



Farapayam Engineering Co.

Filtered Compensation Systems

Filtered Compensation System is a system that is used to protect the compensation system from the inductance coils to be placed in front of the capacitors frequency of the system is attracted to a point. For higher frequencies, the system will be inductive, which prevents the undesired consequences from occurring due to voltage distortions in the network.

There are a number of parameters that must be taken into consideration for the selection of filter compensation systems. First of all, the frequency of the filter to be installed must be considered. There are three values commonly used in the market:



134 Hz ($p=14\%$): This value is used if there is a serious amount of third harmonic in the system. It is a more cost effective solution than other solutions.

189 Hz ($p=7\%$): This value is the most appropriate value to protect the system against external influences. If there are no harmonic current generating devices in your system or the recommended value is less than 189Hz.

210 Hz ($p=5.67\%$): This value is used not only to protect the system from external influences, but also to reduce the pollution of the network by harmonic distortion occurring in the system. If the majority of the load is installed from harmonic generating devices it is recommended to use 210Hz.

The main purpose of filter compensation systems is to protect your compensation system. Different solutions must be followed in order to eliminate harmonics in the system.

FARA PAYAM Harmonic Filter Reactors are used for filtering and harmonic filtering applications.

The superior characteristics of the reactors are as follows:

- Three-phase, iron core and air spacing design
- Electrolytic copper winding
- Design for the desired resonance frequency (210Hz, 189 Hz, 134Hz or the desired value)
- Thermal output against overheating
- Design for 40° C ambient temperature (can be produced for other values)
- Class F insulation
- IP00
- Silent operation with varnish in vacuum
- ISO9000
- EN61558 2-20
- CE



HARMONIC FILTER SELECTION TABLES

440V 50Hz Line Voltage, 210Hz Resonance Frequency (p=%5,67)

Type	L (mH)	I _{rms} (A)	I _{th} (A)	I _{lin} (A)	C* (uF)	Size	Weight (kg)
BRH-5,67/440/6,25	4.97	10.80	11.88	20.41	38.50	1	5
BRH-5,67/440/7,5	4.5	13.27	14.60	25.08	47.31	2	6
BRH-5,67/440/12,5	2.33	23.06	25.37	43.58	82.21	3	7.5
BRH-5,67/440/15	2.08	25.84	28.42	48.83	92.10	4	9.5
BRH-5,67/440/25	1.25	43.05	47.35	81.35	153.46	5	12.5
BRH-5,67/440/30	1.04	51.67	56.84	97.65	184.21	6	18
BRH-5,67/440/50	0.62	86.09	94.70	162.7	306.91	9	25
BRH-5,67/440/60	0.52	103.34	113.68	195.31	368.41	12	43
BRH-5,67/440/100	0.31	172.18	189.40	325.41	613.82	12	45

440V 50Hz Line Voltage, 189Hz Resonance Frequency (p=%7)

Type	L (mH)	I _{rms} (A)	I _{th} (A)	I _{lin} (A)	C* (uF)	Size	Weight (kg)
BRH-7/440/6,25	6.14	10.03	11.03	17.45	38.50	1	5
BRH-7/440/7,5	5.00	12.33	13.56	21.45	47.31	1	6
BRH-7/440/12,5	2.88	21.42	23.56	37.27	82.21	3	8
BRH-7/440/15	2.57	23.99	26.39	41.76	92.10	3	10
BRH-7/440/25	1.54	39.98	43.98	69.57	153.46	6	17
BRH-7/440/30	1.28	47.99	52.79	83.51	184.21	6	21
BRH-7/440/50	0.77	79.96	87.95	139.15	306.91	8	27
BRH-7/440/60	0.64	95.98	105.58	167.03	368.41	10	35
BRH-7/440/100	0.39	159.91	175.90	278.29	613.82	12	52

440V 50Hz Line Voltage, 134Hz Resonance Frequency (p=%14)

Type	L (mH)	I _{rms} (A)	I _{th} (A)	I _{lin} (A)	C* (uF)	Size	Weight (kg)
BRH-14/440/6,25	12.28	10.38	11.42	15.79	38.50	3	7.5
BRH-14/440/7.5	9.99	12.76	14.04	19.40	47.31	4	10
BRH-14/440/12.5	6.84	18.63	20.50	28.33	69.08	5	12.5
BRH-14/440/15	5.13	24.85	27.33	37.77	92.10	5	13
BRH-14/440/25	3.42	37.27	41.00	56.66	138.16	7	19
BRH-14/440/30	2.77	45.97	50.56	69.88	170.39	8	21
BRH-14/440/50	1.71	74.54	81.99	113.32	276.31	11	34
BRH-14/440/60	1.37	93.17	102.49	141.65	345.39	12	45
BRH-14/440/100	0.86	149.08	163.98	226.64	552.62	13	62

Factory: No 175, Sixth Golestan Alley, Baharestan industrial city, Kamalshahr, Karaj-Iran
Factory Telefax: (+9826) 347 60 477-9