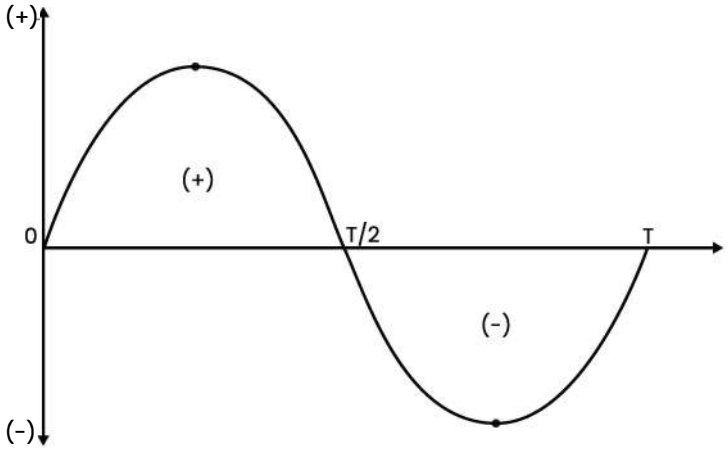
HARMONIC FILTERS

Under normal conditions, it is desirable that the mains voltage be in sinusoidal form, however, the mains voltage move away from the sinusoidal form for various reasons and high frequency components called harmonics are formed. When harmonics exceed certain limits, they can have very dangerous consequences for enterprises. For this reason, in enterprises with high harmonics harmonic filter reactors should be used in compensation panels. In this way, resonance events are prevented which are dangerous for the system. In addition, capacitors are protected from the harmful effects of harmonics.

Technical Features

- Conforms to EN60076-6 and EN61558-2-20 standards.
- Nominal voltage: 230 - 400 V AC.
- Rated power: 0,5 - 1 oo kVAr.
- Nominal frequency: 50 Hz.
- Inductivity tolerance: 5%.
- insulation class F class: 155° C.
- Humidity < 95% in the environment where it will operate.
- Natural T40 cooling.
- Connection: Terminal block, lug, or busbar.
- Consists of high permeable iron core with air gap.
- Wrapping material: Aluminum or copper.
- Thermally protected against overheating in the middle leg.
- Thermal protection: 120°C (NC contact).
- Protection class: IP00



MONOPHASE HARMONIC FILTERS

KEY FEATURES

Single phase Harmonic Filter(P=%5,67-210Hz)

Product code	Product name	Product Description	A (Irms)	Dimensions (mm) (Width-Length-Depth)	Connection	Weight (kg)
GA5311	HRM 0.5/5.67	0.5 kVAr MONOPHASE HARMONIC FILTER (5.67)	2,60	70X85X85	Terminals	1,35
GA5312	HRM 1.0/5.67	1.0 kVAr MONOPHASE HARMONIC FILTER (5.67)	5,21	85X85X85	Terminals	1,95
GA5313	HRM 1.5/5.67	1.5 kVAr MONOPHASE HARMONIC FILTER (5.67)	7,82	85X100X100	Terminals	2,45
GA5314	HRM 2.5/5.67	2.5 kVAr MONOPHASE HARMONIC FILTER (5.67)	13,04	90X120X115	Terminals	3,80
GA5315	HRM 5.0/5.67	5.0 kVAr MONOPHASE HARMONIC FILTER (5.67)	26,08	110X150X130	Lug (M6)	6,35
GA5316	HRM 7.5/5.67	7.5 kVAr MONOPHASE HARMONIC FILTER (5.67)	39,13	120X150X130	Lug (M8)	8,30
GA5317	HRM 10.0/5.67	10.0 kVAr MONOPHASE HARMONIC FILTER (5.67)	52,17	150X150X130	Lug (M8)	11,30

TECHNICAL FEATURES

MONOPHASE HARMONIC FILTERS (P=7%-189 Hz)

Product code	Product name	Product Description	A (I_{rms})	L (mH)	Foot Mounting Bolts	Connection	Weight (kg)
GA5411	HRM 0.5/7	0.5 kVAr MONOPHASE HARMONIC FILTER (7)	2,47	25,34	M4	Terminals	1,3
GA5412	HRM 1.0/7	1.0 kVAr MONOPHASE HARMONIC FILTER (7)	4,95	12,67	M5	Terminals	1,5
GA5413	HRM 1.5/7	1.5 kVAr MONOPHASE HARMONIC FILTER (7)	7,43	8,45	M6	Terminals	2,5
GA5414	HRM 2.5/7	2.5 kVAr MONOPHASE HARMONIC FILTER (7)	12,38	5,07	M6	Terminals	4,0
GA5415	HRM 5.0/7	5.0 kVAr MONOPHASE HARMONIC FILTER (7)	24,77	2,53	M8	Lug	6,5
GA5416	HRM 7.5/7	7.5 kVAr MONOPHASE HARMONIC FILTER (7)	37,16	1,69	M8	Lug	8,5
GA5417	HRM 10.0/7	10.0 kVAr MONOPHASE HARMONIC FILTER (7)	49,15	1,28	M8	Lug	11,5

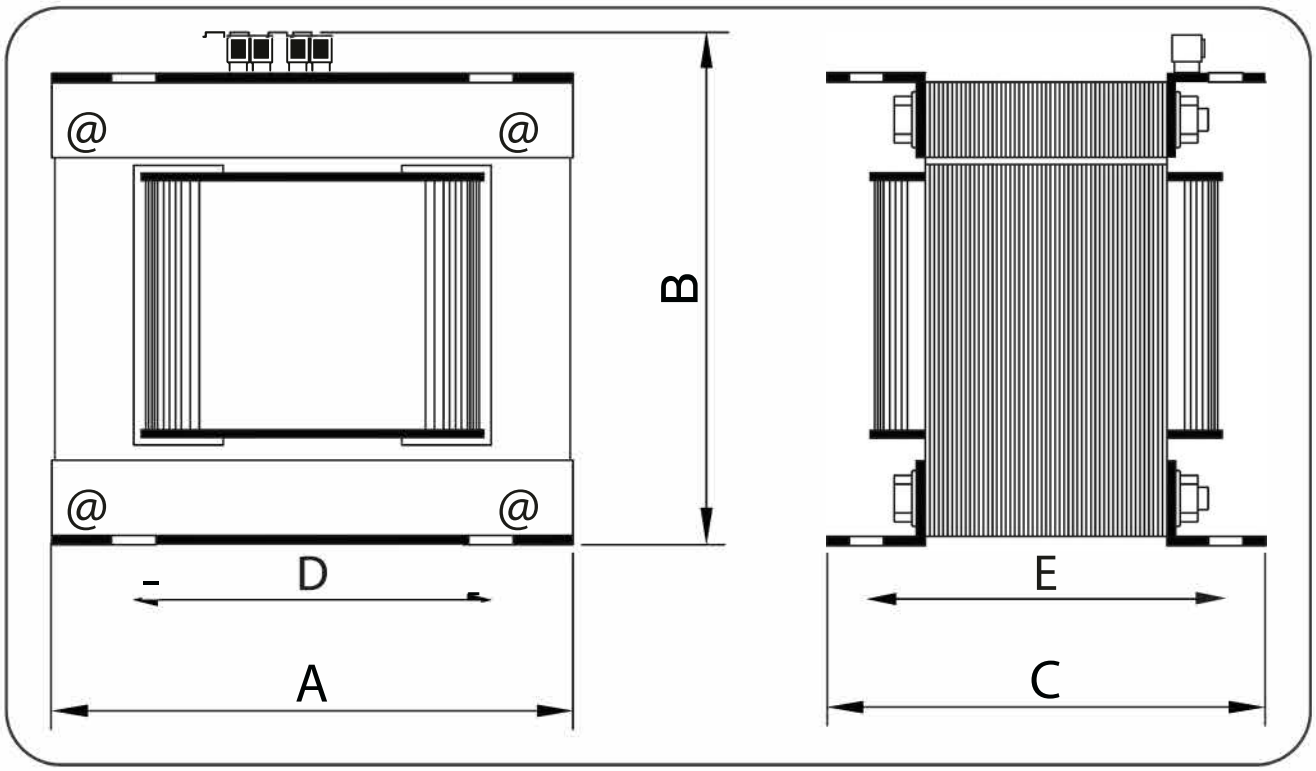
TECHNICAL FEATURES

MONOPHASE HARMONIC FILTERS (P=%14-134 Hz)

Product code	Product name	Product Description	A (Irms)	Dimensions (mm) (Width-Length-Depth)	Connection	Weight (kg)
GA5511	HRM 0.5/14	0.5 kVAr MONOPHASE HARMONIC FILTER (14)	2,23	70 x 85 x 85	Terminals	1,35
GA5512	HRM 1.0/14	1.0 kVAr MONOPHASE HARMONIC FILTER (14)	4,47	85 x 85 x 85	Terminals	1,95
GA5513	HRM 1.5/14	1.5 kVAr MONOPHASE HARMONIC FILTER (14)	6,71	85 x 100 x 100	Terminals	2,45
GA5514	HRM 2.5/14	2.5 kVAr MONOPHASE HARMONIC FILTER (14)	11,19	90 x 120 x 115	Terminals	3,80
GA5515	HRM 5.0/14	5.0 kVAr MONOPHASE HARMONIC FILTER (14)	22,39	110 x 150 x 130	Terminals	6,35
GA5516	HRM 7.5/14	7.5 kVAr MONOPHASE HARMONIC FILTER (14)	33,58	120 x 150 x 130	Terminals	8,30
GA5517	HRM 10.0/14	10.0 kVAr MONOPHASE HARMONIC FILTER (14)	44,78	150 x 150 x 130	Terminals	11,30

MONOPHASE HARMONIC FILTERS

KEY FEATURES



MONOPHASE HARMONIC FILTERS (P=%5,67)

Product name	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
HRM0.5/5.67	70	85	85	-	-
HRM1/5.67	85	85	85	-	-
HRM1.5/5.67	85	100	100	-	-
HRM2.5/5.67	90	120	115	-	-
HRM5.0/5.67	110	150	130	-	-
HRM7.5/5.67	120	150	130	-	-
HRM10.0/5.67	150	150	130	-	-

MONOPHASE HARMONIC FILTERS (P=%7)

Product name	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
HRM0.5/7	85	85	65	70	45
HRM1/0.7	85	85	70	55	50
HRM1.5/7	95	85	90	80	65
HRM2.5/7	120	105	90	100	65
HRM5.0/7	150	125	105	95	75
HRM7.5/7	150	125	125	95	95
HRM10.0/7	150	125	150	95	120

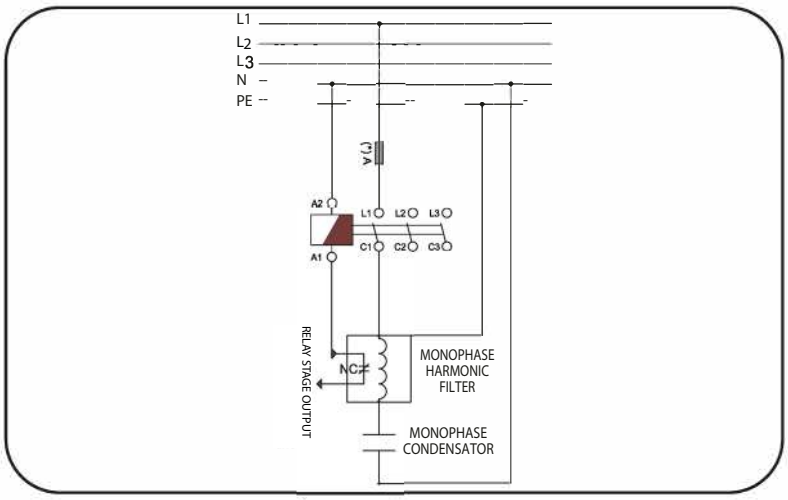
MONOPHASE HARMONIC FILTERS (P=%14)

Product name	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
HRM0.5/14	70	85	85	-	-
HRM1/0.14	85	85	85	-	-
HRM1.5/14	85	100	100	-	-
HRM2.5/14	90	120	115	-	-
HRM5.0/14	110	150	130	-	-
HRM7.5/14	120	150	130	-	-
HRM10.0/14	150	150	130	-	-

- Please contact for detailed information about the features not specified in the data.

CONNECTION DIAGRAM

MONOPHASE HARMONIC FILTERS (P=%5,67,%7,%14)



THREE-PHASE HARMONIC FILTERS

THREE-PHASE HARMONIC FILTERS (P=%5,67-210 Hz)

Product code	Product name	Product Description	A (Irms)	L (mH)	Connection	Foot Mounting Bolts	Weight (kg)
GA5321	HRT 0.5/5.67	0.5 kVAr THREE-PHASE HARMONIC FILTER (5.67)	–	–	–	–	–
GA5322	HRT 1.0/5.67	1.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	1,80	30,61	Terminals	M6	2,2
GA5323	HRT 1.5/5.67	1.5 kVAr THREE-PHASE HARMONIC FILTER (5.67)	2,81	19,62	Terminals	M6	3,0
GA5324	HRT 2.5/5.67	2.5 kVAr THREE-PHASE HARMONIC FILTER (5.67)	4,51	12,25	Terminals	M8	3,3
GA5325	HRT 3.12/5.67	3.12 kVAr THREE-PHASE HARMONIC FILTER (5.67)	5,63	9,81	Terminals	M8	5,0
GA5326	HRT 5.0/5.67	5.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	9,02	6,12	Terminals	M8	5,5
GA5327	HRT 6.25/5.67	6.25 kVAr THREE-PHASE HARMONIC FILTER (5.67)	11,28	4,90	Terminals	M8	6,0
GA5328	HRT 7.5/5.67	7.5 kVAr THREE-PHASE HARMONIC FILTER (5.67)	13,53	4,08	Terminals	M8	8,0
GA5329	HRT 10.0/5.67	10.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	18,04	3,06	Terminals	M8	9,0
GA5330	HRT 12.5/5.67	12.5 kVAr THREE-PHASE HARMONIC FILTER (5.67)	22,55	2,45	Terminals	M8	9,0
GA5331	HRT 15.0/5.67	15.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	27,06	2,04	Busbar	M8	14,5
GA5332	HRT 20.0/5.67	20.0 kVAr THREE-PHASE HARMONIC FILTER (5.67	36,08	1,53	Busbar	M8	16,0
GA5333	HRT 25.0/5.67	25.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	45,11	1,26	Busbar	M8	21,0
GA5334	HRT 30.0/5.67	30.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	49,15	1,28	Busbar	M8	21,0
GA5335	HRT 40.0/5.67	40.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	72,17	0,76	Busbar	M8	23,5
GA5336	HRT 50.0/5.67	50.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	90,21	0,61	Busbar	M8	30,0
GA5337	HRT 60.0/5.67	60.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	108,25	0,51	Busbar	M8	31,0
GA5338	HRT 75.0/5.67	75.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	120,16	0,41	Busbar	M10	37,0
GA5339	HRT 100.0/5.67	100.0 kVAr THREE-PHASE HARMONIC FILTER (5.67)	160,21	0,31	Busbar	M10	44,0

THREE-PHASE HARMONIC FILTERS (P=%7-189 Hz)

Product code	Product name	Product Description	A (Irms)	L (mH)	Connection	Foot Mounting Bolts	Weight (kg)
GA5421	HRT 0.5/7	0.5 kVAr **THREE-PHASE HARMONIC FILTER** (7)	0,82	76,67	Terminals	M6	1,5
GA5422	HRT 1.0/7	1.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	1,64	38,33	Terminals	M6	2,2
GA5423	HRT 1.5/7	1.5 kVAr **THREE-PHASE HARMONIC FILTER** (7)	2,56	24,57	Terminals	M6	3,0
GA5424	HRT 2.5/7	2.5 kVAr **THREE-PHASE HARMONIC FILTER** (7)	4,10	15,33	Terminals	M6	3,3
GA5425	HRT 3.12/7	3.12 kVAr **THREE-PHASE HARMONIC FILTER** (7)	5,11	15,33	Terminals	M6	4,2
GA5426	HRT 5.0/7	5.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	8,20	7,67	Terminals	M8	5,0
GA5427	HRT 6.25/7	6.25 kVAr **THREE-PHASE HARMONIC FILTER** (7)	10,24	6,13	Terminals	M8	6,0
GA5428	HRT 7.5/7	7.5 kVAr **THREE-PHASE HARMONIC FILTER** (7)	12,29	5,11	Terminals	M8	6,0
GA5429	HRT 10.0/7	10.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	16,38	3,83	Terminals	M8	7,0
GA5430	HRT 12.5/7	12.5 kVAr **THREE-PHASE HARMONIC FILTER** (7)	20,48	3,07	Terminals	M8	9,0
GA5431	HRT 15.0/7	15.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	24,57	2,56	Terminals	M8	11,0
GA5432	HRT 20.0/7	20.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	32,76	1,92	Busbar	M8	14,5
GA5433	HRT 25.0/7	25.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	41,00	1,53	Busbar	M8	15,0
GA5434	HRT 30.0/7	30.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	49,15	1,28	Busbar	M8	17,0
GA5435	HRT 40.0/7	40.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	65,53	0,96	Busbar	M8	21,0
GA5436	HRT 50.0/7	50.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	82,00	0,77	Busbar	M8	22,0
GA5437	HRT 60.0/7	60.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	98,30	0,64	Busbar	M8	30,0
GA5438	HRT 75.0/7	75.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	119,1	0,51	Busbar	M10	40,0
GA5439	HRT 100.0/7	100.0 kVAr **THREE-PHASE HARMONIC FILTER** (7)	158,8	0,38	Busbar	M10	50,0

THREE-PHASE HARMONIC FILTERS

Technical Features

THREE-PHASE HARMONIC FILTERS (P=%14 -134 Hz)

Product code	Product name	Product Description	A (I_{rms})	L (mH)	Foot Mounting Bolts	Connection	Weight (kg)
GA5521	HRT 0.5/14	0.5 kVAr **THREE-PHASE HARMONIC FILTER** (14)	–	–	–	–	–
GA5522	HRT 1.0/14	1.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	1,53	82,90	Terminals	M6	2,5
GA5523	HRT 1.5/14	1.5 kVAr **THREE-PHASE HARMONIC FILTER** (14)	2,39	53,15	Terminals	M6	4,5
GA5524	HRT 2.5/14	2.5 kVAr **THREE-PHASE HARMONIC FILTER** (14)	3,82	33,16	Terminals	M6	5,0
GA5525	HRT 3.12/14	3.12 kVAr **THREE-PHASE HARMONIC FILTER** (14)	4,77	26,57	Terminals	M8	6,5
GA5526	HRT 5.0/14	5.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	7,65	16,58	Terminals	M8	7,5
GA5527	HRT 6.25/14	6.25 kVAr **THREE-PHASE HARMONIC FILTER** (14)	9,56	13,26	Terminals	M8	8,5
GA5528	HRT 7.5/14	7.5 kVAr **THREE-PHASE HARMONIC FILTER** (14)	11,47	11,05	Terminals	M8	9,0
GA5529	HRT 10.0/14	10.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	15,30	8,29	Terminals	M8	11,0
GA5530	HRT 12.5/14	12.5 kVAr **THREE-PHASE HARMONIC FILTER** (14)	19,12	6,63	Terminals	M8	13,5
GA5531	HRT 15.0/14	15.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	22,95	5,53	Terminals	M8	14,0
GA5532	HRT 20.0/14	20.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	30,60	4,15	Busbar	M8	20,5
GA5533	HRT 25.0/14	25.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	38,30	3,32	Busbar	M8	22,0
GA5534	HRT 30.0/14	30.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	45,90	2,76	Busbar	M8	31,0
GA5535	HRT 40.0/14	40.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	61,20	2,07	Busbar	M8	35,0
GA5536	HRT 50.0/14	50.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	76,50	1,66	Busbar	M8	41,0
GA5537	HRT 60.0/14	60.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	91,80	1,38	Busbar	M8	44,0
GA5538	HRT 75.0/14	75.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	119	1,10	Busbar	M10	72,0
GA5539	HRT 100.0/14	100.0 kVAr **THREE-PHASE HARMONIC FILTER** (14)	159	0,82	Busbar	M10	85,0

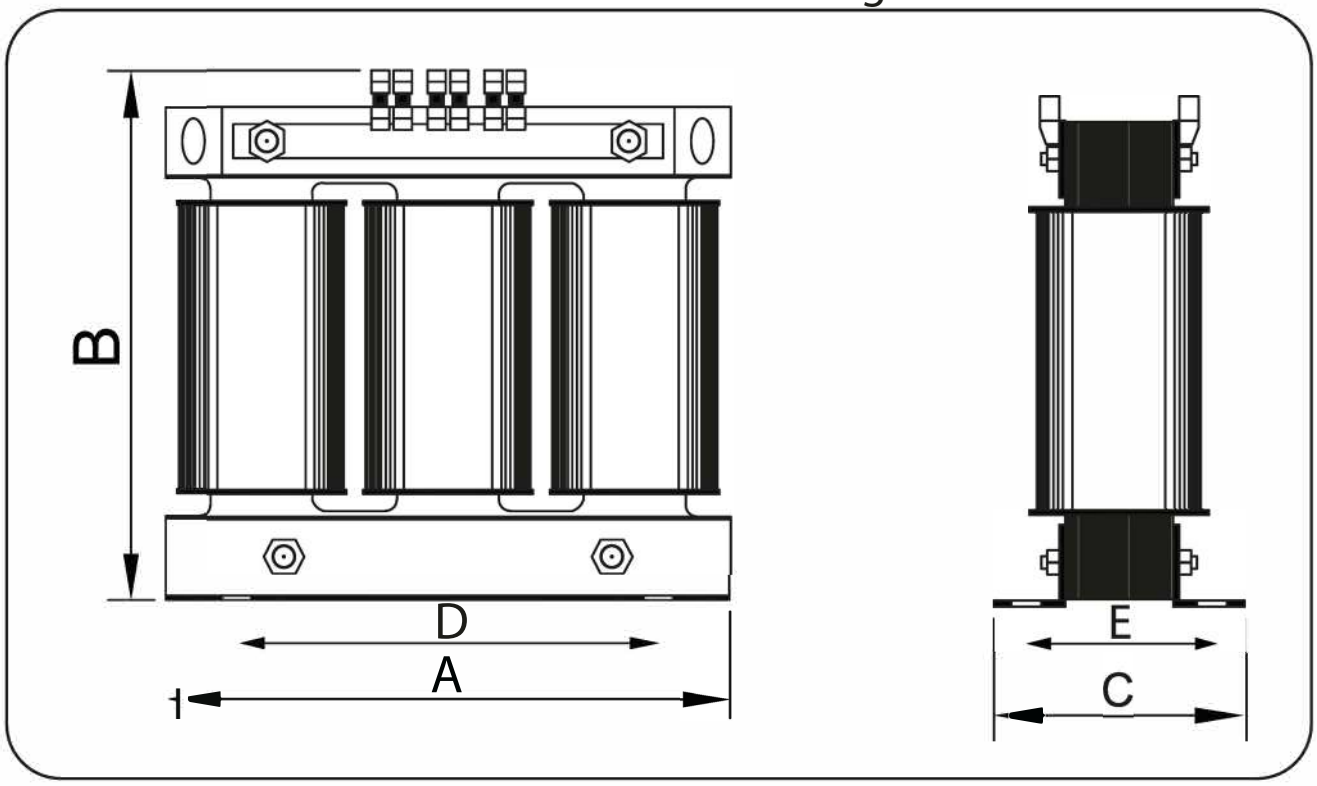
Please contact for detailed information about the features not specified in the data.

THREE-PHASE HARMONIC FILTER

KEY FEATURES

THREE-PHASE HARMONIC FILTERS (P=%5,67,%7,%14)

Technical Drawing



THREE-PHASE HARMONIC FILTERS (P=%5.67)

Product name	A(mm)	B(mm)	C(mm)	D(mm)	E(mm?)
HRT0.5/5.67	-	-	-	-	-
HRT1.0/5.67	120	110	70	100	50
HRT1.5/5.67	150	135	80	100	50
HRT2.5/5.67	150	135	85	100	55
HRT3.12/5.67	180	180	100	150	60
HRT5.0/5.67	180	180	105	150	65
HRT6.25/5.67	180	180	110	150	70
HRT7.5/5.67	180	180	120	150	75
HRT10.0/5.67	180	180	130	150	85
HRT12.5/5.67	180	180	140	150	90
HRT15.0/5.67	240	205	140	200	90
HRT20.0/5.67	240	205	150	200	100
HRT25.0/5.67	240	205	160	200	110
HRT30.0/5.67	240	205	160	200	110
HRT40.0/5.67	300	255	160	250	100
HRT50.0/5.67	300	255	150	250	110
HRT60.0/5.67	300	255	170	250	110
HRT75.0/5.67	320	260	160	300	109
HRT100.0/5.67	390	310	160	350	99

THREE-PHASE HARMONIC FILTERS (P=%7)

Product name	A(mm)	B(mm)	C(mm)	D(mm)	E(mm?)
HRT0.5/7	120	110	60	100	40
HRT1.0/7	120	110	70	100	50
HRT1.5/7	150	135	80	100	50
HRT2.5/7	150	135	85	100	55
HRT3.12/7	150	150	100	100	65
HRT5.0/7	180	180	100	150	60
HRT6.25/7	180	180	110	150	70
HRT7.5/7	180	180	110	150	70
HRT10.0/7	180	180	120	150	75
HRT12.5/7	180	180	140	150	90
HRT15.0/7	240	230	140	200	80
HRT20.0/7	240	205	140	200	90
HRT25.0/7	240	205	140	200	90
HRT30.0/7	240	205	150	200	100
HRT40.0/7	250	240	150	200	95
HRT50.0/7	250	240	150	200	95
HRT60.0/7	300	255	150	250	110
HRT75.0/7	320	260	170	300	109
HRT100.0/7	390	310	170	300	109

THREE-PHASE HARMONIC FILTERS (P=%14)

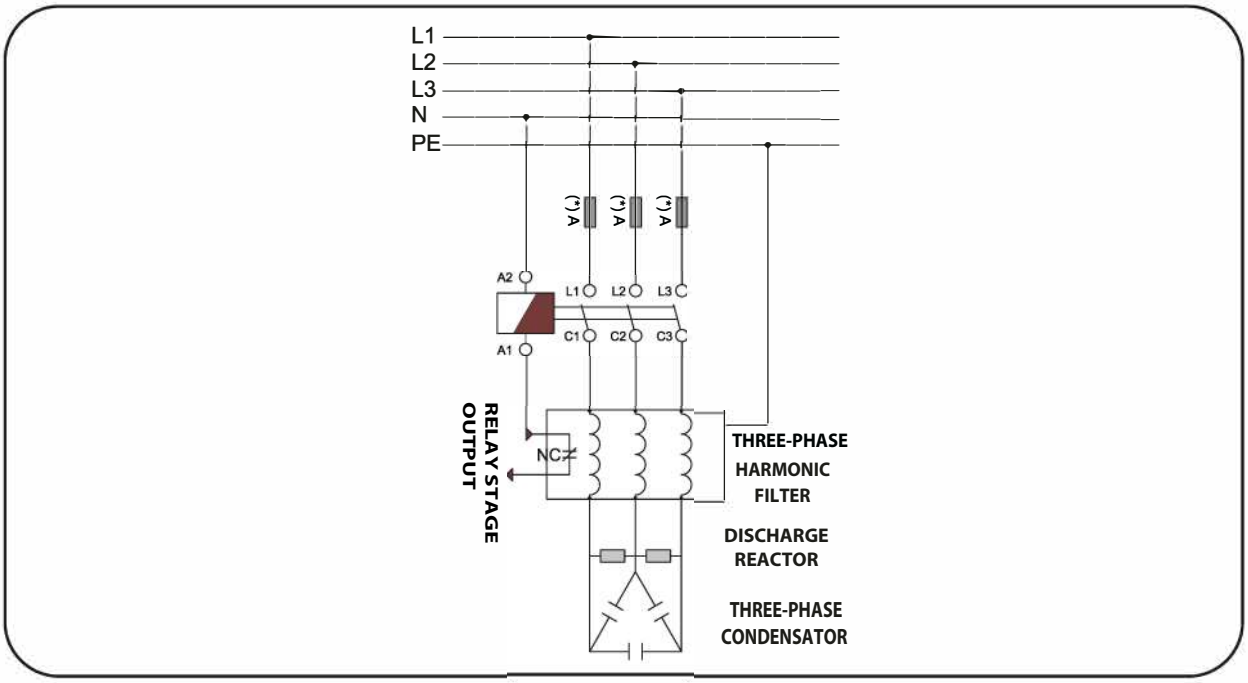
Product name	A(mm)	B(mm)	C(mm)	D(mm)	E(mm?)
HRT0.5/14	-	-	-	-	-
HRT1.0/14	150	135	85	100	55
HRT1.5/14	150	150	100	100	65
HRT2.5/14	150	150	100	100	65
HRT3.12/14	180	180	110	150	70
HRT5.0/14	180	180	120	150	75
HRT6.25/14	180	180	125	150	80
HRT7.5/14	180	180	125	150	80
HRT10.0/14	180	180	140	150	90
HRT12.5/14	240	205	140	200	90
HRT15.0/14	240	205	140	200	90
HRT20.0/14	240	205	160	200	110
HRT25.0/14	250	240	150	200	95
HRT30.0/14	300	255	150	250	110
HRT40.0/14	300	255	160	250	120
HRT50.0/14	250	240	170	250	130
HRT60.0/14	300	255	170	250	130
HRT75.0/14	390	310	200	350	139
HRT100.0/14	460	370	310	420	149

- Please contact for detailed information about the features not specified in the data.

THREE-PHASE HARMONIC FILTERS

Technical Features

THREE-PHASE HARMONIC FILTERS (P=%5,67, %7, %14) **CONNECTION DIAGRAM**



CONSIDERATIONS IN HARMONIC FILTER SELECTION

HARMONIC FILTER SELECTION

The harmonic filters in our list, according to the voltage harmonic values measured when the compensation is off;

- - If THDv < 8% and 5th voltage harmonic < 5%; p=5.67% normal filter or p=7% normal filter,
- - If THDv < 8% and 5th voltage harmonic > 5%; p=5.67% reinforced filter or p=7% reinforced filter,
- - If THDv >8% and harmonics are desired, p=5.67% reinforced filter or p=7% reinforced filter

- If THDv >8% and only capacitors are to be protected from overcurrent, it is recommended to choose a filter with p=14%.

Considered in Sectoral Terms

- In enterprises with a small number of harmonic emitting devices; p=5.67% or p=7% normal filter,
- Where harmonic distortion is relatively high, such as textiles and automotive; p=5.67% or p=7% reinforced filter,
- In places such as iron and steel industry, rolling mills, weaving furnaces, p=14% filter can be used.

Other Points to Consider

- p=5.67% filters require constant monitoring as they are very sensitive to capacitor value loss or harmonics increasing over time. For this reason, it is safer to use a p=7% filter when the harmonic values measured when the compensation is off will not be a problem for operation.

- In our list, the harmonic filters are designed for installations where the 5th voltage harmonic does not exceed 5% and the total voltage harmonic does not exceed 8% when compensation is off. For higher harmonic distortion values, a filter should be used. Please contact our company for a customized filter.

HARMONIC FILTER SELECTION TABLE

(p=%5.67, 210 Hz p=%7, 189 Hz p=%14, 134 Hz)	
Harmonic Filter Code	Capacitor Product Name
HRM 0.5/5.67 - HRM 0.5/7 - HRM 0.5/14	KND M0.5
HRM 1.0/5.67 - HRM 1.0/7 - HRM 1.0/14	KND M1.0
HRM 1.5/5.67 - HRM 1.5/7 - HRM 1.5/14	KND M1.5
HRM 2.5/5.67 - HRM 2.5/7 - HRM 2.5/14	KND M2.5
HRM 5.0/5.67 - HRM 5.0/7 - HRM 5.0/14	KND M5.0
HRM 7.5/5.67 - HRM 7.5/7 - HRM 7.5/14	KND M7.5
HRM 10.0/5.67 - HRM 10.0/7 - HRM 10.0/14	KND M10.0

- Recommended capacitor to be used for the selected harmonic filter, not in terms of power rating, indicated by the product name in our price list.

Note: For a correct application, it is recommended to measure with an analyzer and evaluate the measurement results with our technical team.

(p=%14, 134 Hz) Harmonic Filter Code	Capacitor to be used for 525 V Product Name
HRT 3.1 / 14	KND B5.0
HRT 5.0 / 14	KND B7.5
HRT 6.25 / 14	KND B10.0
HRT 7.5 / 14	KND B12.5
HRT 10.0 / 14	KND B15.0
HRT 12.5 / 14	KND B20.0
HRT 15.0 / 14	KND B10.0 + KND B12.5
HRT 20.0 / 14	KND B30.0
HRT 25.0 / 14	KND B40.0
HRT 30.0 / 14	KND B25.0+ KND B20.0
HRT 40.0 / 14	2xKND B30.0
HRT 50.0 / 14	3xKND B25.0
HRT 60.0 / 14	3xKND B30.0
HRT 75.0 / 14	2xKND B40.0 + KND B30.0
HRT 100.0 / 14	3xKND B40.0 + KND B30.0

(p=%5.67, 210 Hz) Harmonic Filter Code	Capacitor to be used for 440 V Product Name	Capacitor to be used for 525 V Product Name	(p=%7, 189 Hz) Harmonic Filter Code	Capacitor to be used for 440 V Product Name	Capacitor to be used for 525 V Product Name
HRT 0.5/5.67	KND T0.5	-	HRT 0.5/7	KND T0.5	-
HRT 1.0/5.67	KND T1.0	-	HRT 1.0/7	KND T1.0	-
HRT 1.5/5.67	KND T1.5	-	HRT 1.5/7	KND T1.5	-
HRT 2.5/5.67	KND T2.5	-	HRT 2.5/7	KND T2.5	-
HRT 3.1/5.67	2xKND T1.5	KND B5.0	HRT 3.1/7	2xKND T1.5	KND B5.0
HRT 5.0/5.67	KND T5.0	KND B7.5	HRT 5.0/7	KND T5.0	KND B7.5
HRT 6.25/5.67	KDN T5.0+KND T1.0	KND B10.0	HRT 6.25/7	KDN T5.0+KND T1.0	KND B10.0
HRT 7.5/5.67	KND T7.5	KND B12.5	HRT 7.5/7	KND T7.5	KND B12.5
HRT 10.0/5.67	KND T10.0	KND B15.0	HRT 10.0/7	KND T10.0	KND B15.0
HRT 12.5/5.67	KND T12.5	KND B20.0	HRT 12.5/7	KND T12.5	KND B20.0
HRT 15.0/5.67	KND T15.0	KND B25.0	HRT 15.0/7	KND T15.0	KND B25.0
HRT 20.0/5.67	KND T18.6	KND B20.0 + KND B12.5	HRT 20.0/7	KND T18.6	KND B20.0 + KND B12.5
HRT 25.0/5.67	KND T23.2	KND B40.0	HRT 25.0/7	KND T23.2	KND B40.0
HRT 30.0/5.67	KND T15.0+KND T12.5	2xKND B25.0	HRT 30.0/7	KND T15.0+KND T12.5	2xKND B25.0
HRT 40.0/5.67	2xKND T18.6	KND B40.0 + KND B25.0	HRT 40.0/7	2xKND-T18.6	KND B40.0 + KND B25.0
HRT 50.0/5.67	2xKND T23.2	2xKND B40.0	HRT 50.0/7	2xKND-T23.2	2xKND B40.0
HRT 60.0/5.67	KND T30.0+KND T25.0	2xKND B40.0 +KND B15.0	HRT 60.0/7	KND T30.0+KND T25	2xKND B40.0 + KND B20.0
HRT 75.0/5.67	3xKND T23.2	3xKND B40.0	HRT 75.0/7	3xKND T23.2	3xKND B40.0
HRT 100.0/5.67	4xKND T23.2	4xKND B40.0	HRT 100.0/7	4xKND T23.2	4xKND B40.0