

Tıp Fakültesi – Morfoloji Ana Kesici KS 1 KS 3 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	365,54 [V]	0,78	8,00	0,44	0,25	0,34	0,32	0,14	0,11
Current	40,92 [A]	1,33	8,00	0,35	0,54	1,10	0,07	0,18	0,24

Harmonic Judgement Criteria

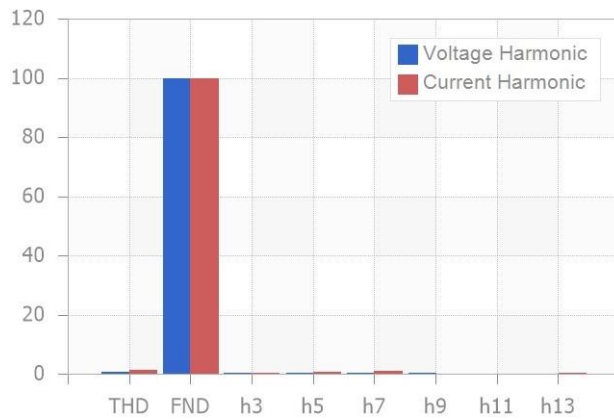
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00 \text{ kV}$	5,00	8,00
$1,00 \text{ kV} < U_{BUS} \leq 69,00 \text{ kV}$	3,00	5,00
$69,00 \text{ kV} < U_{BUS} \leq 161,00 \text{ kV}$	1,50	2,50
$161,00 \text{ kV} < U_{BUS}$	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

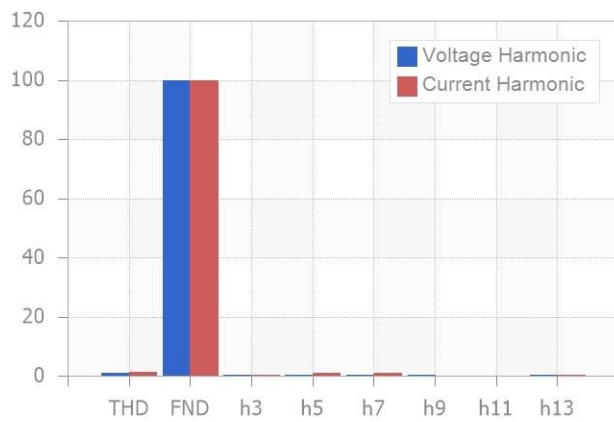
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



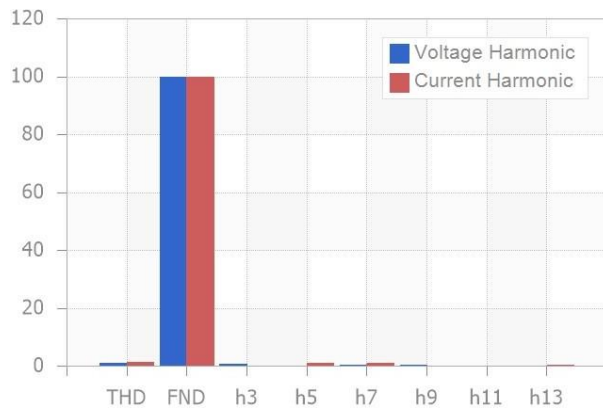
Item	Voltage [%]	Current [%]
THD	0,76	1,34
FND	100,00	100,00
h3	0,42	0,32
h5	0,27	0,63
h7	0,29	1,06
h9	0,30	0,07
h11	0,16	0,19
h13	0,14	0,29

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,94	1,38
FND	100,00	100,00
h3	0,45	0,36
h5	0,33	0,89
h7	0,50	0,90
h9	0,34	0,08
h11	0,11	0,16
h13	0,32	0,31

T phase harmonics



Item	Voltage [%]	Current [%]
THD	1,02	1,39
FND	100,00	100,00
h3	0,77	0,10
h5	0,21	0,93
h7	0,37	0,96
h9	0,37	0,06
h11	0,14	0,13
h13	0,16	0,27

B Blok Chiller Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	398,34 [V]	1,75	8,00	0,52	0,43	0,83	0,23	1,29	0,36
Current	131,01 [A]	32,10	8,00	29,76	14,00	6,65	2,88	1,82	2,02

Harmonic Judgement Criteria

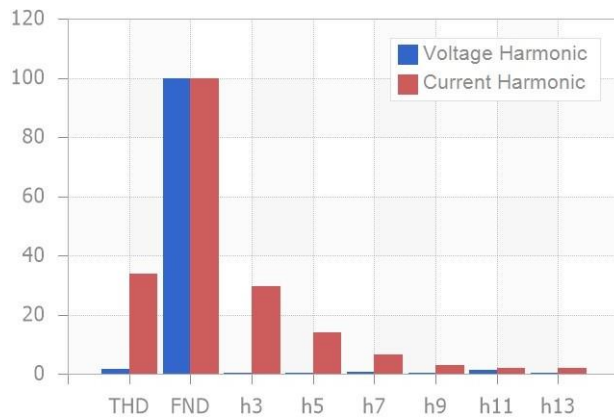
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV $< U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV $< U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV $< U_{BUS}$	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

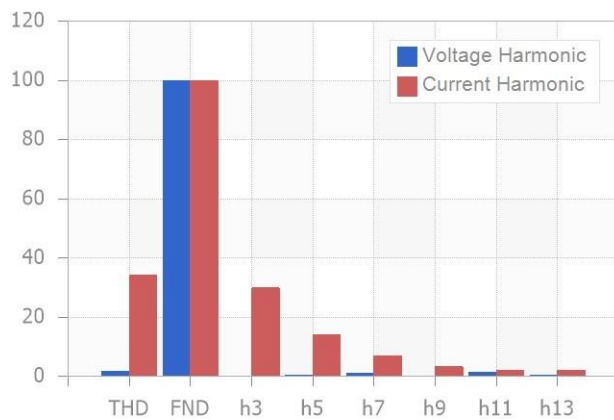
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



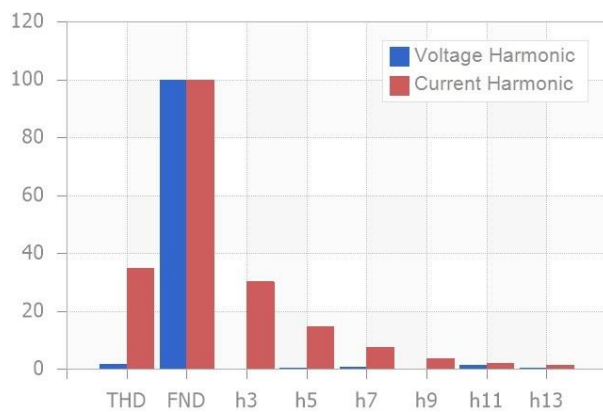
Item	Voltage [%]	Current [%]
THD	1,76	33,95
FND	100,00	100,00
h3	0,42	29,75
h5	0,50	14,00
h7	0,88	6,67
h9	0,25	2,96
h11	1,27	1,94
h13	0,37	2,10

S phase harmonics



Item	Voltage [%]	Current [%]
THD	1,75	34,16
FND	100,00	100,00
h3	0,10	29,83
h5	0,50	14,16
h7	0,95	6,91
h9	0,06	3,24
h11	1,28	2,09
h13	0,43	2,06

T phase harmonics



Item	Voltage [%]	Current [%]
THD	1,85	34,84
FND	100,00	100,00
h3	0,09	30,22
h5	0,53	14,76
h7	0,86	7,57
h9	0,09	3,67
h11	1,48	1,90
h13	0,39	1,51

B Blok VRF ADP Pano Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	397,28 [V]	2,68	8,00	0,14	1,06	2,02	0,12	1,04	0,68
Current	126,62 [A]	68,88	8,00	41,24	67,31	46,40	12,79	6,56	5,15

Harmonic Judgement Criteria

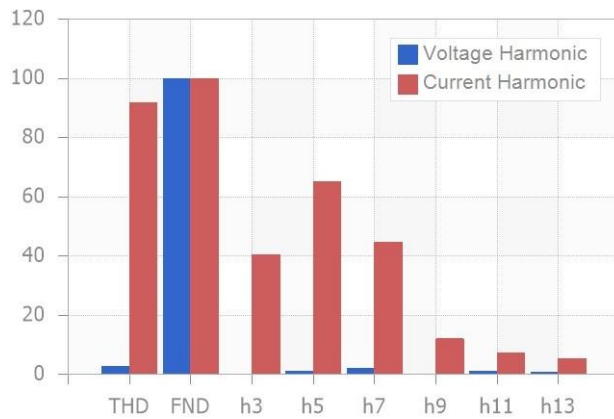
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

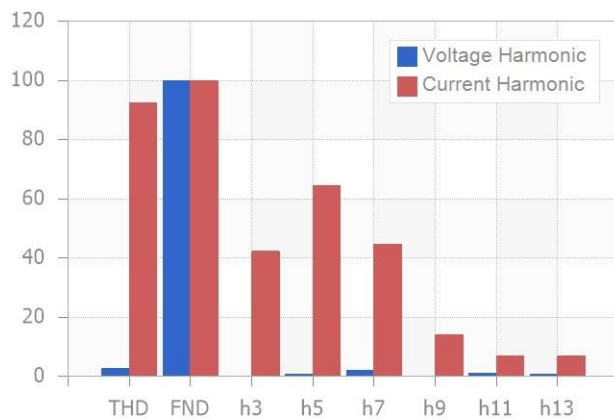
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



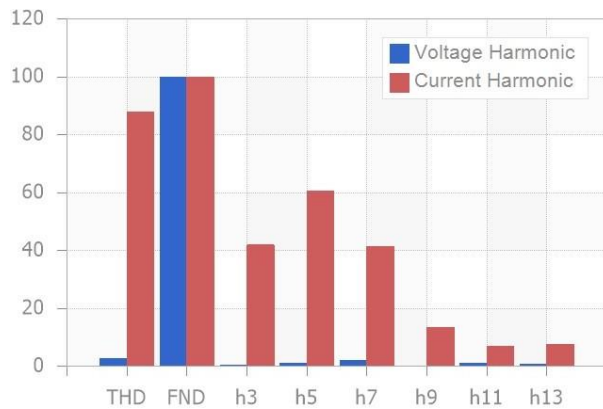
Item	Voltage [%]	Current [%]
THD	2,67	91,62
FND	100,00	100,00
h3	0,15	40,48
h5	0,96	65,20
h7	2,04	44,67
h9	0,09	11,96
h11	1,07	7,19
h13	0,72	5,40

S phase harmonics



Item	Voltage [%]	Current [%]
THD	2,63	92,38
FND	100,00	100,00
h3	0,16	42,19
h5	0,77	64,52
h7	2,08	44,75
h9	0,09	14,01
h11	1,05	6,85
h13	0,73	6,85

T phase harmonics



Item	Voltage [%]	Current [%]
THD	2,79	87,81
FND	100,00	100,00
h3	0,30	41,84
h5	1,06	60,64
h7	2,08	41,44
h9	0,07	13,52
h11	1,16	6,87
h13	0,68	7,70

Chiller 2 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	394,79 [V]	0,86	8,00	0,65	0,06	0,34	0,04	0,21	0,08
Current	133,42 [A]	35,56	8,00	31,59	16,92	10,09	6,03	3,39	1,66

Harmonic Judgement Criteria

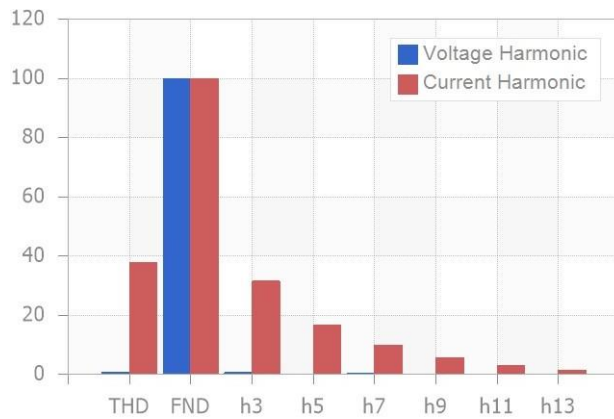
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

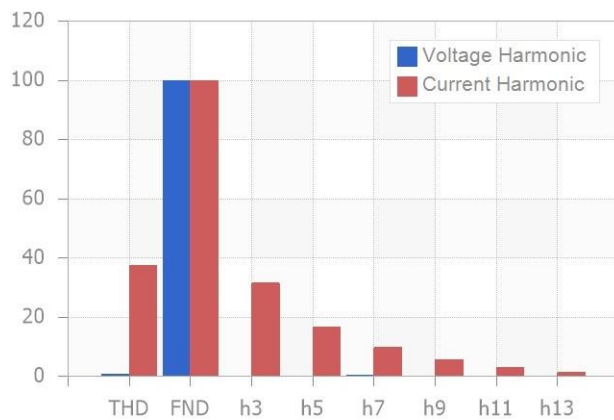
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



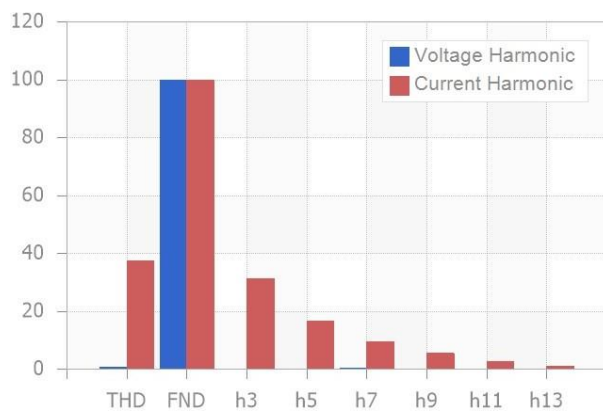
Item	Voltage [%]	Current [%]
THD	0,84	37,63
FND	100,00	100,00
h3	0,61	31,47
h5	0,11	16,70
h7	0,32	9,81
h9	0,05	5,71
h11	0,18	3,07
h13	0,13	1,38

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,65	37,56
FND	100,00	100,00
h3	0,19	31,45
h5	0,19	16,67
h7	0,34	9,76
h9	0,07	5,64
h11	0,15	2,96
h13	0,23	1,24

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,68	37,47
FND	100,00	100,00
h3	0,16	31,41
h5	0,22	16,61
h7	0,38	9,66
h9	0,07	5,52
h11	0,18	2,82
h13	0,19	1,06

Chiller 4 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	389,72 [V]	0,77	8,00	0,30	0,26	0,25	0,07	0,16	0,26
Current	133,46 [A]	35,68	8,00	31,69	17,09	10,29	6,23	3,55	1,73

Harmonic Judgement Criteria

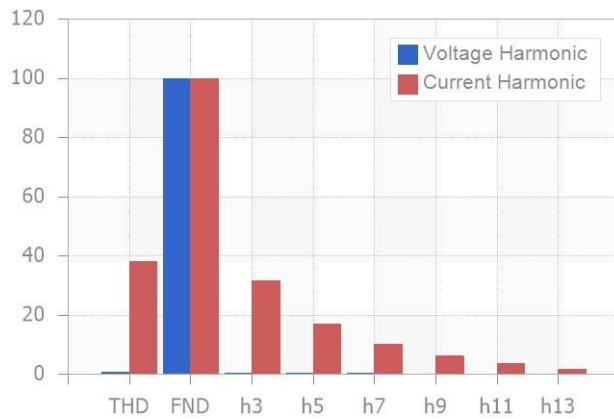
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

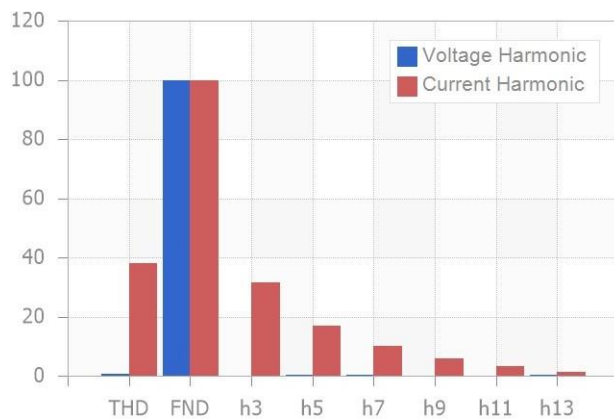
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



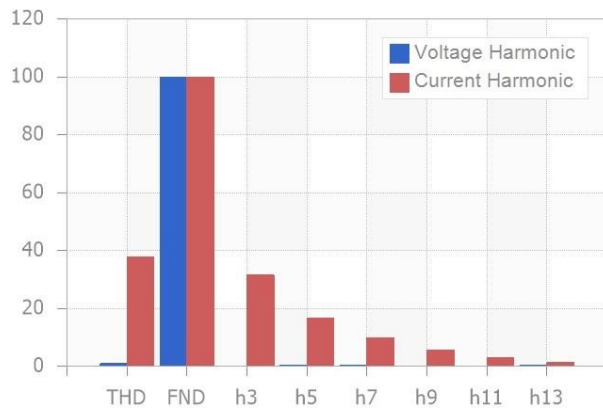
Item	Voltage [%]	Current [%]
THD	0,76	38,18
FND	100,00	100,00
h3	0,28	31,68
h5	0,24	17,07
h7	0,24	10,27
h9	0,07	6,20
h11	0,16	3,50
h13	0,23	1,69

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,78	38,05
FND	100,00	100,00
h3	0,14	31,63
h5	0,27	16,99
h7	0,42	10,16
h9	0,04	6,07
h11	0,06	3,36
h13	0,34	1,53

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,89	37,73
FND	100,00	100,00
h3	0,15	31,51
h5	0,28	16,78
h7	0,44	9,88
h9	0,07	5,76
h11	0,16	3,04
h13	0,46	1,23

Chiller 5 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	392,19 [V]	0,73	8,00	0,28	0,23	0,29	0,06	0,16	0,25
Current	129,88 [A]	30,91	8,00	29,11	13,00	5,43	1,47	0,96	1,46

Harmonic Judgement Criteria

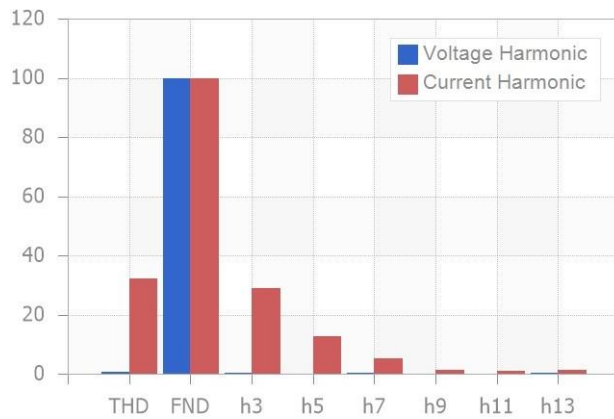
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00 \text{ kV}$	5,00	8,00
$1,00 \text{ kV} < U_{BUS} \leq 69,00 \text{ kV}$	3,00	5,00
$69,00 \text{ kV} < U_{BUS} \leq 161,00 \text{ kV}$	1,50	2,50
$161,00 \text{ kV} < U_{BUS}$	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

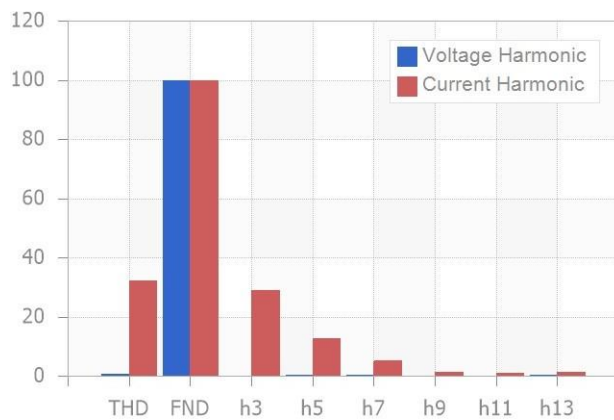
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



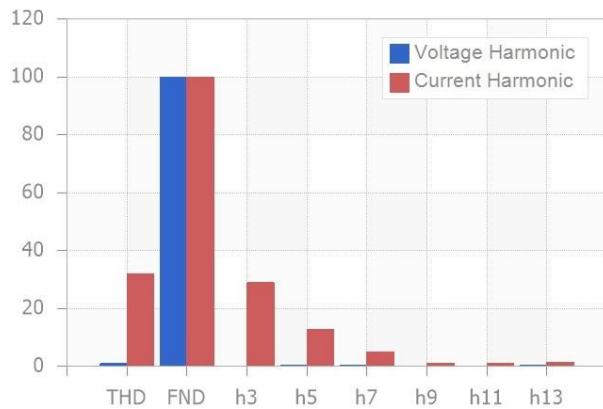
Item	Voltage [%]	Current [%]
THD	0,75	32,39
FND	100,00	100,00
h3	0,28	29,06
h5	0,22	12,91
h7	0,29	5,32
h9	0,05	1,39
h11	0,16	1,02
h13	0,24	1,50

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,75	32,25
FND	100,00	100,00
h3	0,17	28,97
h5	0,24	12,77
h7	0,43	5,20
h9	0,04	1,34
h11	0,05	1,10
h13	0,31	1,51

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,89	32,03
FND	100,00	100,00
h3	0,15	28,87
h5	0,27	12,61
h7	0,46	5,02
h9	0,05	1,17
h11	0,19	1,07
h13	0,45	1,44

G Blok Chiller 1 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	394,56 [V]	0,84	8,00	0,62	0,10	0,30	0,06	0,19	0,11
Current	133,11 [A]	35,50	8,00	31,57	16,90	10,04	5,95	3,26	1,48

Harmonic Judgement Criteria

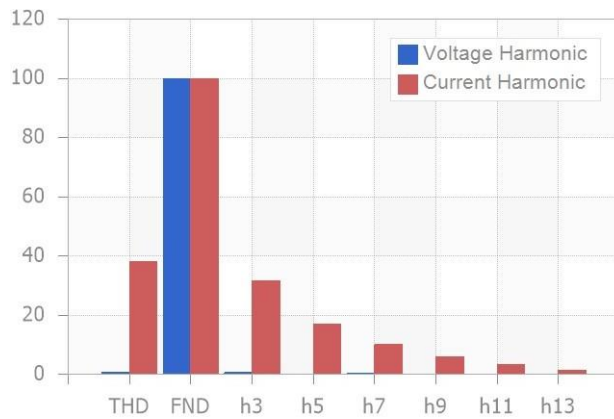
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00 \text{ kV}$	5,00	8,00
$1,00 \text{ kV} < U_{BUS} \leq 69,00 \text{ kV}$	3,00	5,00
$69,00 \text{ kV} < U_{BUS} \leq 161,00 \text{ kV}$	1,50	2,50
$161,00 \text{ kV} < U_{BUS}$	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

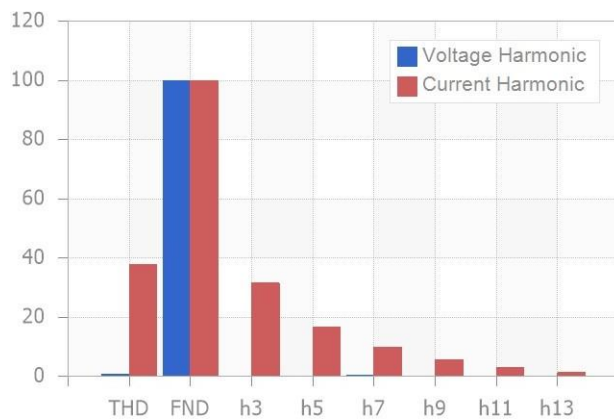
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



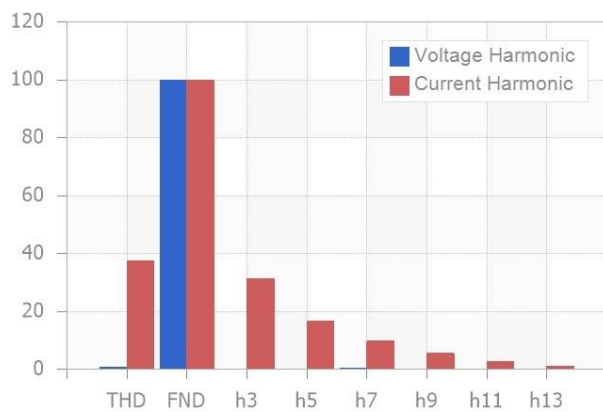
Item	Voltage [%]	Current [%]
THD	0,85	37,99
FND	100,00	100,00
h3	0,64	31,61
h5	0,09	16,95
h7	0,32	10,10
h9	0,05	6,00
h11	0,17	3,30
h13	0,12	1,48

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,64	37,70
FND	100,00	100,00
h3	0,20	31,51
h5	0,17	16,77
h7	0,33	9,88
h9	0,07	5,75
h11	0,14	3,05
h13	0,22	1,26

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,65	37,45
FND	100,00	100,00
h3	0,16	31,41
h5	0,20	16,62
h7	0,38	9,67
h9	0,06	5,52
h11	0,18	2,82
h13	0,17	1,05

G Blok Sirkülasyon Pompaları Ana TMŞ Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	390,09 [V]	0,62	8,00	0,29	0,17	0,34	0,04	0,09	0,27
Current	126,33 [A]	26,12	8,00	25,60	8,07	1,03	1,89	1,72	0,64

Harmonic Judgement Criteria

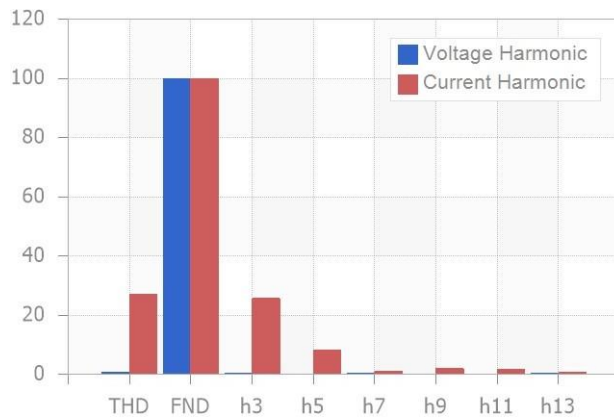
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00 \text{ kV}$	5,00	8,00
$1,00 \text{ kV} < U_{BUS} \leq 69,00 \text{ kV}$	3,00	5,00
$69,00 \text{ kV} < U_{BUS} \leq 161,00 \text{ kV}$	1,50	2,50
$161,00 \text{ kV} < U_{BUS}$	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

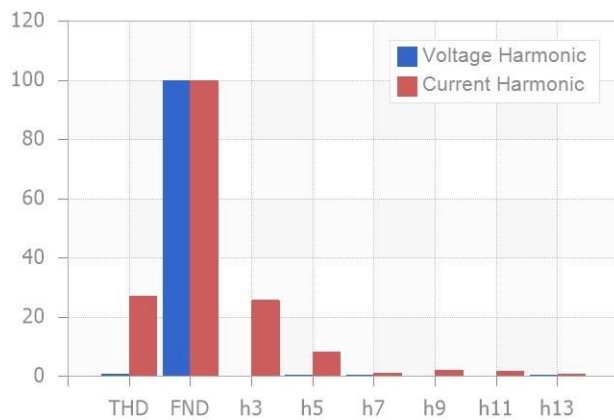
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



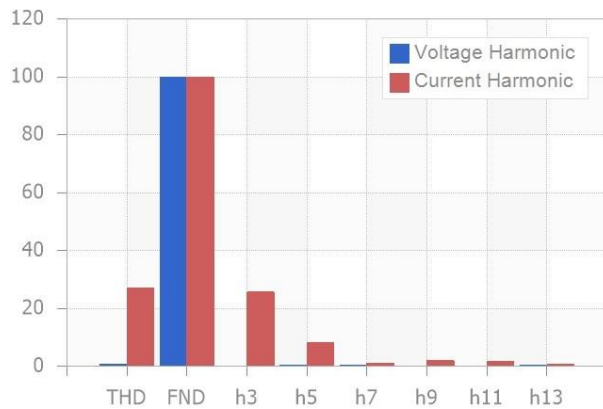
Item	Voltage [%]	Current [%]
THD	0,61	27,06
FND	100,00	100,00
h3	0,27	25,60
h5	0,17	8,07
h7	0,35	1,02
h9	0,06	1,93
h11	0,09	1,76
h13	0,27	0,66

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,67	27,10
FND	100,00	100,00
h3	0,16	25,59
h5	0,30	8,07
h7	0,39	1,16
h9	0,01	2,03
h11	0,06	1,83
h13	0,34	0,70

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,65	27,07
FND	100,00	100,00
h3	0,11	25,61
h5	0,28	8,06
h7	0,42	1,03
h9	0,05	1,92
h11	0,08	1,73
h13	0,28	0,65

Güzel Sanatlar Fakültesi Chiller 1 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	379,72 [V]	1,18	8,00	0,28	0,54	0,69	0,16	0,56	0,42
Current	128,88 [A]	30,16	8,00	28,55	12,21	4,83	1,87	1,87	1,76

Harmonic Judgement Criteria

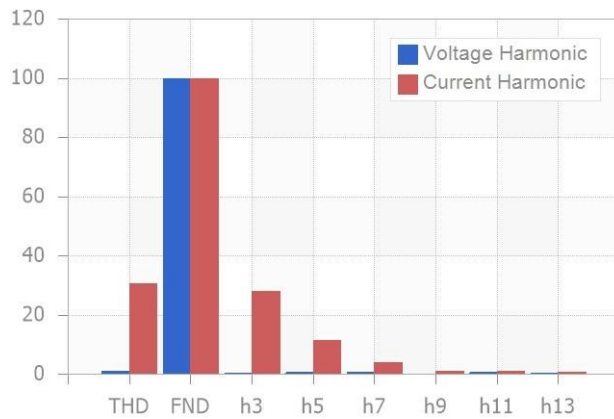
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

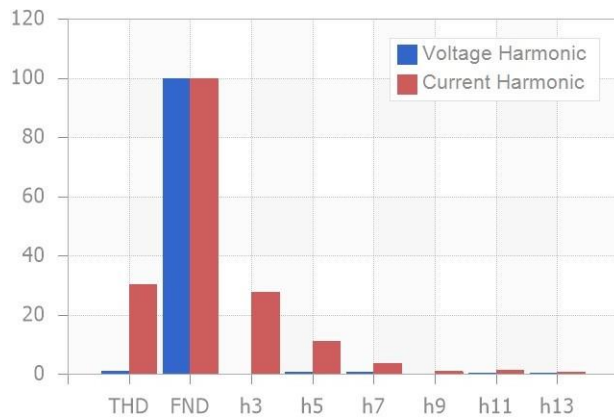
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



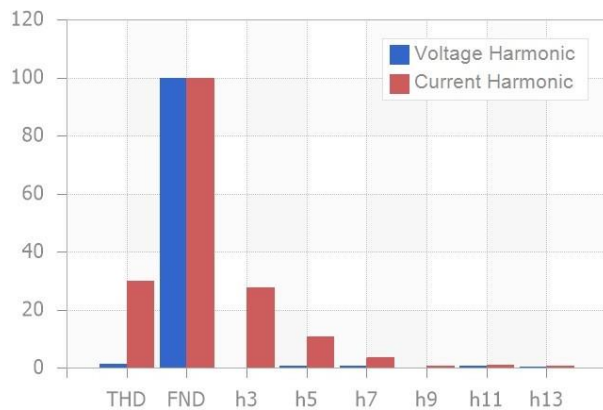
Item	Voltage [%]	Current [%]
THD	1,21	30,63
FND	100,00	100,00
h3	0,27	27,99
h5	0,57	11,43
h7	0,70	4,04
h9	0,16	1,02
h11	0,59	1,03
h13	0,44	0,80

S phase harmonics



Item	Voltage [%]	Current [%]
THD	1,12	30,14
FND	100,00	100,00
h3	0,11	27,69
h5	0,61	10,99
h7	0,67	3,63
h9	0,20	1,00
h11	0,39	1,22
h13	0,47	0,85

T phase harmonics



Item	Voltage [%]	Current [%]
THD	1,31	30,08
FND	100,00	100,00
h3	0,16	27,67
h5	0,67	10,95
h7	0,67	3,53
h9	0,23	0,76
h11	0,78	1,12
h13	0,34	0,81

Güzel Sanatlar Fakültesi Chiller 2 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	379,19 [V]	1,18	8,00	0,27	0,57	0,62	0,14	0,60	0,46
Current	121,66 [A]	21,33	8,00	21,36	3,11	2,38	2,09	0,54	0,84

Harmonic Judgement Criteria

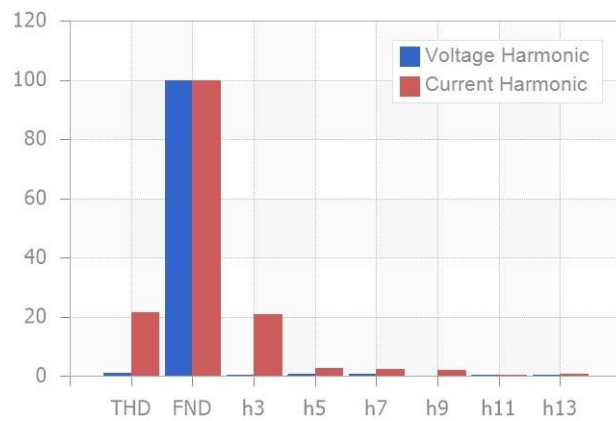
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

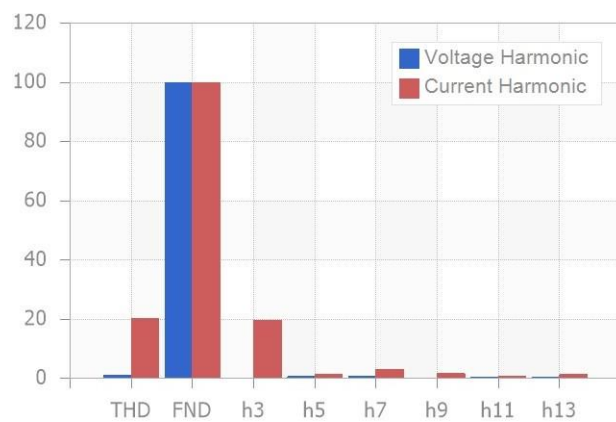
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



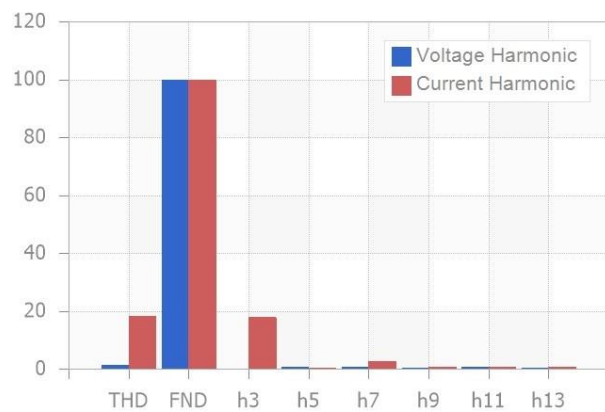
Item	Voltage [%]	Current [%]
THD	1,20	21,44
FND	100,00	100,00
h3	0,28	20,88
h5	0,58	2,69
h7	0,66	2,51
h9	0,15	1,94
h11	0,56	0,46
h13	0,47	0,86

S phase harmonics



Item	Voltage [%]	Current [%]
THD	1,09	20,20
FND	100,00	100,00
h3	0,13	19,64
h5	0,60	1,38
h7	0,61	3,01
h9	0,21	1,60
h11	0,39	0,67
h13	0,47	1,35

T phase harmonics



Item	Voltage [%]	Current [%]
THD	1,29	18,38
FND	100,00	100,00
h3	0,15	17,87
h5	0,66	0,29
h7	0,59	2,77
h9	0,24	0,85
h11	0,82	0,87
h13	0,34	0,74

H Blok Chiller 3 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	411,74 [V]	0,58	8,00	0,48	0,09	0,26	0,02	0,08	0,06
Current	130,75 [A]	30,73	8,00	28,98	12,78	5,24	1,46	1,08	1,43

Harmonic Judgement Criteria

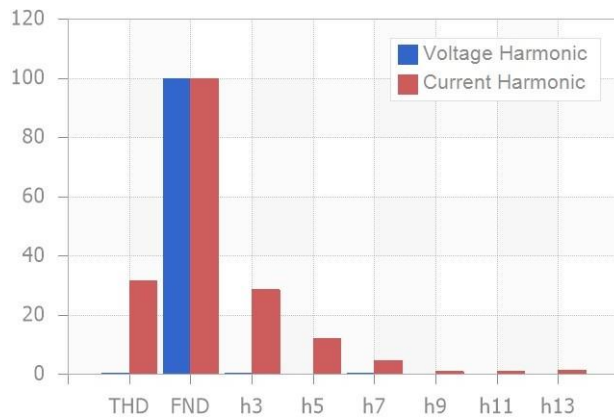
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

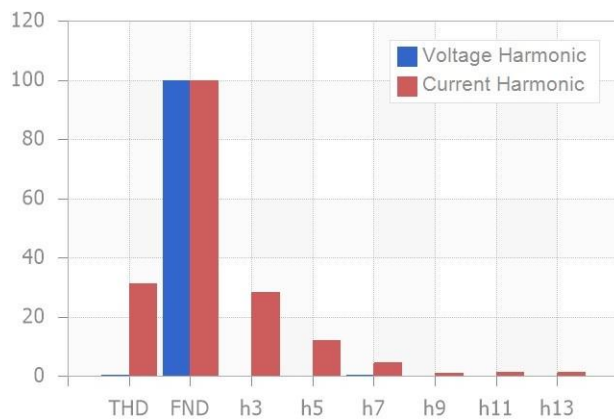
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



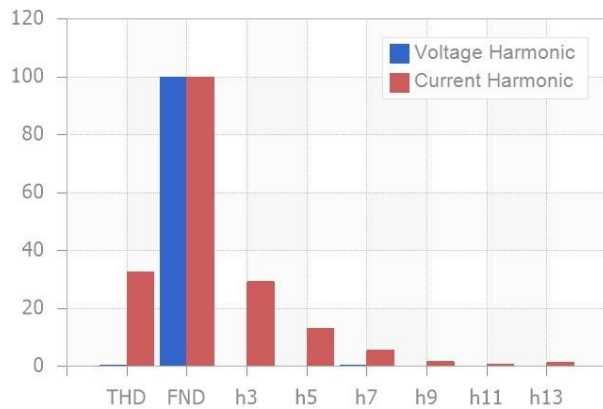
Item	Voltage [%]	Current [%]
THD	0,52	31,62
FND	100,00	100,00
h3	0,35	28,61
h5	0,10	12,23
h7	0,30	4,63
h9	0,01	0,97
h11	0,13	1,21
h13	0,07	1,45

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,47	31,34
FND	100,00	100,00
h3	0,23	28,45
h5	0,12	12,03
h7	0,33	4,50
h9	0,02	1,11
h11	0,11	1,31
h13	0,10	1,36

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,41	32,60
FND	100,00	100,00
h3	0,17	29,19
h5	0,16	13,09
h7	0,25	5,55
h9	0,02	1,58
h11	0,13	0,81
h13	0,08	1,30

H Blok Chiller 5 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	404,26 [V]	0,75	8,00	0,14	0,56	0,37	0,03	0,08	0,25
Current	116,87 [A]	14,23	8,00	13,84	2,58	2,28	0,49	0,67	0,42

Harmonic Judgement Criteria

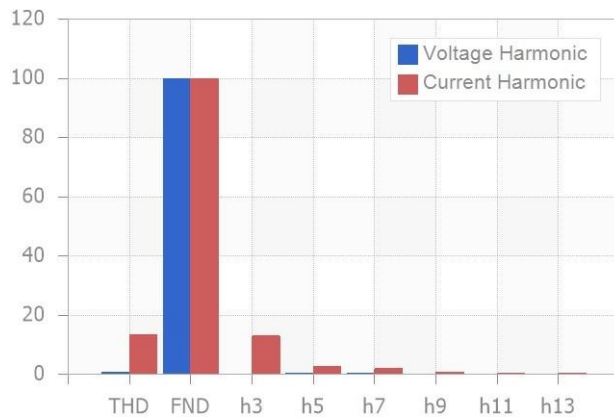
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV $< U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV $< U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV $< U_{BUS}$	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

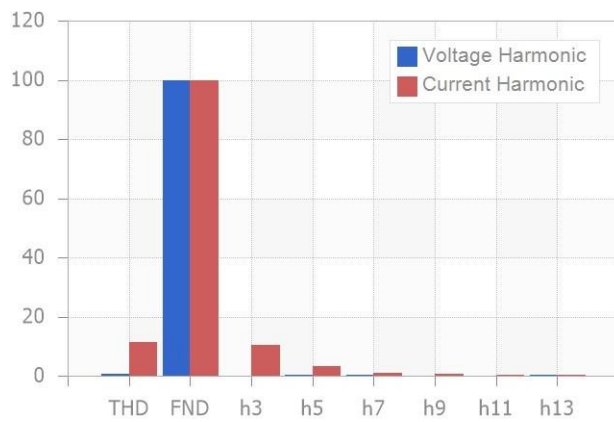
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



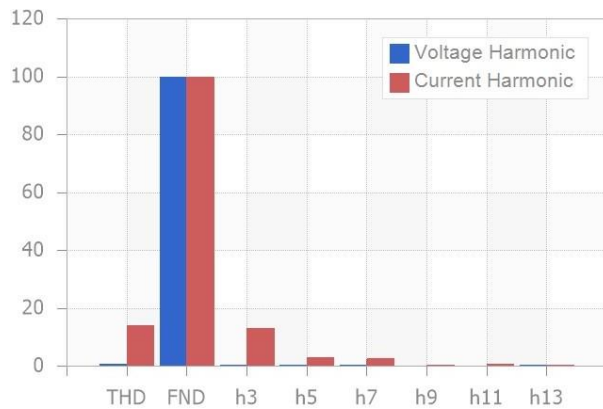
Item	Voltage [%]	Current [%]
THD	0,72	13,53
FND	100,00	100,00
h3	0,13	12,95
h5	0,53	2,82
h7	0,36	1,91
h9	0,04	0,75
h11	0,09	0,48
h13	0,23	0,56

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,61	11,35
FND	100,00	100,00
h3	0,15	10,59
h5	0,37	3,44
h7	0,32	1,21
h9	0,04	0,83
h11	0,06	0,29
h13	0,26	0,45

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,68	13,95
FND	100,00	100,00
h3	0,26	13,23
h5	0,44	3,02
h7	0,30	2,52
h9	0,02	0,43
h11	0,08	0,71
h13	0,25	0,37

Kazan Dairesi Pompa Klima Santrali Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	397,91 [V]	2,46	8,00	0,34	0,84	1,79	0,21	0,95	0,71
Current	21,84 [A]	2,32	8,00	0,55	0,79	1,93	0,13	0,66	0,37

Harmonic Judgement Criteria

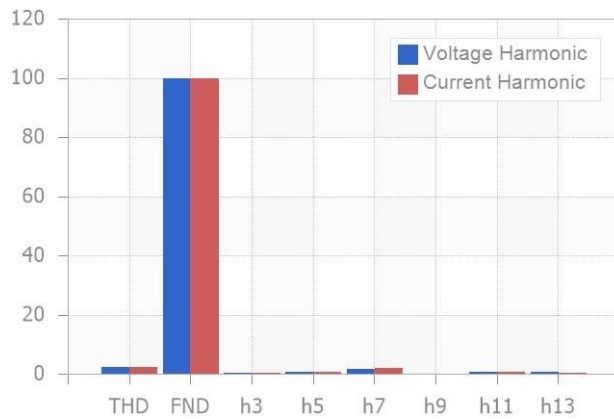
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

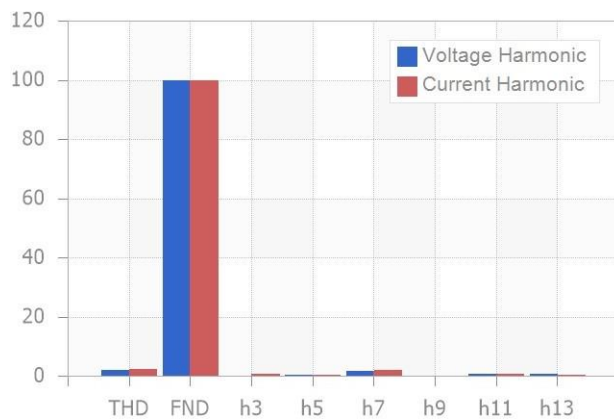
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



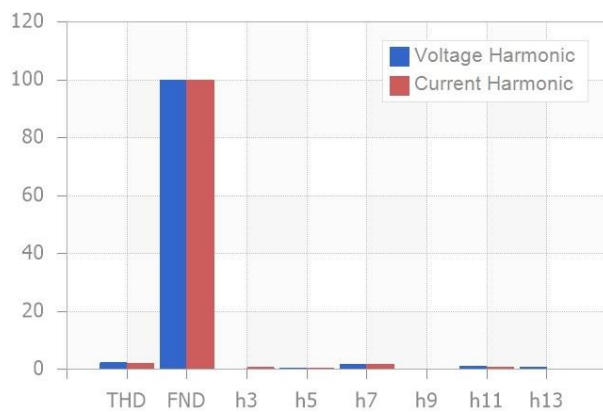
Item	Voltage [%]	Current [%]
THD	2,34	2,33
FND	100,00	100,00
h3	0,40	0,47
h5	0,73	0,79
h7	1,77	1,95
h9	0,21	0,14
h11	0,87	0,61
h13	0,67	0,34

S phase harmonics



Item	Voltage [%]	Current [%]
THD	2,18	2,27
FND	100,00	100,00
h3	0,04	0,75
h5	0,50	0,44
h7	1,66	1,90
h9	0,12	0,09
h11	0,87	0,60
h13	0,57	0,31

T phase harmonics



Item	Voltage [%]	Current [%]
THD	2,19	2,10
FND	100,00	100,00
h3	0,11	0,57
h5	0,53	0,53
h7	1,66	1,78
h9	0,09	0,14
h11	0,95	0,62
h13	0,60	0,23

Kütüphane Soğutma Grubu Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	395,90 [V]	0,79	8,00	0,46	0,36	0,39	0,09	0,10	0,26
Current	3,15 [A]	12,06	8,00	9,00	5,15	0,51	0,59	0,98	1,74

Harmonic Judgement Criteria

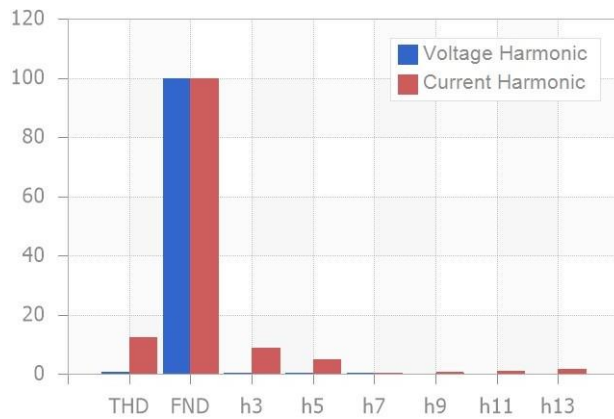
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

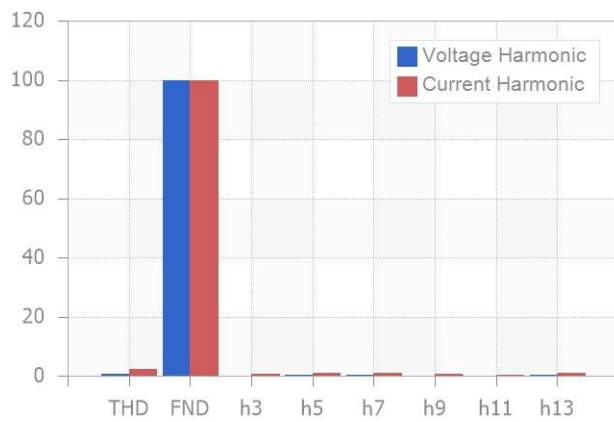
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



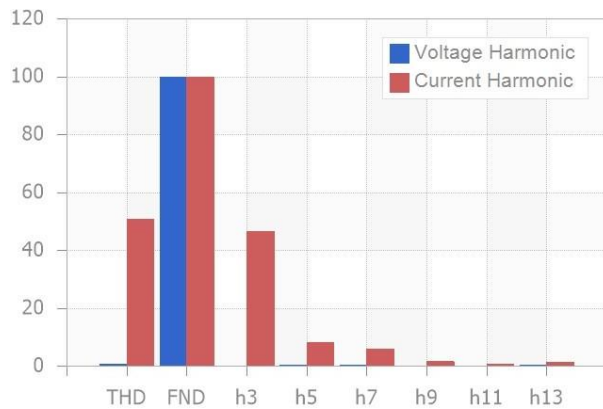
Item	Voltage [%]	Current [%]
THD	0,79	12,44
FND	100,00	100,00
h3	0,48	8,97
h5	0,36	5,09
h7	0,40	0,49
h9	0,07	0,57
h11	0,06	0,93
h13	0,22	1,75

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,68	2,43
FND	100,00	100,00
h3	0,16	0,78
h5	0,37	1,08
h7	0,36	1,15
h9	0,14	0,66
h11	0,12	0,30
h13	0,27	0,97

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,70	50,77
FND	100,00	100,00
h3	0,03	46,68
h5	0,39	8,30
h7	0,41	6,00
h9	0,09	1,61
h11	0,13	0,79
h13	0,29	1,44

MCC 1a-1b-1c Soğutma Grubu Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	378,35 [V]	1,23	8,00	0,27	0,56	0,72	0,18	0,60	0,45
Current	125,93 [A]	26,28	8,00	25,70	8,04	0,66	2,53	2,62	1,52

Harmonic Judgement Criteria

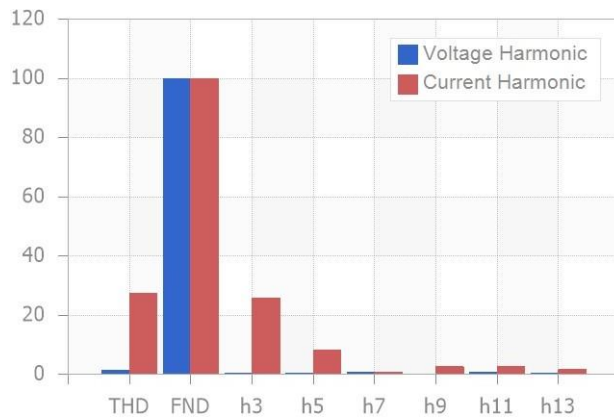
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

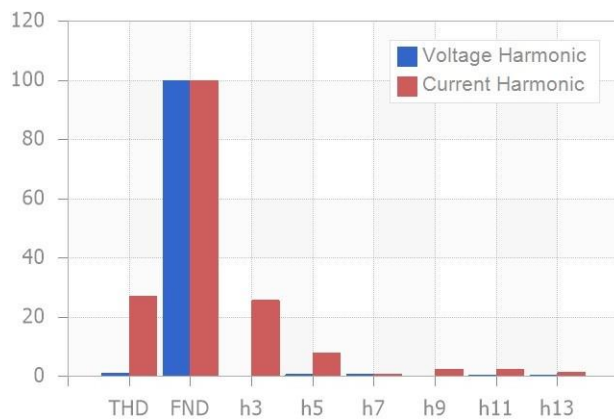
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



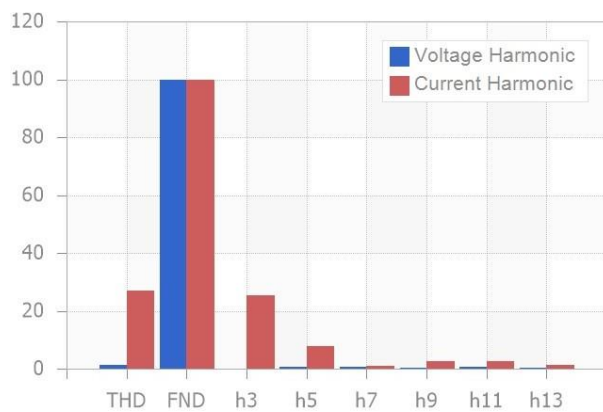
Item	Voltage [%]	Current [%]
THD	1,26	27,33
FND	100,00	100,00
h3	0,26	25,75
h5	0,54	8,08
h7	0,73	0,66
h9	0,16	2,56
h11	0,66	2,68
h13	0,47	1,59

S phase harmonics



Item	Voltage [%]	Current [%]
THD	1,16	27,13
FND	100,00	100,00
h3	0,12	25,59
h5	0,59	7,93
h7	0,72	0,60
h9	0,22	2,41
h11	0,40	2,43
h13	0,48	1,35

T phase harmonics



Item	Voltage [%]	Current [%]
THD	1,33	27,11
FND	100,00	100,00
h3	0,16	25,57
h5	0,62	7,88
h7	0,69	1,03
h9	0,24	2,72
h11	0,82	2,68
h13	0,36	1,45

MCC 2 Soğutma Grubu Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	376,76 [V]	1,23	8,00	0,28	0,51	0,73	0,16	0,60	0,48
Current	73,19 [A]	2,11	8,00	0,39	1,66	0,94	0,04	0,54	0,38

Harmonic Judgement Criteria

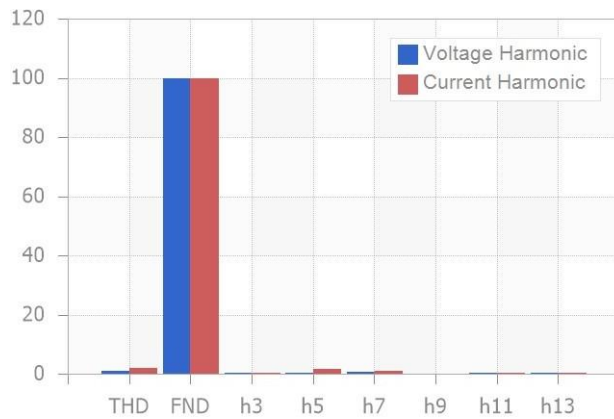
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

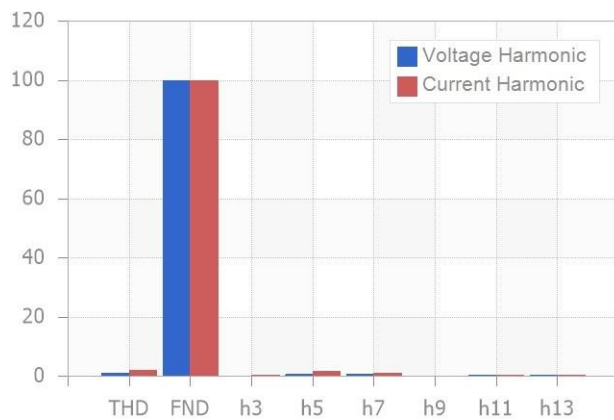
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



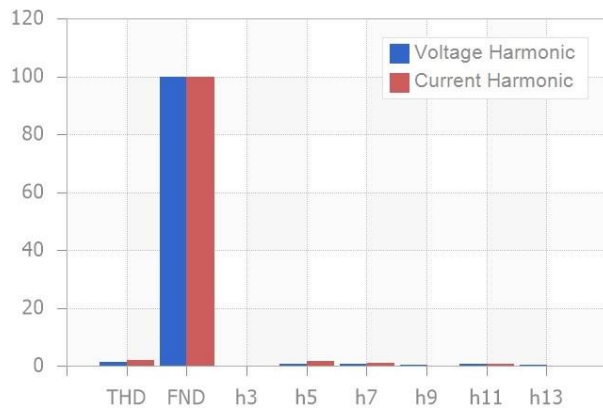
Item	Voltage [%]	Current [%]
THD	1,20	2,16
FND	100,00	100,00
h3	0,29	0,39
h5	0,55	1,73
h7	0,74	0,99
h9	0,18	0,05
h11	0,49	0,51
h13	0,46	0,33

S phase harmonics



Item	Voltage [%]	Current [%]
THD	1,09	2,06
FND	100,00	100,00
h3	0,13	0,36
h5	0,57	1,64
h7	0,65	1,04
h9	0,22	0,06
h11	0,35	0,39
h13	0,48	0,31

T phase harmonics



Item	Voltage [%]	Current [%]
THD	1,26	2,17
FND	100,00	100,00
h3	0,17	0,11
h5	0,61	1,78
h7	0,67	0,98
h9	0,24	0,03
h11	0,71	0,63
h13	0,38	0,19

Morfoloji (Tıp Fakültesi) Sirkülasyon Pompaları Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	368,21 [V]	0,77	8,00	0,39	0,16	0,37	0,34	0,10	0,15
Current	28,72 [A]	1,52	8,00	0,48	0,67	1,06	0,17	0,08	0,42

Harmonic Judgement Criteria

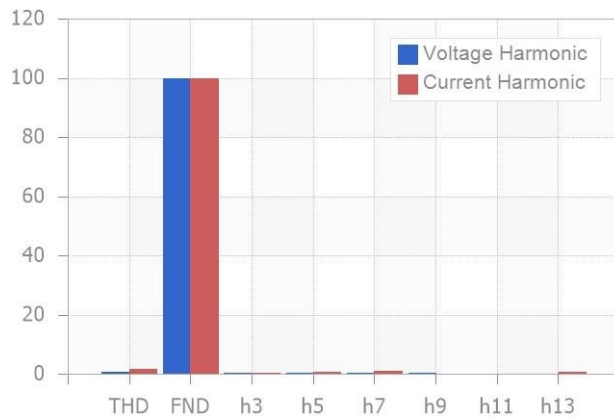
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

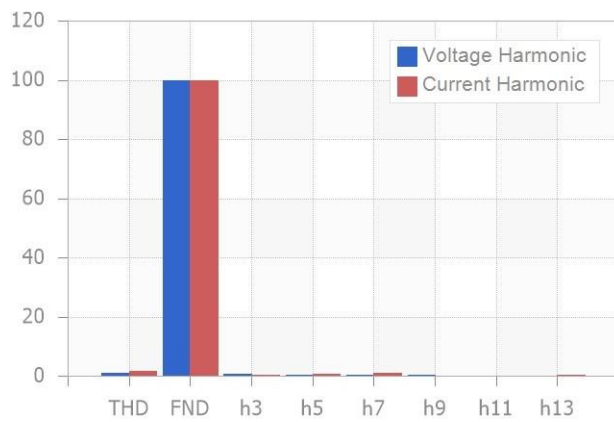
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



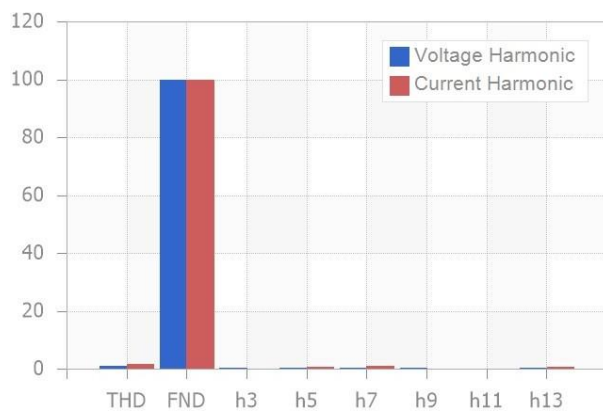
Item	Voltage [%]	Current [%]
THD	0,77	1,67
FND	100,00	100,00
h3	0,39	0,51
h5	0,26	0,66
h7	0,35	1,10
h9	0,33	0,20
h11	0,06	0,09
h13	0,19	0,65

S phase harmonics



Item	Voltage [%]	Current [%]
THD	1,03	1,65
FND	100,00	100,00
h3	0,77	0,38
h5	0,26	0,70
h7	0,38	1,15
h9	0,37	0,11
h11	0,03	0,20
h13	0,21	0,55

T phase harmonics



Item	Voltage [%]	Current [%]
THD	1,00	1,60
FND	100,00	100,00
h3	0,49	0,20
h5	0,34	0,80
h7	0,51	1,03
h9	0,34	0,08
h11	0,04	0,08
h13	0,40	0,59

Sirkülasyon Pompası Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	392,91 [V]	1,25	8,00	0,64	0,28	0,35	0,12	0,13	0,50
Current	126,20 [A]	26,12	8,00	25,59	8,07	1,01	1,89	1,72	0,65

Harmonic Judgement Criteria

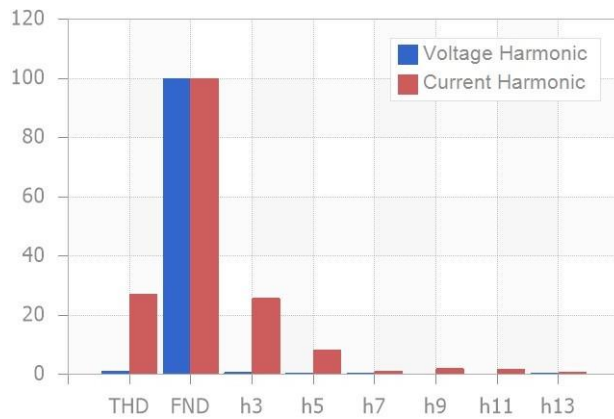
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

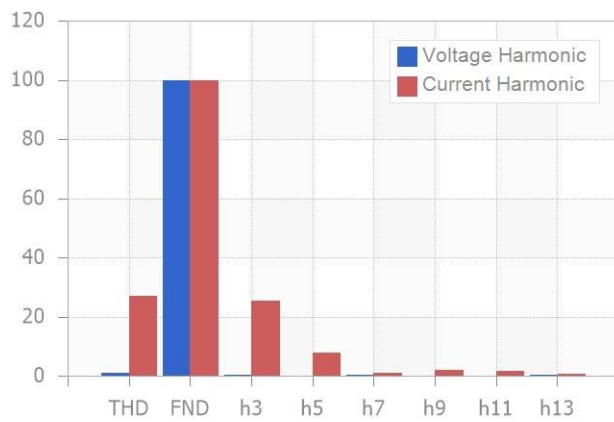
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



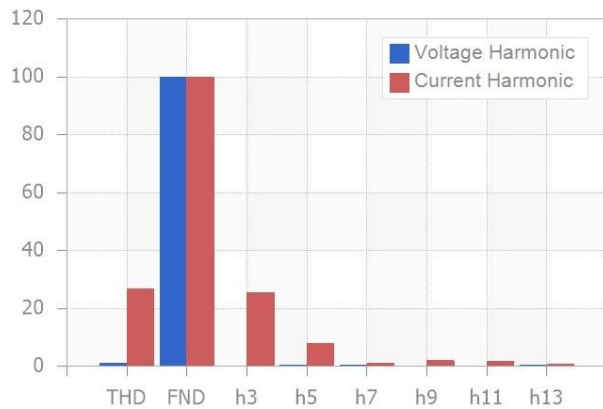
Item	Voltage [%]	Current [%]
THD	1,21	27,08
FND	100,00	100,00
h3	0,63	25,59
h5	0,28	8,05
h7	0,33	1,01
h9	0,10	1,88
h11	0,13	1,72
h13	0,44	0,64

S phase harmonics



Item	Voltage [%]	Current [%]
THD	1,19	26,92
FND	100,00	100,00
h3	0,29	25,46
h5	0,13	7,89
h7	0,45	1,06
h9	0,14	2,02
h11	0,15	1,74
h13	0,27	0,60

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,94	26,86
FND	100,00	100,00
h3	0,19	25,46
h5	0,33	7,87
h7	0,48	0,91
h9	0,08	1,95
h11	0,17	1,69
h13	0,41	0,60

A2 Zon 2 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	391,54 [V]	2,31	8,00	0,15	1,55	1,42	0,08	0,42	0,46
Current	26,07 [A]	4,14	8,00	1,06	3,37	2,61	0,12	0,56	0,69

Harmonic Judgement Criteria

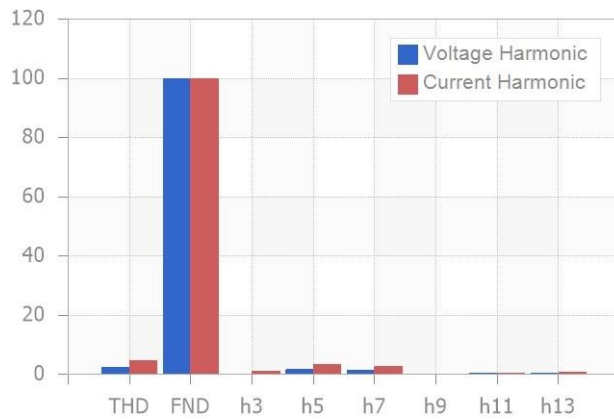
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV $< U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV $< U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV $< U_{BUS}$	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

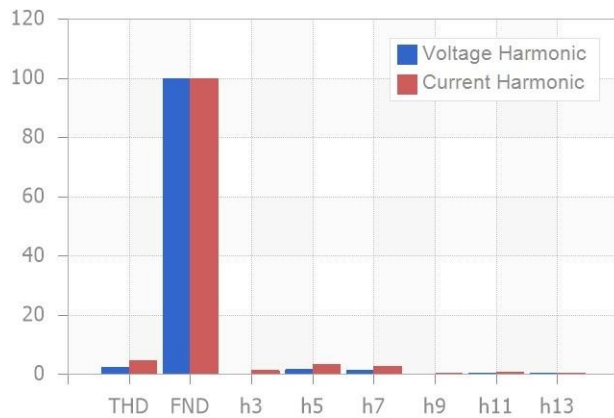
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



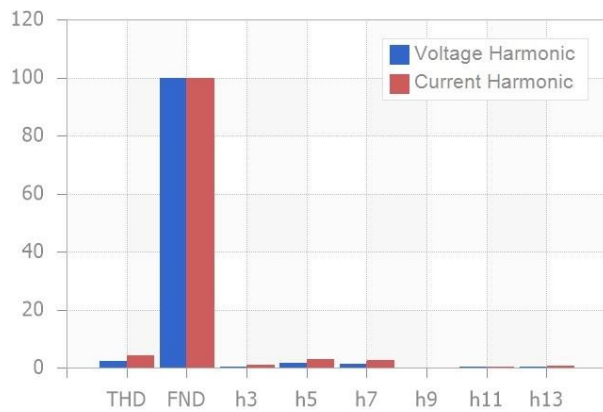
Item	Voltage [%]	Current [%]
THD	2,32	4,53
FND	100,00	100,00
h3	0,17	1,13
h5	1,56	3,38
h7	1,42	2,60
h9	0,09	0,08
h11	0,43	0,54
h13	0,45	0,61

S phase harmonics



Item	Voltage [%]	Current [%]
THD	2,27	4,67
FND	100,00	100,00
h3	0,16	1,26
h5	1,55	3,35
h7	1,34	2,75
h9	0,09	0,24
h11	0,47	0,67
h13	0,44	0,56

T phase harmonics



Item	Voltage [%]	Current [%]
THD	2,40	4,24
FND	100,00	100,00
h3	0,25	1,07
h5	1,58	2,99
h7	1,48	2,63
h9	0,07	0,06
h11	0,50	0,48
h13	0,45	0,61

8 Adet Kule Chiller Sirkülasyon Pompası Güç Kalitesi Ölçüm Raporu

8 Adet Kule Chiller Sirkülasyon Pompasından 3 tanesi çalışıyor.

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	394,70 [V]	2,33	8,00	0,13	1,66	1,33	0,09	0,42	0,44
Current	331,62 [A]	5,35	8,00	0,73	4,49	2,69	0,06	0,63	0,46

Harmonic Judgement Criteria

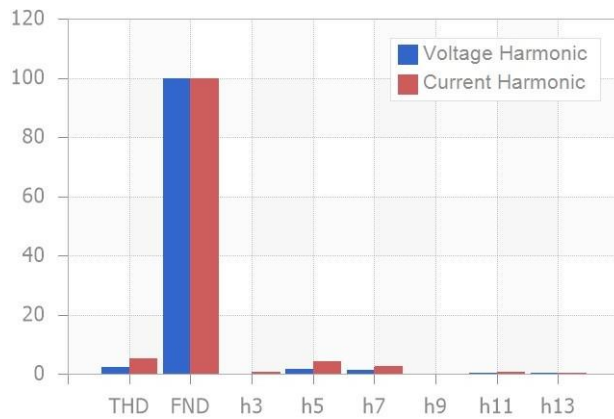
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

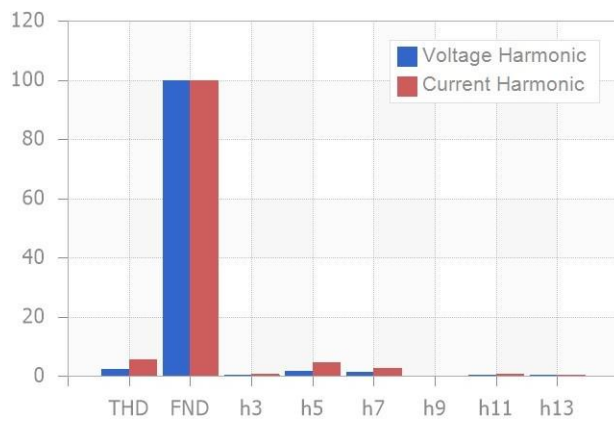
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



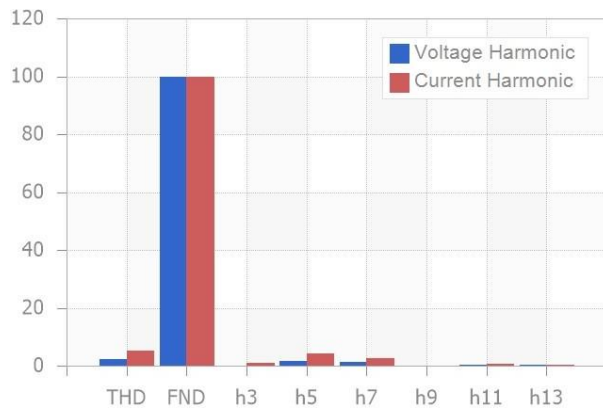
Item	Voltage [%]	Current [%]
THD	2,34	5,33
FND	100,00	100,00
h3	0,14	0,76
h5	1,68	4,46
h7	1,30	2,65
h9	0,10	0,04
h11	0,43	0,64
h13	0,44	0,45

S phase harmonics



Item	Voltage [%]	Current [%]
THD	2,47	5,48
FND	100,00	100,00
h3	0,25	0,65
h5	1,77	4,56
h7	1,38	2,80
h9	0,05	0,05
h11	0,51	0,63
h13	0,44	0,49

T phase harmonics



Item	Voltage [%]	Current [%]
THD	2,31	5,36
FND	100,00	100,00
h3	0,19	1,02
h5	1,65	4,40
h7	1,28	2,72
h9	0,08	0,11
h11	0,46	0,63
h13	0,48	0,47

A ve A1 Blok Sirkülasyon Pompası Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	397,63 [V]	1,04	8,00	0,40	0,30	0,32	0,24	0,78	0,18
Current	97,66 [A]	30,34	8,00	7,03	21,54	17,95	2,23	11,02	7,80

Harmonic Judgement Criteria

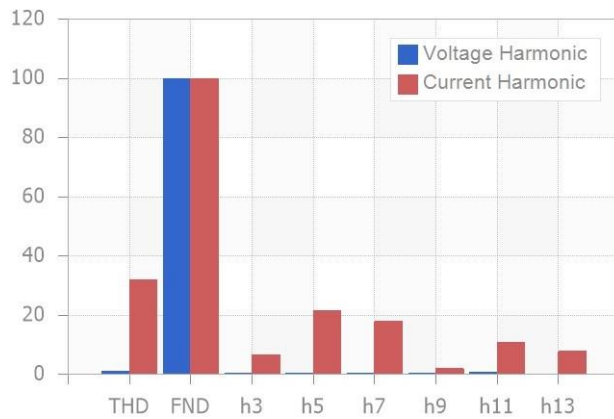
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

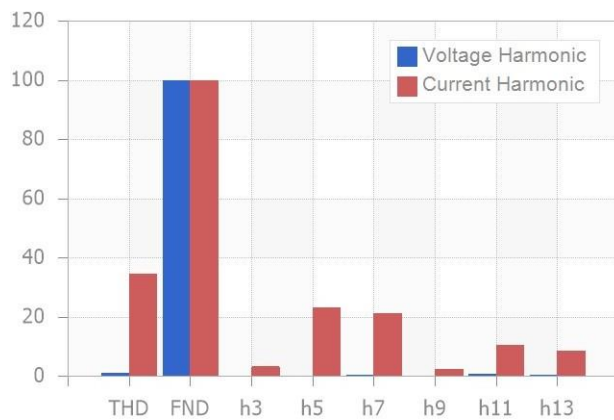
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



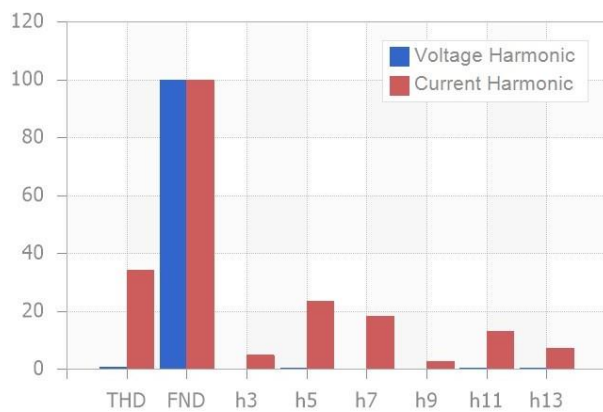
Item	Voltage [%]	Current [%]
THD	1,03	31,98
FND	100,00	100,00
h3	0,37	6,54
h5	0,29	21,42
h7	0,33	17,91
h9	0,26	1,91
h11	0,77	10,91
h13	0,18	7,81

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,98	34,66
FND	100,00	100,00
h3	0,16	3,17
h5	0,17	23,20
h7	0,45	21,30
h9	0,09	2,35
h11	0,69	10,40
h13	0,38	8,63

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,75	34,23
FND	100,00	100,00
h3	0,15	4,86
h5	0,25	23,55
h7	0,19	18,39
h9	0,15	2,73
h11	0,40	13,08
h13	0,41	7,37

A2 Zon1 Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	390,48 [V]	2,33	8,00	0,16	1,59	1,41	0,09	0,43	0,45
Current	17,48 [A]	4,16	8,00	0,55	3,51	2,61	0,24	0,65	0,32

Harmonic Judgement Criteria

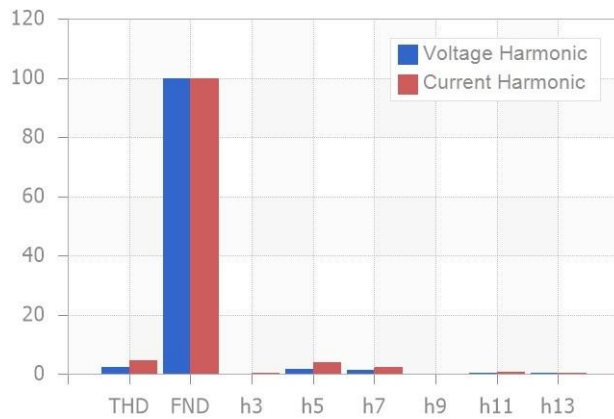
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

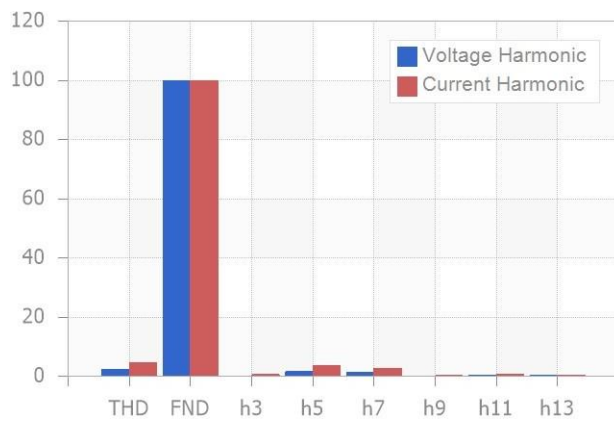
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



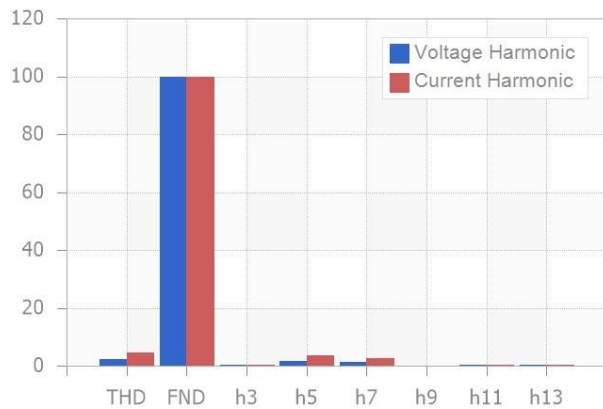
Item	Voltage [%]	Current [%]
THD	2,35	4,71
FND	100,00	100,00
h3	0,15	0,35
h5	1,60	3,93
h7	1,41	2,32
h9	0,10	0,15
h11	0,42	0,64
h13	0,47	0,45

S phase harmonics



Item	Voltage [%]	Current [%]
THD	2,29	4,69
FND	100,00	100,00
h3	0,17	0,58
h5	1,57	3,55
h7	1,34	2,71
h9	0,08	0,26
h11	0,46	0,60
h13	0,46	0,50

T phase harmonics



Item	Voltage [%]	Current [%]
THD	2,43	4,71
FND	100,00	100,00
h3	0,24	0,52
h5	1,64	3,63
h7	1,46	2,68
h9	0,06	0,14
h11	0,50	0,54
h13	0,46	0,56

Bahçe Soğutma Grubu Sirkülasyon Pompası Güç Kalitesi Ölçüm Raporu

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	400,19 [V]	0,70	8,00	0,23	0,31	0,53	0,09	0,06	0,17
Current	100,80 [A]	0,98	8,00	0,18	0,42	0,81	0,07	0,06	0,21

Harmonic Judgement Criteria

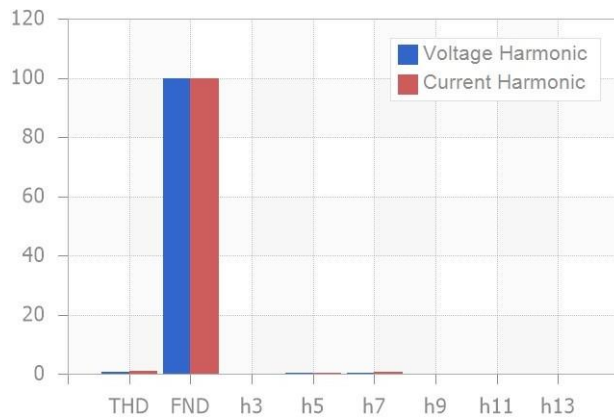
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

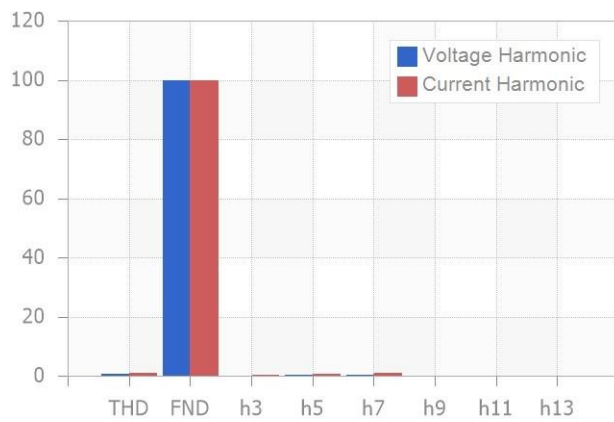
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



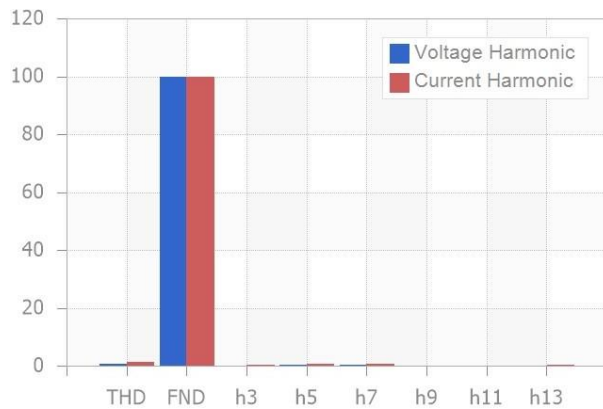
Item	Voltage [%]	Current [%]
THD	0,69	1,02
FND	100,00	100,00
h3	0,22	0,19
h5	0,32	0,45
h7	0,52	0,83
h9	0,10	0,06
h11	0,07	0,05
h13	0,16	0,20

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,76	1,20
FND	100,00	100,00
h3	0,20	0,25
h5	0,43	0,65
h7	0,54	0,90
h9	0,13	0,09
h11	0,06	0,10
h13	0,18	0,20

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,62	1,23
FND	100,00	100,00
h3	0,10	0,42
h5	0,33	0,63
h7	0,46	0,87
h9	0,05	0,14
h11	0,06	0,05
h13	0,17	0,25

C Blok 5 Adet Chillerin Soğutma Sirkülasyon Pompaları Güç Kalitesi Ölçüm Raporu

5 adet chiller soğutma sirkülasyon Pompasından 2 tanesi çalışıyor.

Harmonic Measurement Result Table

Item	Max	THD [%] / TDD [%]	Limit [%]	Harmonics [%]					
				3	5	7	9	11	13
Voltage (L-L)	395,93 [V]	0,58	8,00	0,11	0,30	0,43	0,04	0,08	0,15
Current	96,64 [A]	2,01	8,00	0,28	1,84	0,76	0,09	0,08	0,20

Harmonic Judgement Criteria

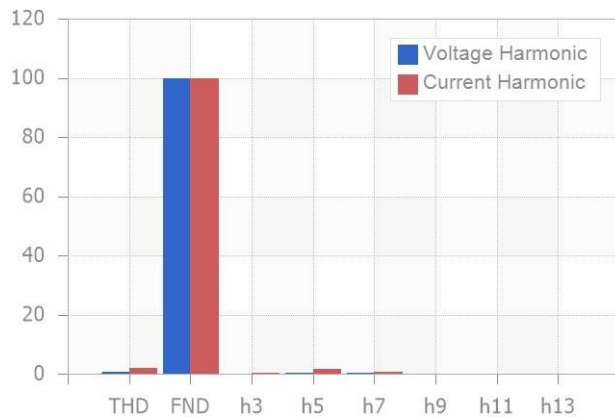
Harmonic voltage criteria presented in IEEE 519-2014

Bus voltage V at PCC	Individual Voltage Distortion [%]	Total Voltage Distortion THD [%]
$U_{BUS} \leq 1,00$ kV	5,00	8,00
$1,00$ kV < $U_{BUS} \leq 69,00$ kV	3,00	5,00
$69,00$ kV < $U_{BUS} \leq 161,00$ kV	1,50	2,50
$161,00$ kV < U_{BUS}	1,00	1,50

Harmonic current criteria presented in IEEE 519-2014

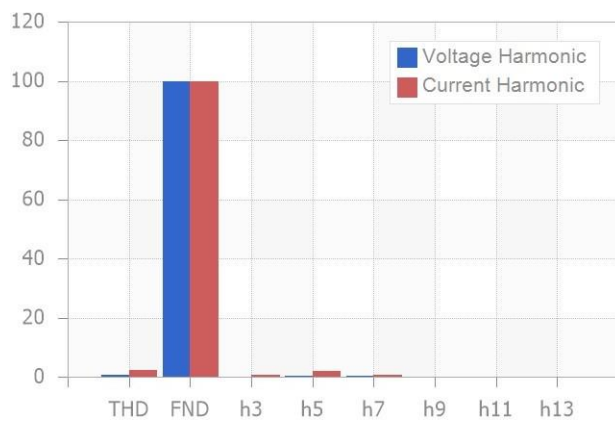
SCR = I_{sc}/I_L	Below 11th	11th - 17th	17th - 23rd	23rd - 35th	Over 35th	ITDD [%]
< 20	4,0	2,0	1,5	0,6	0,3	5,0
20 - 50	7,0	3,5	2,5	1,0	0,5	8,0
50 - 100	10,0	4,5	4,0	1,5	0,7	12,0
100 - 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

R phase harmonics



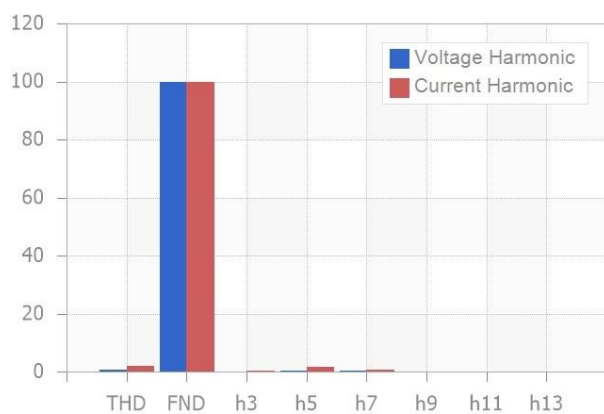
Item	Voltage [%]	Current [%]
THD	0,59	2,02
FND	100,00	100,00
h3	0,12	0,31
h5	0,29	1,82
h7	0,44	0,77
h9	0,04	0,09
h11	0,08	0,07
h13	0,17	0,21

S phase harmonics



Item	Voltage [%]	Current [%]
THD	0,69	2,21
FND	100,00	100,00
h3	0,22	0,82
h5	0,32	1,89
h7	0,49	0,77
h9	0,10	0,06
h11	0,07	0,03
h13	0,21	0,16

T phase harmonics



Item	Voltage [%]	Current [%]
THD	0,66	1,98
FND	100,00	100,00
h3	0,23	0,53
h5	0,24	1,71
h7	0,51	0,81
h9	0,07	0,04
h11	0,08	0,03
h13	0,17	0,16