

## REACTORS

# SHUNT REACTORS

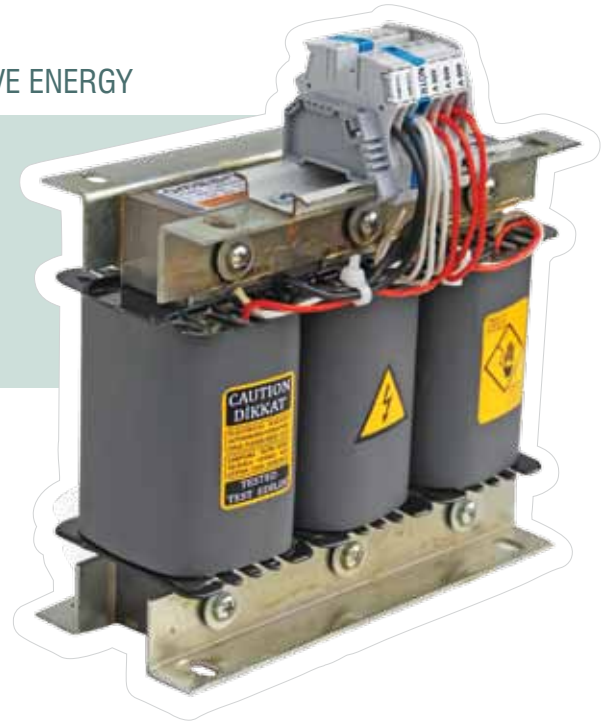
Shunt reactor is basically a kind of an inductive load device, and provides a linear response of impedance versus current which is essential for numerous applications. It compensates for the capacitive currents of long transmission lines or cables and allows more active energy to pass through the system

### THE MAIN PROBLEMS CAUSED BY CAPACITIVE REACTIVE ENERGY

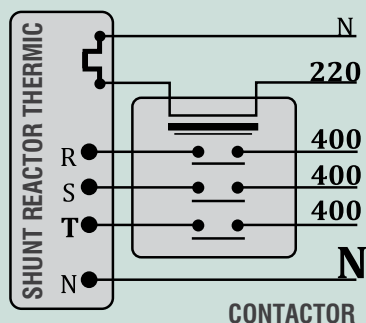
- Penalties in electricity bills,
- Increasing in line voltage,
- Breakdown in sensitive equipment,
- Active energy passing through the system is decreased by capacitive effect.

These problems increase maintenance and repair costs. Shunt reactors provide inductive load and eliminate the harmful capacitive effect. Beside these they can be used as inductive load in laboratories also.

OMSAN has more than 40 years' experience in designing and manufacturing dry type maintenance free and environmentally friendly shunt reactors for various market segments. Reactors are designed by OMSAN's experienced staff with a special computer program in order to avoid failure during design process and to achieve maximum efficiency.



### Wiring Diagram



reactor / containing security component against failures



reactor / affected by over-load



reactor / not affected by over-load

## ROUTINE TESTS

Following 1... 5 tests are the routine tests that are performed for each shunt reactor during the manufacturing process and the other tests ( 6,7 and 8 ) are performed upon request.

- Inductance test
- Current test
- Resistance test
- Impulse voltage withstand test
- One minute Insulation voltage withstand test ( AC )
- Short circuit withstand test
- Temperature rise test
- Sound level test

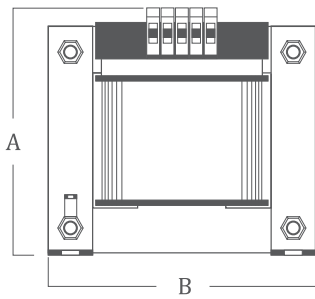
## GENERAL TECHNICAL SPECIFICATIONS

STANDARDS	EN 61558-1, EN 61558 2-20, EN 60289 ve EN60076-6 CE CERTIFIED
NOMINAL POWER	Single phase 0,10 - 10 kVAr Three phase 0,5 - 100 kVAr
NOMINAL VOLTAGE	230 VAC ..... 1000 VAC
NOMINAL FREQUENCY	50 or 60 Hz
REACTOR FACTOR	$p = \% 100$
INDUCTANCE TOLERANCE	$\% 5$
MAGNETIC CIRCUIT	0,35 mm- high grade lamination
WINDINGS	Electrolytic copper or aluminum H 180 °C
DESIGN	Air gapped design
CONNECTIONS	Transformer terminal blocks, rail terminals, copper cable lugs, copper bar
PROTECTION (ELECTRICITY)	Thermistor 90 °C 1 NK contact
PROTECTION CLASS	IP 00 ( metal enclosure according to desired IP class upon request )
ISOLATION CLASS	1. class, upon request; F 155 °C or H 180 °C
THERMAL CLASS	Ta 55 °C / F Ta 60 °C / H
IMPREGNATION	Upon request F or H class varnish vacuum impregnation%90 non-condensing
HUMIDITY	( DIN 40040 )
OPERATING ALTITUDE	0 - 2000 m
AMBIENT TEMPERATURE	- 10 °C ..... + 40 °C
STORING TEMPERATURE	- 10 °C ..... + 70 °C
MANUFACTURING IN TERMS OF CUSTOMER NEED	Special design is possible according to voltage and power values.

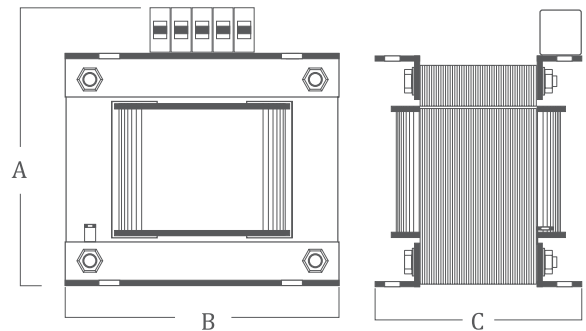


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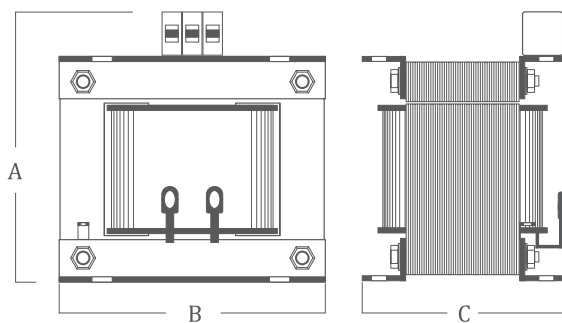
# SINGLE PHASE SHUNT REACTORS



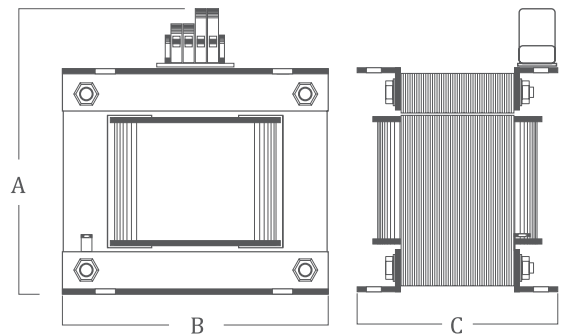
MODEL A



MODEL B



MODEL C

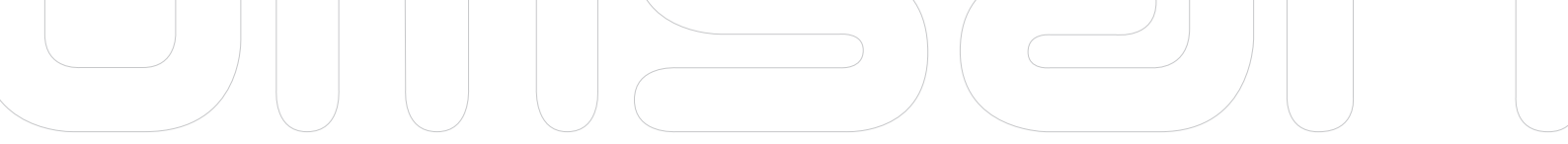


MODEL D

**SINGLE PHASE SHUNT REACTORS  $U_n=230$  VAC  $F_n=50$  Hz (60 Hz upon request)**

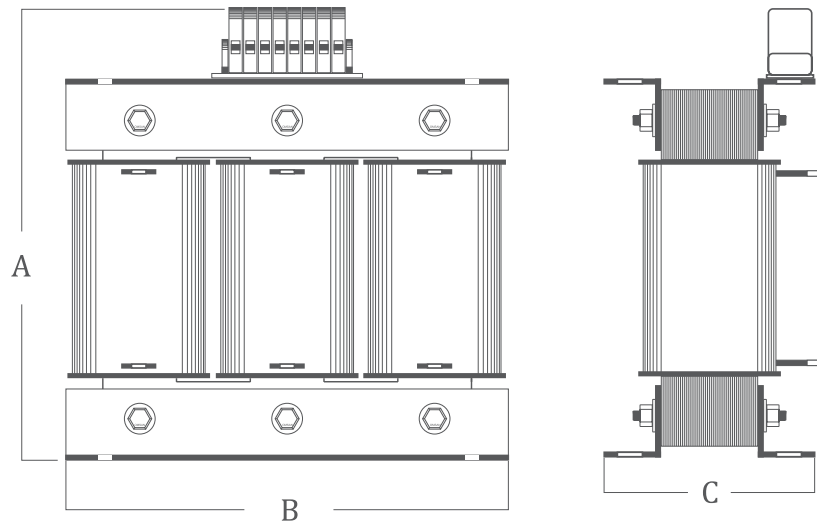
Product Code	Qc kVAr	Ln (mH)	In (A)	A (mm)	B (mm)	C (mm)	Weight (kg)
OM EYR M 0,5	0,50	338	2,17	136	133	106	6,10
OM EYR M 0,6	0,60	281	2,61	136	133	113	6,80
OM EYR M 0,7	0,70	241	3,04	136	133	113	7,00
OM EYR M 0,8	0,80	211	3,48	148	150	117	8,20
OM EYR M 0,9	0,90	188	3,91	148	150	117	8,50
OM EYR M 1	1,00	169	4,35	148	150	117	8,70
OM EYR M 1,1	1,10	154	4,78	148	150	120	9,10
OM EYR M 1,2	1,20	141	5,22	148	150	130	10,30
OM EYR M 1,3	1,30	130	5,65	168	171	122	10,50
OM EYR M 1,4	1,40	121	6,10	168	171	122	10,70
OM EYR M 1,5	1,50	113	6,52	168	171	122	11,10
OM EYR M 1,75	1,75	96,50	7,61	168	171	142	12,10
OM EYR M 2	2,00	84,40	8,70	168	171	142	12,50
OM EYR M 2,5	2,50	67,50	10,90	185	192	144	17,20
OM EYR M 3	3,00	56,30	13,10	185	192	149	18,30
OM EYR M 3,5	3,50	48,20	15,20	185	192	149	18,60
OM EYR M 4	4,00	42,20	17,40	185	192	169	22,60
OM EYR M 4,5	4,50	37,50	19,60	185	192	169	22,90
OM EYR M 5	5,00	33,80	21,80	185	192	189	26,80
OM EYR M 6	6,00	28,10	26,10	234	250	182	29,80
OM EYR M 7	7,00	24,10	30,40	234	250	202	37,30
OM EYR M 8	8,00	21,10	34,80	234	250	202	38,40
OM EYR M 9	9,00	18,80	39,10	234	250	222	44,70
OM EYR M 10	10,00	16,90	43,50	234	250	242	52,20





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# THREE PHASE SHUNT REACTORS



### THREE PHASE SHUNT REACTORS $U_n=400\text{ VAC}$ $F_n=50\text{ Hz}$ (60Hz upon request)

Product Code	Qc kVAr	Ln (mH)	In(A)	A (mm)	B (mm)	C (mm)	Weight (kg)
OM EYR T 1	1,00	505	1,45	240	180	94	8,10
OM EYR T 1,5	1,50	337	2,17	305	240	100	11,80
OM EYR T 2	2,00	253	2,90	305	240	105	13,30
OM EYR T 2,5	2,50	203	3,61	305	240	110	14,80
OM EYR T 3	3,00	168	4,33	305	240	135	22,30
OM EYR T 3,5	3,50	144	5,05	365	300	126	23,50
OM EYR T 4	4,00	126	5,77	365	300	126	24,10
OM EYR T 4,5	4,50	112	6,50	365	300	136	27,50
OM EYR T 5	5,00	101	7,22	365	300	136	28,60
OM EYR T 6	6,00	84,2	8,66	365	300	136	29,10
OM EYR T 7,5	7,50	67,3	10,90	425	360	146	33,50
OM EYR T 10	10,00	50,50	14,40	425	360	166	49,50
OM EYR T 12,5	12,50	40,40	18,00	425	360	176	56,60
OM EYR T 15	15,00	33,70	21,70	425	360	186	63,70
OM EYR T 20	20,00	25,30	28,90	355	420	186	78,50
OM EYR T 25	25,00	20,20	36,10	355	420	206	98,20
OM EYR T 30	30,00	16,80	43,30	405	480	218	120,00
OM EYR T 40	40,00	12,60	57,70	405	480	238	146,70
OM EYR T 50	50,00	10,10	72,20	405	480	258	173,40
OM EYR T 75	75,00	6,73	108,00	505	620	270	203,50
OM EYR T 100	100,00	5,05	144,00	505	620	310	285,00

