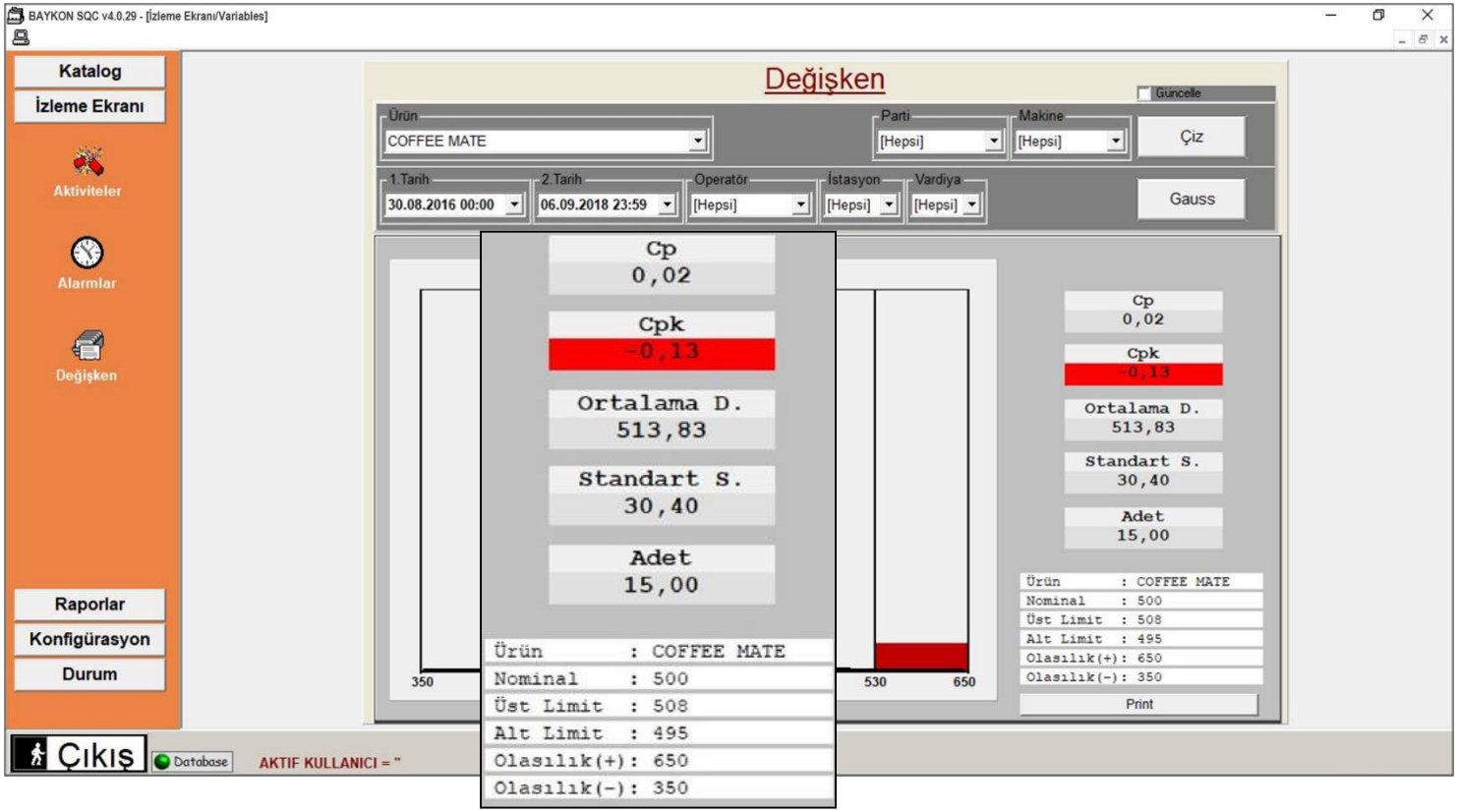
The results of the SPC module can be monitored online from the monitoring screen.



DIRECTIVE: EU

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EU tolerance system

Nominal quantity g or ml			t1- (nominal quantity)	
			% nominal	g or ml
5	-	50	9	--
50	-	100	--	4.5
100	-	200	4.5	--
200	-	300	--	9
300	-	500	3	--
500	-	1000	--	15
1000	-	10‘000	1.5	--

DIRECTIVE : EU

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EU Tolerance System
Non-destructive sampling plan for individual values
Packages which are larger than the negative error are considered defective.

Party Size	Number of samples			Number of allowed numbers	
	Serial	Piece	In a row	Accept	Rejectn
100-500	1.	30	30	1	3
	2.	30	60	4	5
501-3200	1.	50	50	2	5
	2.	50	100	6	7
≥ 3201	1.	80	80	3	7
	2.	80	160	8	9

DIRECTIVE : EU

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EU average value criterion
The average weight of the party should be equal or greater than the declared weight of the package.
Destructive testing, average value sampling plan.

PartySize	Number of Sample	Criterion	
		Accept	Rejection
100 to 500	30	$\bar{X} \geq Qn - 0.503s$	$\bar{X} < Qn - 0.503s$
> 500	50	$\bar{X} \geq Qn - 0.379s$	$\bar{X} < Qn - 0.379s$

EU REGULATION

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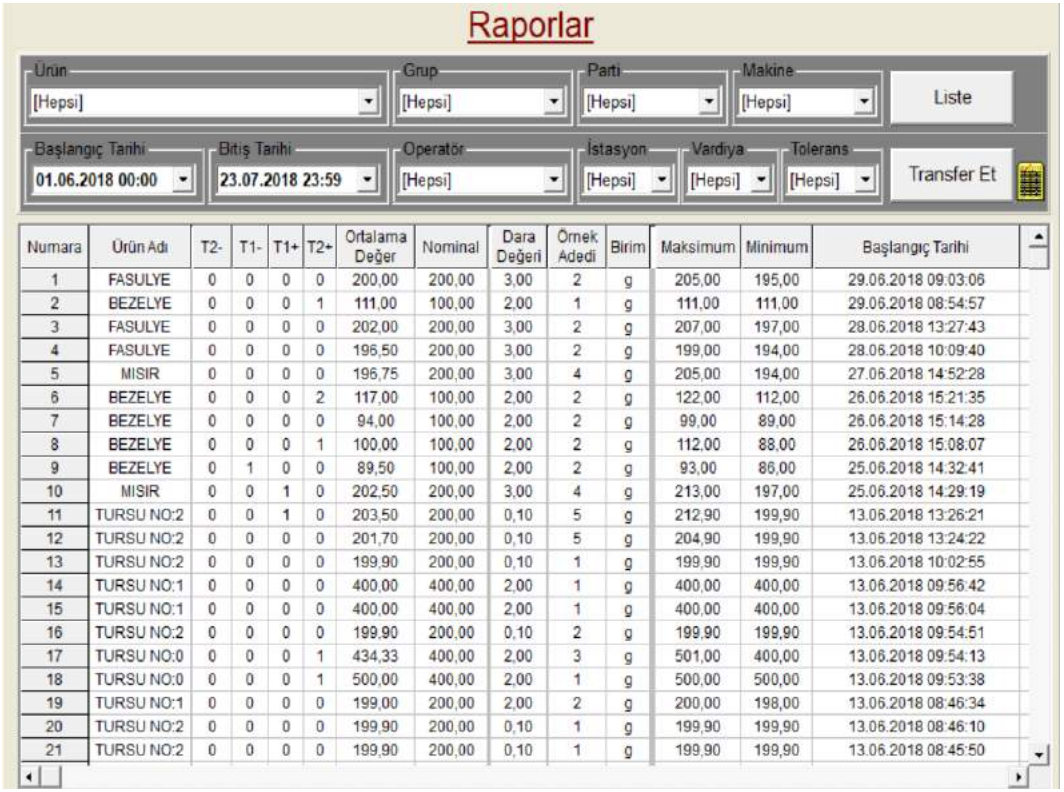
Nominal weight
Sampling Date/Time
Tolerance system
Product name
Number of Samples
Number of tolerance violations

Operator name (optional))
Target weight
Average value of samples
Standard deviation
Average tare weight
Tare deviation (optional)



Numara	Ürün Adı	T2-	T1-	T1+	T2+	Ortalama Değer	Nominal	Dara Değeri	Örnek Adedi	Birim	Maksimum	Minimum	Başlangıç Tarihi
1	FASULYE	0	0	0	0	200,00	200,00	3,00	2	g	205,00	195,00	29.06.2018 09:03:06
2	BEZELYE	0	0	0	1	111,00	100,00	2,00	1	g	111,00	111,00	29.06.2018 08:54:57
3	FASULYE	0	0	0	0	202,00	200,00	3,00	2	g	207,00	197,00	28.06.2018 13:27:43
4	FASULYE	0	0	0	0	196,50	200,00	3,00	2	g	199,00	194,00	28.06.2018 10:09:40
5	MISIR	0	0	0	0	196,75	200,00	3,00	4	g	205,00	194,00	27.06.2018 14:52:28
6	BEZELYE	0	0	0	2	117,00	100,00	2,00	2	g	122,00	112,00	26.06.2018 15:21:35
7	BEZELYE	0	0	0	0	94,00	100,00	2,00	2	g	99,00	89,00	26.06.2018 15:14:28
8	BEZELYE	0	0	0	1	100,00	100,00	2,00	2	g	112,00	88,00	26.06.2018 15:08:07
9	BEZELYE	0	1	0	0	89,50	100,00	2,00	2	g	93,00	86,00	25.06.2018 14:32:41
10	MISIR	0	0	1	0	202,50	200,00	3,00	4	g	213,00	197,00	25.06.2018 14:29:19
11	TURSU NO:2	0	0	1	0	203,50	200,00	0,10	5	g	212,90	199,90	13.06.2018 13:26:21
12	TURSU NO:2	0	0	0	0	201,70	200,00	0,10	5	g	204,90	199,90	13.06.2018 13:24:22
13	TURSU NO:2	0	0	0	0	199,90	200,00	0,10	1	g	199,90	199,90	13.06.2018 10:02:55
14	TURSU NO:1	0	0	0	0	400,00	400,00	2,00	1	g	400,00	400,00	13.06.2018 09:56:42
15	TURSU NO:1	0	0	0	0	400,00	400,00	2,00	1	g	400,00	400,00	13.06.2018 09:56:04
16	TURSU NO:2	0	0	0	0	199,90	200,00	0,10	2	g	199,90	199,90	13.06.2018 09:54:51
17	TURSU NO:0	0	0	0	1	434,33	400,00	2,00	3	g	501,00	400,00	13.06.2018 09:54:13
18	TURSU NO:0	0	0	0	1	500,00	400,00	2,00	1	g	500,00	500,00	13.06.2018 09:53:38
19	TURSU NO:1	0	0	0	0	199,00	200,00	2,00	2	g	200,00	198,00	13.06.2018 08:46:34
20	TURSU NO:2	0	0	0	0	199,90	200,00	0,10	1	g	199,90	199,90	13.06.2018 08:46:10
21	TURSU NO:2	0	0	0	0	199,90	200,00	0,10	1	g	199,90	199,90	13.06.2018 08:45:50

CHECK STATION

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Industrial scale with BX65-SQC Terminal

Barcode/ RFID reader

SYSTEM STRUCTURE

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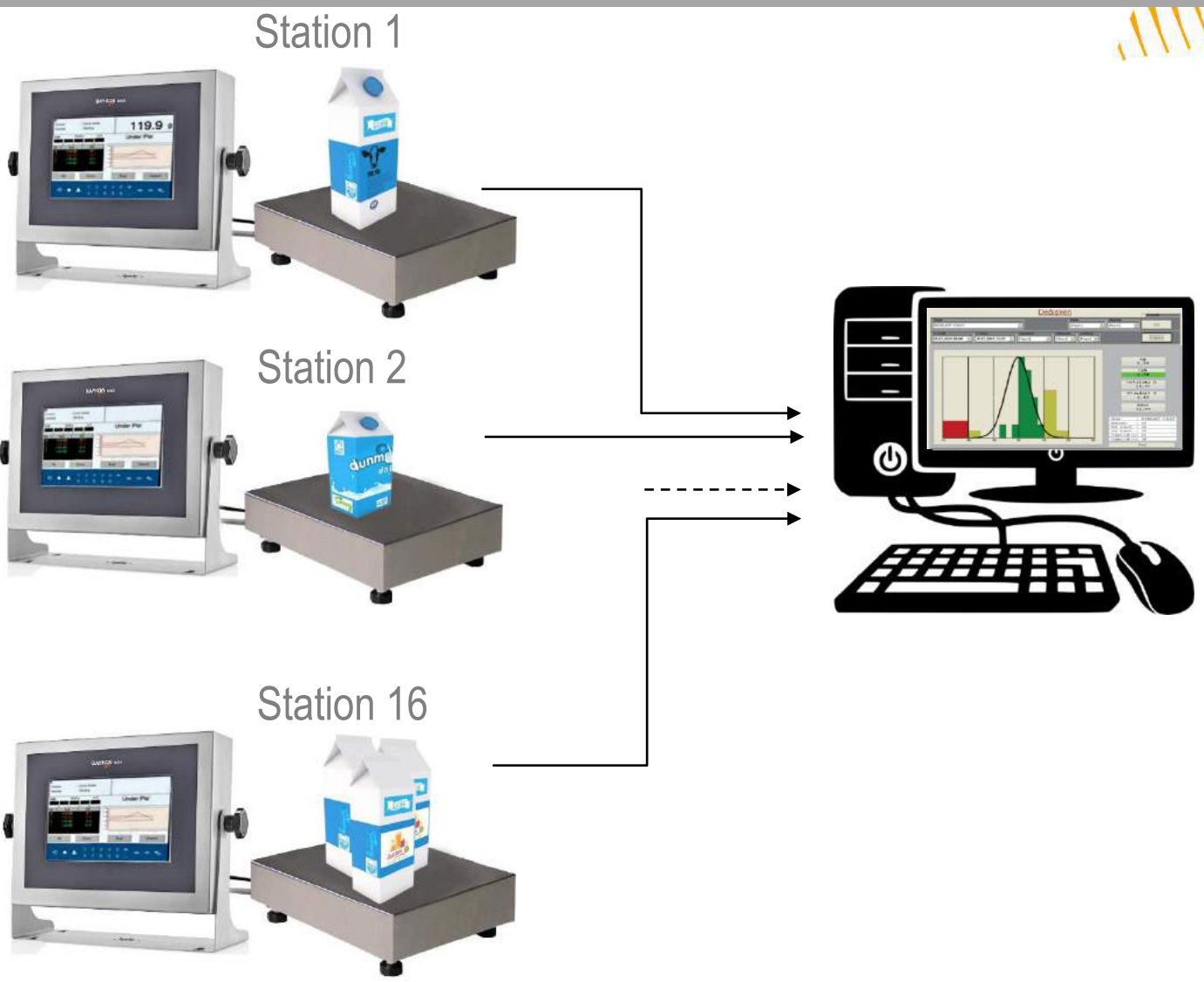

ONLINE CONTROL

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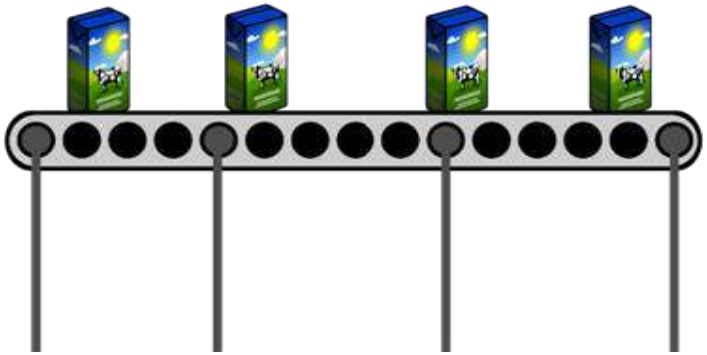
Multi-user Quality Control and average weight system to monitor the net content of your packaged products during filling and packaging.

Online monitoring of your production

Office



ONLINE CONTROL

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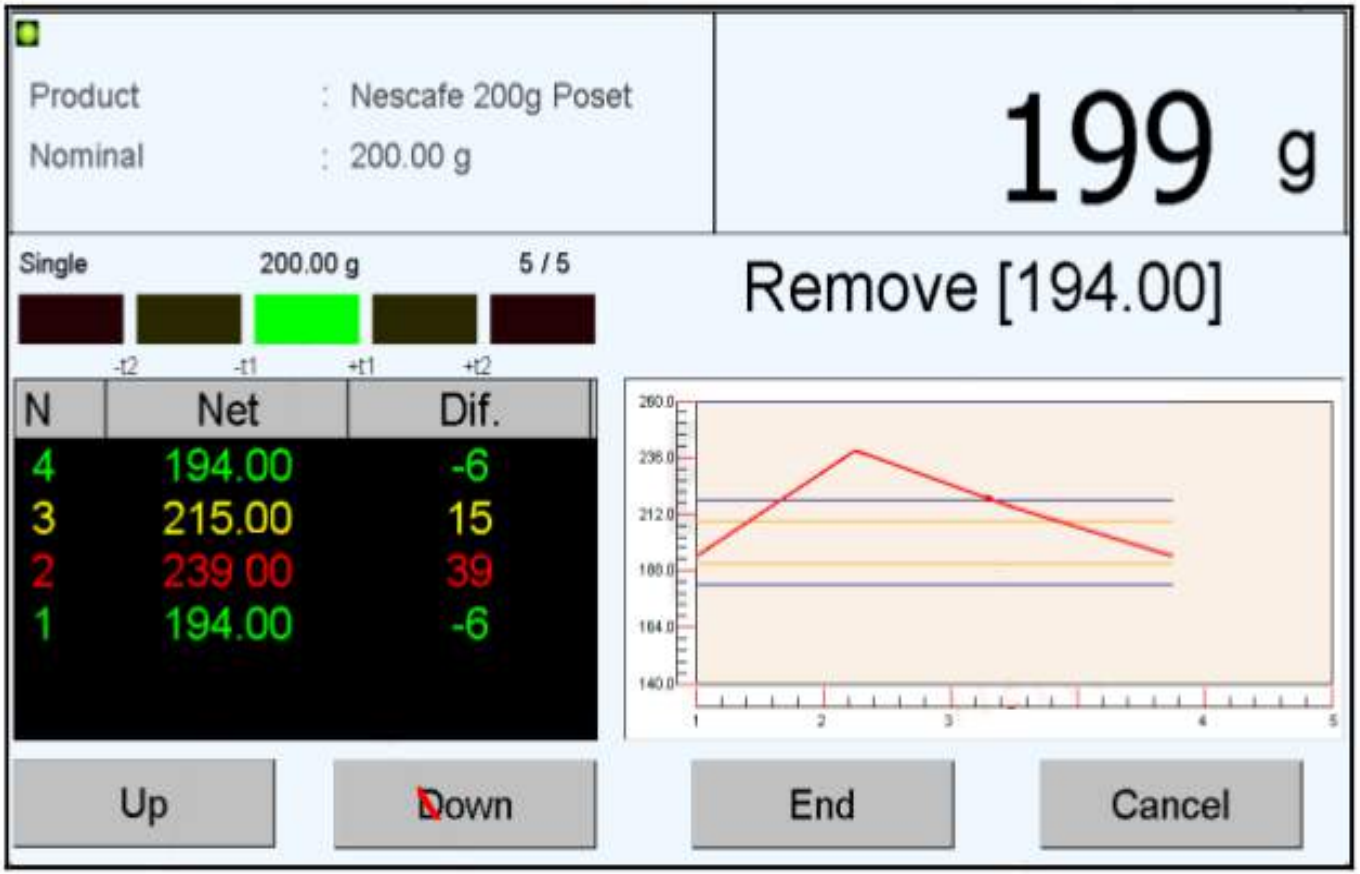
Weighing results are indicated by colors and graphics to alert the operator.



ONLINE TRACEABILITY

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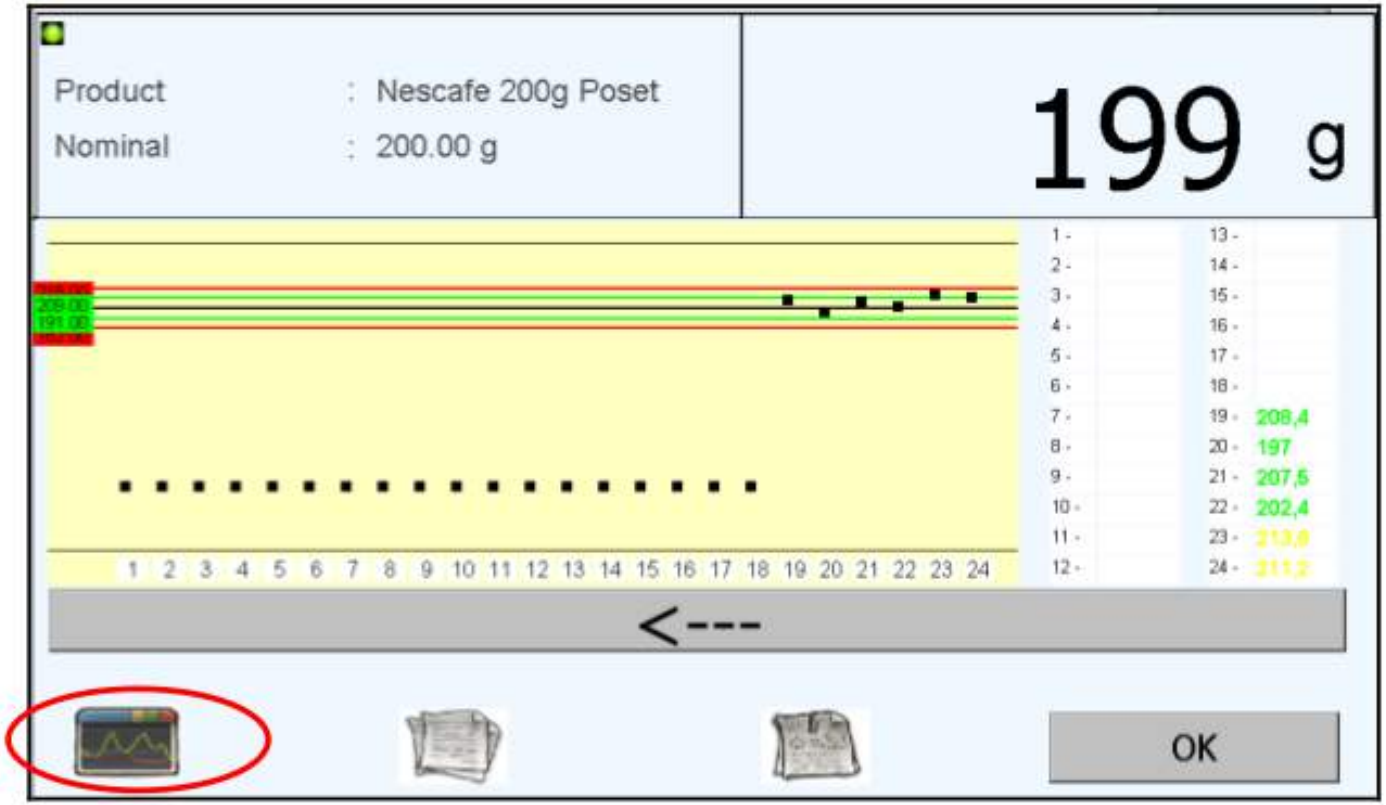
Average values of samples and graphical representation of these samples can be viewed by pressing the corresponding button.



AUTO REGISTRATION

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All actions are recorded automatically.

All the weighing records that provide informative reports and statistical evaluations in real time automatically saves.

TRACEABILITY

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Recording of each weighing result on the central computer allows the production / quality control manager to monitor it instantly.

RESULTS

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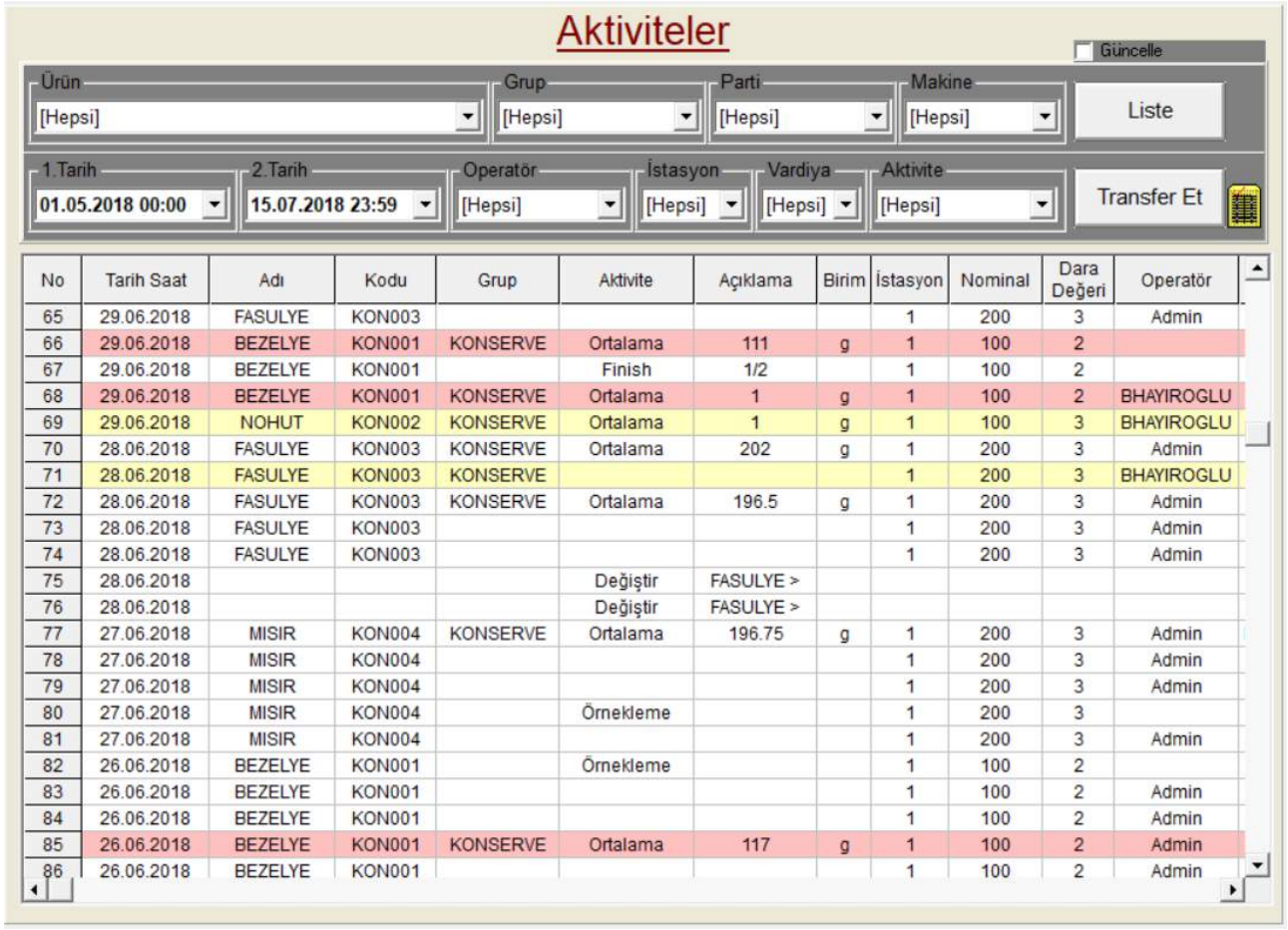
Acceptable erroneous results by yellow, incongruous by red color creates automatic effective monitoring.

For detailed information, the relevant line is clicked.



No	Tarih Saat	Adı	Kodu	Grup	Aktivite	Açıklama	Birim	İstasyon	Nominal	Dara Değeri	Operatör
65	29.06.2018	FASULYE	KON003					1	200	3	Admin
66	29.06.2018	BEZELYE	KON001	KONSERVE	Ortalama	111	g	1	100	2	
67	29.06.2018	BEZELYE	KON001		Finish	1/2		1	100	2	
68	29.06.2018	BEZELYE	KON001	KONSERVE	Ortalama	1	g	1	100	2	BHAYIROGLU
69	29.06.2018	NOHUT	KON002	KONSERVE	Ortalama	1	g	1	100	3	BHAYIROGLU
70	28.06.2018	FASULYE	KON003	KONSERVE	Ortalama	202	g	1	200	3	Admin
71	28.06.2018	FASULYE	KON003	KONSERVE				1	200	3	BHAYIROGLU
72	28.06.2018	FASULYE	KON003	KONSERVE	Ortalama	196.5	g	1	200	3	Admin
73	28.06.2018	FASULYE	KON003					1	200	3	Admin
74	28.06.2018	FASULYE	KON003					1	200	3	Admin
75	28.06.2018				Değiştir	FASULYE >					
76	28.06.2018				Değiştir	FASULYE >					
77	27.06.2018	MISIR	KON004	KONSERVE	Ortalama	196.75	g	1	200	3	Admin
78	27.06.2018	MISIR	KON004					1	200	3	Admin
79	27.06.2018	MISIR	KON004					1	200	3	Admin
80	27.06.2018	MISIR	KON004		Örnekleme			1	200	3	
81	27.06.2018	MISIR	KON004					1	200	3	Admin
82	26.06.2018	BEZELYE	KON001		Örnekleme			1	100	2	
83	26.06.2018	BEZELYE	KON001					1	100	2	Admin
84	26.06.2018	BEZELYE	KON001					1	100	2	Admin
85	26.06.2018	BEZELYE	KON001	KONSERVE	Ortalama	117	g	1	100	2	Admin
86	26.06.2018	BEZELYE	KON001					1	100	2	Admin

REPORTS

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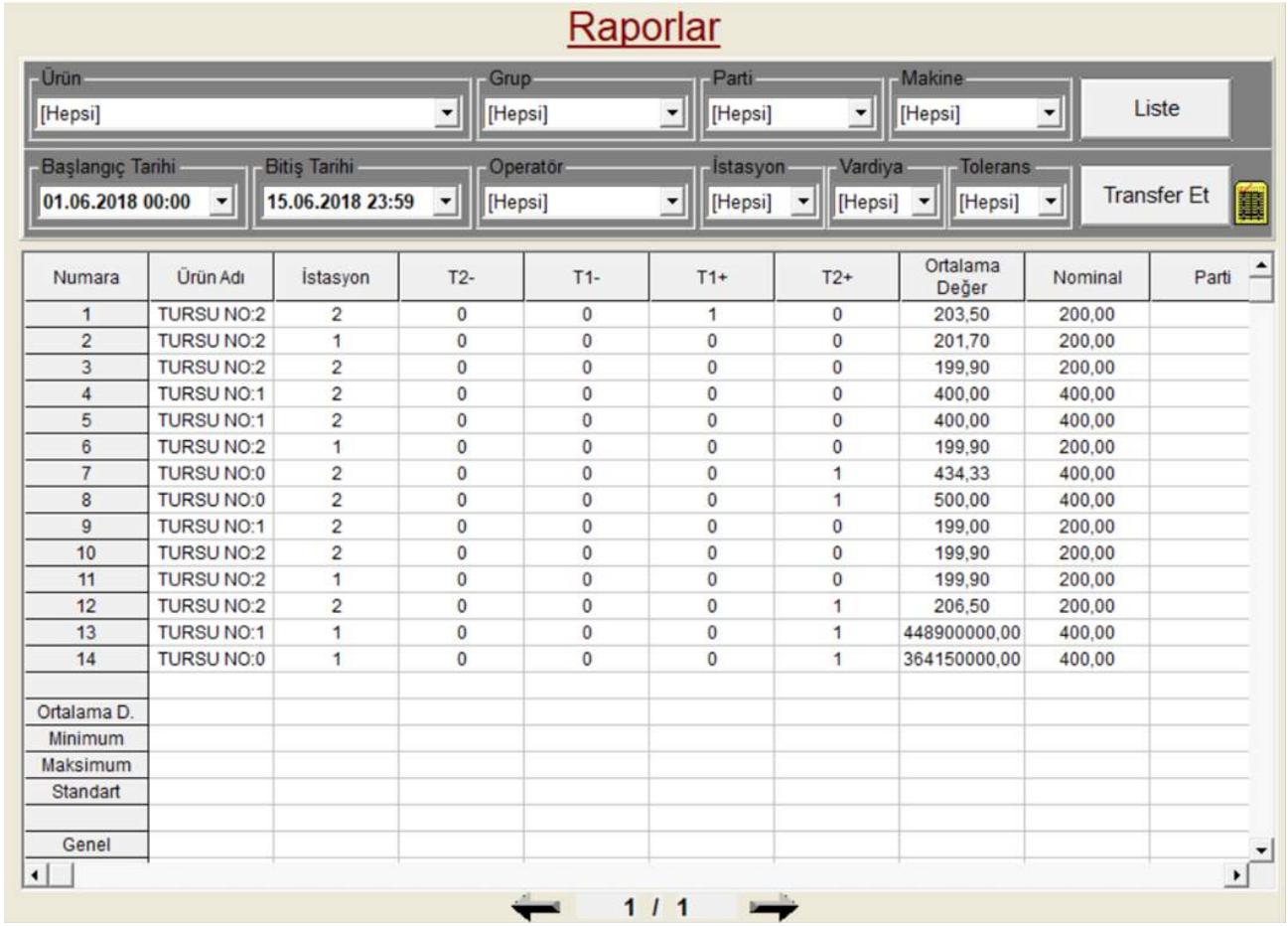
Reports between any 2 dates informing Product code, Batch no, Machine no etc. can be given.

Different type of reports can be configured to address different managers depending on their interests and responsibilities.

Reports can be exported as Excel file.



Numara	Ürün Adı	İstasyon	T2-	T1-	T1+	T2+	Ortalama Değer	Nominal	Parti
1	TURSU NO:2	2	0	0	1	0	203,50	200,00	
2	TURSU NO:2	1	0	0	0	0	201,70	200,00	
3	TURSU NO:2	2	0	0	0	0	199,90	200,00	
4	TURSU NO:1	2	0	0	0	0	400,00	400,00	
5	TURSU NO:1	2	0	0	0	0	400,00	400,00	
6	TURSU NO:2	1	0	0	0	0	199,90	200,00	
7	TURSU NO:0	2	0	0	0	1	434,33	400,00	
8	TURSU NO:0	2	0	0	0	1	500,00	400,00	
9	TURSU NO:1	2	0	0	0	0	199,00	200,00	
10	TURSU NO:2	2	0	0	0	0	199,90	200,00	
11	TURSU NO:2	1	0	0	0	0	199,90	200,00	
12	TURSU NO:2	2	0	0	0	1	206,50	200,00	
13	TURSU NO:1	1	0	0	0	1	448900000,00	400,00	
14	TURSU NO:0	1	0	0	0	1	364150000,00	400,00	
Ortalama D.									
Minimum									
Maksimum									
Standart									
Genel									

1 / 1

ALARMS

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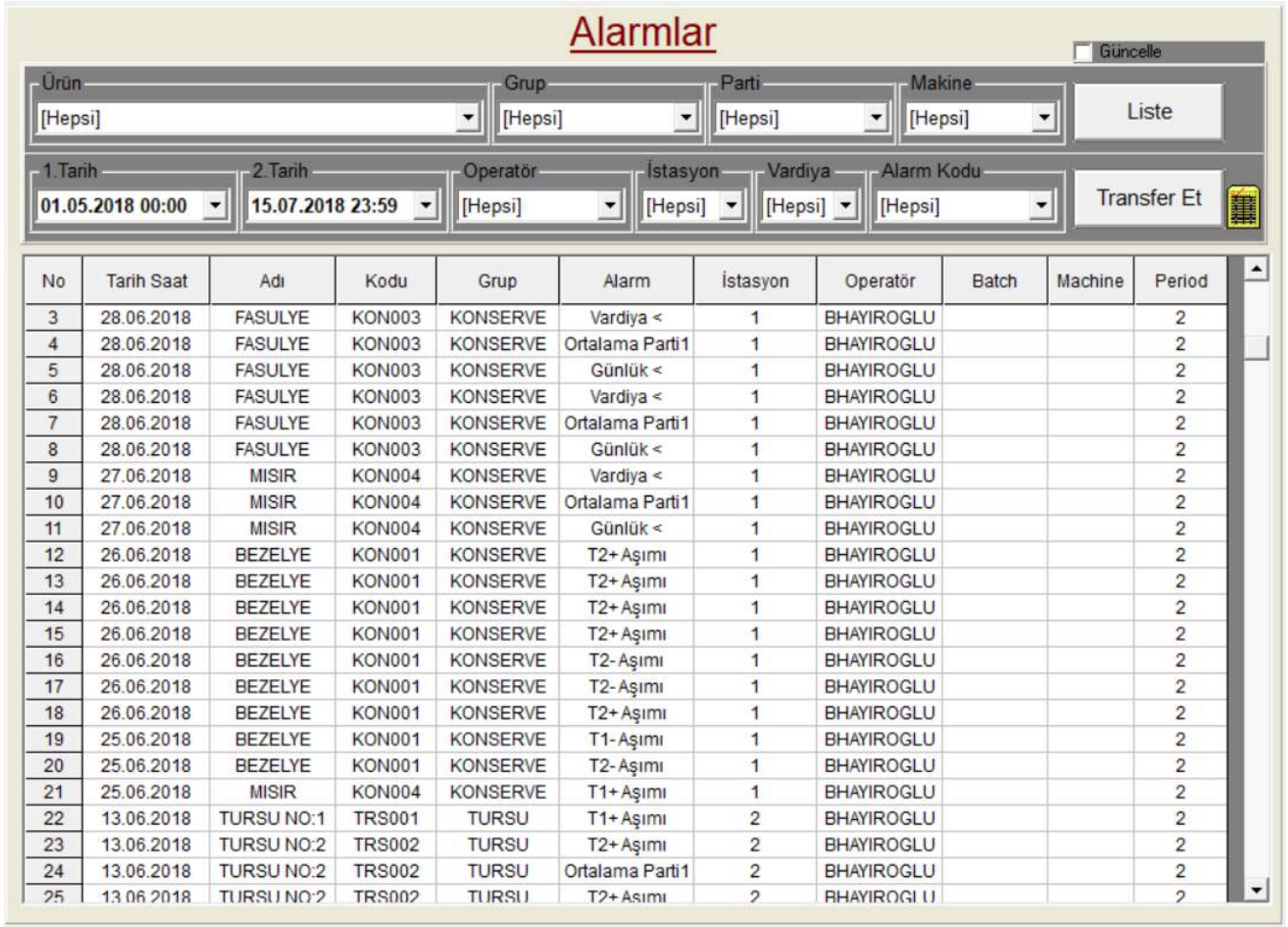
Determined nonconformities can be monitored.

Thus, the production and/or quality control manager will immediately notice the problem with the production.



No	Tarih Saat	Adı	Kodu	Grup	Alarm	İstasyon	Operatör	Batch	Machine	Period
3	28.06.2018	FASULYE	KON003	KONSERVE	Vardiya <	1	BHAYIROGLU			2
4	28.06.2018	FASULYE	KON003	KONSERVE	Ortalama Parti1	1	BHAYIROGLU			2
5	28.06.2018	FASULYE	KON003	KONSERVE	Günlük <	1	BHAYIROGLU			2
6	28.06.2018	FASULYE	KON003	KONSERVE	Vardiya <	1	BHAYIROGLU			2
7	28.06.2018	FASULYE	KON003	KONSERVE	Ortalama Parti1	1	BHAYIROGLU			2
8	28.06.2018	FASULYE	KON003	KONSERVE	Günlük <	1	BHAYIROGLU			2
9	27.06.2018	MISIR	KON004	KONSERVE	Vardiya <	1	BHAYIROGLU			2
10	27.06.2018	MISIR	KON004	KONSERVE	Ortalama Parti1	1	BHAYIROGLU			2
11	27.06.2018	MISIR	KON004	KONSERVE	Günlük <	1	BHAYIROGLU			2
12	26.06.2018	BEZELYE	KON001	KONSERVE	T2+ Aşımı	1	BHAYIROGLU			2
13	26.06.2018	BEZELYE	KON001	KONSERVE	T2+ Aşımı	1	BHAYIROGLU			2
14	26.06.2018	BEZELYE	KON001	KONSERVE	T2+ Aşımı	1	BHAYIROGLU			2
15	26.06.2018	BEZELYE	KON001	KONSERVE	T2+ Aşımı	1	BHAYIROGLU			2
16	26.06.2018	BEZELYE	KON001	KONSERVE	T2- Aşımı	1	BHAYIROGLU			2
17	26.06.2018	BEZELYE	KON001	KONSERVE	T2- Aşımı	1	BHAYIROGLU			2
18	26.06.2018	BEZELYE	KON001	KONSERVE	T2+ Aşımı	1	BHAYIROGLU			2
19	25.06.2018	BEZELYE	KON001	KONSERVE	T1- Aşımı	1	BHAYIROGLU			2
20	25.06.2018	BEZELYE	KON001	KONSERVE	T2- Aşımı	1	BHAYIROGLU			2
21	25.06.2018	MISIR	KON004	KONSERVE	T1+ Aşımı	1	BHAYIROGLU			2
22	13.06.2018	TURSU NO:1	TRS001	TURSU	T1+ Aşımı	2	BHAYIROGLU			2
23	13.06.2018	TURSU NO:2	TRS002	TURSU	T2+ Aşımı	2	BHAYIROGLU			2
24	13.06.2018	TURSU NO:2	TRS002	TURSU	Ortalama Parti1	2	BHAYIROGLU			2
25	13.06.2018	TURSU NO:2	TRS002	TURSU	T2+ Aşımı	2	BHAYIROGLU			2

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Danke sehr !

multumesc!

الشكر لك!

谢谢 !

Thank you !

Merci !

спасибо!

obrigado!

आपको धन्यवाद देता हूं!

Gratias !

Teşekkürler !

Grazie !