Red transformers
standard solutions for markets **outside Europe**

Red transformers are dedicated to all competitive markets outside European Union (EU), in compliance with IEC standards.
These types of products are divided into 3 different families, depending on the values of losses: BoBk, XC and NL.

NL - XC - BoBk

RANGES:

- **BoBk**
- **XC** – Xtra compact – Dedicated to standard distribution applications
- **NL** – Normal losses

MARKETS	AAoAk reg548 Tier2	AoAk reg548 Tier1	AoBk reg548 Tier1	BoBk	XC	NL
WORLD (IEC Standard)	Yes	Yes	Yes	Yes	Yes	Yes

BoBk, XC, NL – Red transformers
HV/LV Cast Resin Transformers

Compliance with standard: **IEC 60076-11**
Rating (kVA): **100–3150**
Frequency (Hz): **50**
Tapping links, HV side: **± 2 x 2.5%**
Aluminium for primary and secondary windings (copper on request)
Vectorial group: **Dyn11**
Thermal class of the insulating system: **155 °C (F) / 155 °C (F)**
Temperature rise: **100/100 K**
Class of use: **E2-C2-F1** Certified CESI A9032391 IEC 60076-11
Tolerances: According to **IEC /CEI**
Partial discharge: **(BoBk < 5 pC) - (XC < 10 pC) - (NL < 5 pC)**

BoBk - XC - NL

12 kV INSULATION CLASS
Primary voltages (kV): **6-10-11**. Insulation class: **12 kV BIL 60 kV** (**BIL 75 kV** available on request).
Secondary voltages no-load (V): **400-433** (insulation class 1.1 kV)

17,5 kV INSULATION CLASS
Primary voltages (kV): **12-13,2-15**. Insulation class: **17,5 kV BIL 75 kV** (**BIL 95 kV** available on request).
Secondary voltages no-load (V): **400-410-420** (insulation class 1.1 kV

24 kV INSULATION CLASS
Primary voltages (kV): **20-23**. Insulation class: **24 kV BIL 95 kV** (**BIL 125 kV** available on request).
Secondary voltages no-load (V): **400-410-420** (insulation class 1.1 kV)

Other voltage ratios of BoBk transformers are available on request

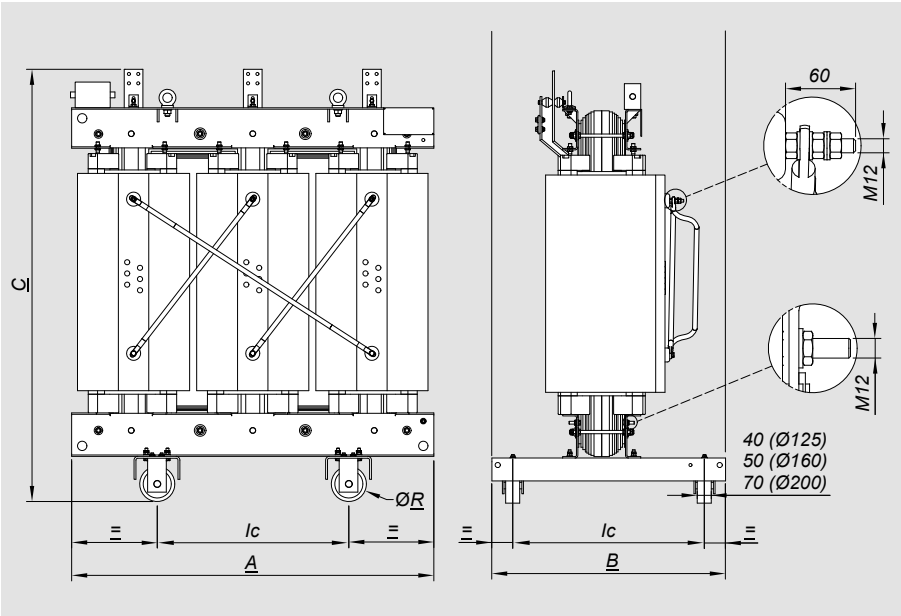
NL

36 kV INSULATION CLASS
Primary voltages (kV): **25-33**. Insulation class: **36 kV BIL 170 kV**
Secondary voltages no-load (V): **400-420** (insulation class 1.1 kV)

BoBk - RED TRANSFORMERS

insulation class 12 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter (0) [mm]	Weight [kg]	Enclosure type*
100	**BoBk**	**EB2RACBA**	6	10	400	330	2000	1,8	51	1000	600	1100	520	125	550	1
160	**BoBk**	**EC2RACBA**	6	10	400	450	2700	1,6	54	1100	600	1200	520	125	700	1
200	**BoBk**	**ED2RACBA**	6	10	400	520	3050	1,4	55	1150	620	1200	520	125	800	1
250	**BoBk**	**EE2RACBA**	6	10	400	610	3500	1,1	57	1250	630	1220	520	125	910	2
315	**BoBk**	**EF2RACBA**	6	10	400	730	4100	1	58	1250	750	1250	670	125	1000	2
400	**BoBk**	**EG2RACBA**	6	10	400	880	4900	0,9	60	1300	750	1320	670	125	1200	3
500	**BoBk**	**EH2RACBA**	6	10	400	1000	5950	0,8	61	1300	750	1500	670	125	1400	3
630	**BoBk**	**EI2RACBA**	6	10	400	1150	7300	0,7	62	1500	850	1590	670	160	1600	4
800	**BoBk**	**EJ2RACBA**	6	10	400	1300	9000	0,7	65	1500	850	1740	670	160	1950	4
1000	**BoBk**	**EK2RACBA**	6	10	400	1500	10000	0,6	67	1550	1000	1820	820	160	2300	5
1250	**BoBk**	**EL2RACBA**	6	10	400	1800	12000	0,5	69	1550	1000	2000	820	160	2700	5
1600	**BoBk**	**EM2RACBA**	6	10	400	2200	14500	0,4	71	1650	1000	2180	820	160	3300	6
2000	**BoBk**	**EN2RACBA**	6	10	400	2600	18000	0,4	73	1800	1310	2260	1070	200	4000	6
2500	**BoBk**	**EO2RACBA**	6	10	400	3200	21000	0,3	75	2050	1310	2390	1070	200	4800	7
3150	**BoBk**	**EP2RACBA**	6	10	400	3800	26000	0,3	77	2150	1310	2400	1070	200	5900	7



Values are for reference only. Construction drawings must be used for design.
Data provided may be modified without notice for reasons of technical production or product improvement.

Copper windings available on request

*** For information on enclosure see p. 60**

BoBk - RED TRANSFORMERS

insulation class 17,5 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter (0) [mm]	Weight [kg]	Enclosure type*
100	BoBk	EB3RAFBA	6	15	400	340	2050	1,9	51	1050	600	1090	520	125	560	1
160	BoBk	EC3RAFBA	6	15	400	480	2900	1,6	54	1200	630	1210	520	125	750	1
200	BoBk	ED3RAFBA	6	15	400	560	3300	1,4	56	1250	630	1230	520	125	800	1
250	BoBk	EE3RAFBA	6	15	400	650	3800	1,2	57	1250	640	1240	520	125	950	2
315	BoBk	EF3RAFBA	6	15	400	780	4550	1,1	59	1250	750	1300	670	125	1050	2
400	BoBk	EG3RAFBA	6	15	400	940	5500	1	59	1350	750	1390	670	125	1250	3
500	BoBk	EH3RAFBA	6	15	400	1080	6400	0,9	61	1350	750	1520	670	125	1400	3
630	BoBk	EI3RAFBA	6	15	400	1250	7600	0,9	62	1500	850	1630	670	160	1700	4
800	BoBk	EJ3RAFBA	6	15	400	1500	9400	0,8	64	1500	850	1780	670	160	2000	4
1000	BoBk	EK3RAFBA	6	15	400	1800	11000	0,7	65	1550	1000	1870	820	160	2300	5
1250	BoBk	EL3RAFBA	6	15	400	2100	13000	0,6	67	1550	1000	2010	820	160	2750	5
1600	BoBk	EM3RAFBA	6	15	400	2400	16000	0,5	68	1650	1000	2190	820	160	3300	6
2000	BoBk	EN3RAFBA	6	15	400	3000	18000	0,5	70	1800	1310	2250	1070	200	4000	6
2500	BoBk	EO3RAFBA	6	15	400	3600	23000	0,4	71	1950	1310	2320	1070	200	4950	7
3150	BoBk	EP3RAFBA	6	15	400	4300	28000	0,3	74	2150	1310	2492	1070	200	6050	7

BoBk - RED TRANSFORMERS

insulation class 24 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter (0) [mm]	Weight [kg]	Enclosure type*
100	BoBk	EB4RAGBA	6	20	400	340	2050	2	51	1050	600	1110	520	125	570	1
160	BoBk	EC4RAGBA	6	20	400	480	2900	1,7	54	1250	640	1240	520	125	800	1
200	BoBk	ED4RAGBA	6	20	400	560	3300	1,5	56	1250	640	1250	520	125	900	1
250	BoBk	EE4RAGBA	6	20	400	650	3800	1,3	57	1350	640	1260	520	125	1000	2
315	BoBk	EF4RAGBA	6	20	400	780	4550	1,2	59	1350	750	1350	670	125	1200	2
400	BoBk	EG4RAGBA	6	20	400	940	5500	1,1	60	1500	750	1440	670	125	1350	3
500	BoBk	EH4RAGBA	6	20	400	1080	6400	1,1	61	1500	750	1560	670	125	1500	3
630	BoBk	EI4RAGBA	6	20	400	1250	7600	1	62	1500	850	1650	670	160	1800	4
800	BoBk	EJ4RAGBA	6	20	400	1500	9400	0,9	64	1550	850	1810	670	160	2100	4
1000	BoBk	EK4RAGBA	6	20	400	1800	11000	0,8	65	1650	1000	1890	820	160	2500	5
1250	BoBk	EL4RAGBA	6	20	400	2100	13000	0,7	67	1650	1000	2030	820	160	2900	5
1600	BoBk	EM4RAGBA	6	20	400	2400	16000	0,6	68	1750	1000	2200	820	160	3550	6
2000	BoBk	EN4RAGBA	6	20	400	3000	18000	0,5	70	1900	1310	2270	1070	200	4300	6
2500	BoBk	EO4RAGBA	6	20	400	3600	23000	0,4	71	1950	1310	2350	1070	200	5250	7
3150	BoBk	EP4RAGBA	6	20	400	4300	28000	0,4	74	2200	1310	2512	1070	200	6700	7

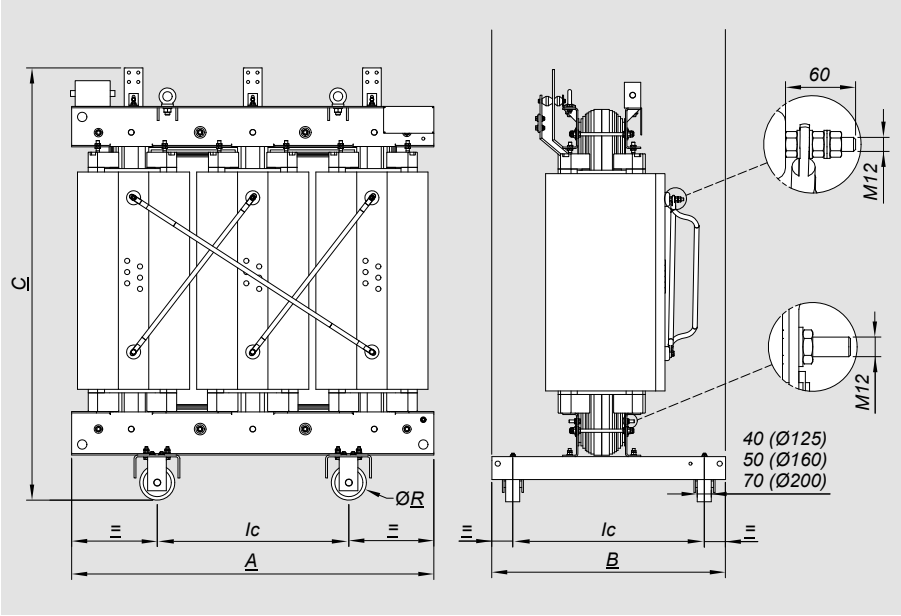
Copper windings available on request

*** For information on enclosure see p. 60**

XC - RED TRANSFORMERS

insulation class 12 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter (0) [mm]	Weight [kg]	Enclosure type*
250	**XC**	**EE2XACBA**	6	10	400	700	4200	1,2	67	1150	600	1230	520	125	850	2
315	**XC**	**EF2XACBA**	6	10	400	800	5100	1,1	69	1150	750	1325	670	125	950	3
400	**XC**	**EG2XACBA**	6	10	400	960	5500	1	70	1250	750	1490	670	125	1200	3
500	**XC**	**EH2XACBA**	6	10	400	1150	7000	0,9	71	1300	750	1540	670	125	1300	4
630	**XC**	**EI2XACBA**	6	10	400	1400	8200	0,8	72	1350	750	1610	670	160	1550	4
800	**XC**	**EJ2XACBA**	6	10	400	1700	9300	0,8	73	1400	750	1740	670	160	1850	4
1000	**XC**	**EK2XACBA**	6	10	400	1950	10500	0,7	74	1450	850	1900	820	160	2250	5
1250	**XC**	**EL2XACBA**	6	10	400	2350	12500	0,6	75	1550	1000	1970	820	160	2600	6
1600	**XC**	**EM2XACBA**	6	10	400	2750	15300	0,5	77	1600	1000	2100	820	160	3150	6
2000	**XC**	**EN2XACBA**	6,5	10	400	3400	18800	0,5	80	1750	1310	2230	1070	200	3850	6
2500	**XC**	**EO2XACBA**	6,5	10	400	4200	21000	0,4	82	1900	1310	2250	1070	200	4600	7
3150	**XC**	**EP2XACBA**	7	10	400	5000	26000	0,4	84	2050	1310	2370	1070	200	5600	7



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Copper windings available on request

*** For information on enclosure see p. 60**

XC - RED TRANSFORMERS

insulation class 17,5 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter (0) [mm]	Weight [kg]	Enclosure type*
250	**XC**	**EE3XAFBA**	6	15	400	730	4200	1,3	67	1200	600	1240	520	125	900	2
315	**XC**	**EF3XAFBA**	6	15	400	840	5100	1,2	69	1200	750	1320	670	125	1000	3
400	**XC**	**EG3XAFBA**	6	15	400	1000	5500	1,1	70	1250	750	1410	670	125	1150	3
500	**XC**	**EH3XAFBA**	6	15	400	1200	7000	1	71	1300	750	1460	670	125	1300	4
630	**XC**	**EI3XAFBA**	6	15	400	1450	8200	1	72	1400	750	1530	670	160	1600	4
800	**XC**	**EJ3XAFBA**	6	15	400	1750	9300	0,9	73	1400	750	1670	670	160	1850	4
1000	**XC**	**EK3XAFBA**	6	15	400	2050	10500	0,8	74	1450	850	1810	820	160	2200	5
1250	**XC**	**EL3XAFBA**	6	15	400	2350	12500	0,7	75	1550	1000	1960	820	160	2600	6
1600	**XC**	**EM3XAFBA**	6	15	400	2750	15300	0,6	77	1650	1000	2090	820	160	3200	6
2000	**XC**	**EN3XAFBA**	6,5	15	400	3400	18800	0,6	80	1800	1310	2200	1070	200	3850	6
2500	**XC**	**EO3XAFBA**	6,5	15	400	4200	21000	0,5	82	1900	1310	2230	1070	200	4650	7
3150	**XC**	**EP3XAFBA**	7	15	400	5000	26000	0,4	84	2150	1310	2290	1070	200	5700	7

XC - RED TRANSFORMERS

insulation class 24 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter (0) [mm]	Weight [kg]	Enclosure type*
250	**XC**	**EE4XAGBA**	6	20	400	840	4500	1,5	67	1250	630	1280	520	125	950	2
315	**XC**	**EF4XAGBA**	6	20	400	990	4700	1,4	69	1300	750	1370	670	125	1100	3
400	**XC**	**EG4XAGBA**	6	20	400	1100	5800	1,3	70	1350	750	1460	670	125	1250	4
500	**XC**	**EH4XAGBA**	6	20	400	1320	7200	1,2	71	1400	750	1510	670	125	1400	4
630	**XC**	**EI4XAGBA**	6	20	400	1600	8200	1,1	72	1450	750	1580	670	160	1700	4
800	**XC**	**EJ4XAGBA**	6	20	400	1880	9200	1	73	1500	750	1720	670	160	2000	5
1000	**XC**	**EK4XAGBA**	6	20	400	2250	10600	0,9	74	1550	850	1840	820	160	2350	5
1250	**XC**	**EL4XAGBA**	6	20	400	2500	12800	0,8	75	1600	1000	1990	820	160	2750	6
1600	**XC**	**EM4XAGBA**	6	20	400	2980	15400	0,7	77	1700	1000	2120	820	160	3350	6
2000	**XC**	**EN4XAGBA**	6,5	20	400	3700	19000	0,6	80	1800	1310	2200	1070	200	4000	6
2500	**XC**	**EO4XAGBA**	6,5	20	400	4500	21500	0,5	82	1950	1310	2280	1070	200	4900	7
3150	**XC**	**EP4XAGBA**	7	20	400	5600	26000	0,5	85	2150	1310	2340	1070	200	6050	7

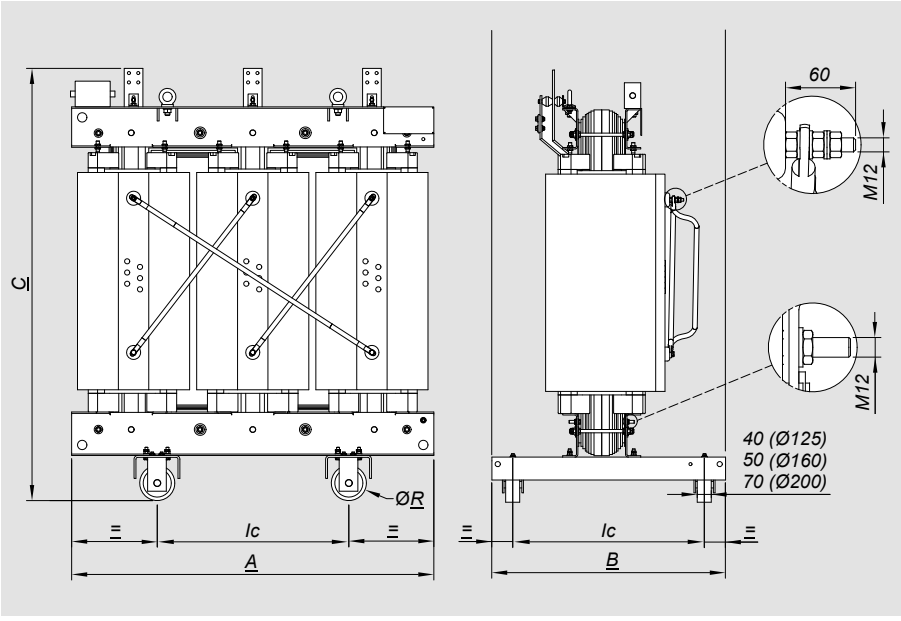
Copper windings available on request

*** For information on enclosure see p. 60**

NL - RED TRANSFORMERS

insulation class 12 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter [mm]	Weight [kg]	Enclosure type*
100	NL	EB2NBCBA	4	10	400	440	2000	1,9	59	1000	600	1100	520	125	550	1
	NL	EB2NACBA	6	10	400	420	1900	1,9	59	1000	600	1100	520	125	550	1
160	NL	EC2NBCBA	4	10	400	610	2700	1,7	62	1100	600	1200	520	125	750	1
	NL	EC2NACBA	6	10	400	550	2700	1,7	62	1100	600	1200	520	125	750	1
200	NL	ED2NBCBA	4	10	400	720	3150	1,5	63	1150	620	1200	520	125	800	1
	NL	ED2NACBA	6	10	400	680	3500	1,5	63	1150	620	1200	520	125	800	1
250	NL	EE2NBCBA	4	10	400	820	3500	1,2	65	1250	630	1270	520	125	950	2
	NL	EE2NACBA	6	10	400	750	3700	1,2	65	1250	630	1220	520	125	950	2
315	NL	EF2NBCBA	4	10	400	880	4400	1,1	67	1200	750	1300	670	125	1050	2
	NL	EF2NACBA	6	10	400	850	4600	1,1	67	1250	750	1250	670	125	1000	2
400	NL	EG2NBCBA	4	10	400	1150	4900	1	68	1250	750	1370	670	125	1250	3
	NL	EG2NACBA	6	10	400	1000	5400	1	68	1300	750	1320	670	125	1200	3
500	NL	EH2NBCBA	4	10	400	1300	6500	0,9	69	1250	750	1550	670	125	1450	3
	NL	EH2NACBA	6	10	400	1200	6700	0,9	69	1300	750	1500	670	125	1400	3
630	NL	EI2NBCBA	4	10	400	1500	7300	0,8	70	1350	850	1600	670	160	1650	4
	NL	EI2NACBA	6	10	400	1450	7600	0,8	70	1500	850	1590	670	160	1600	4
800	NL	EJ2NACBA	6	10	400	1750	9400	0,8	71	1500	850	1740	670	160	1950	4
1000	NL	EK2NACBA	6	10	400	2000	10000	0,7	73	1550	1000	1820	820	160	2300	5
1250	NL	EL2NACBA	6	10	400	2300	12700	0,6	74	1550	1000	2000	820	160	2700	5
1600	NL	EM2NACBA	6	10	400	2800	14000	0,5	76	1650	1000	2180	820	160	3300	6
2000	NL	EN2NACBA	6	10	400	3300	18000	0,5	79	1800	1310	2260	1070	200	4000	6
2500	NL	EO2NACBA	6	10	400	4300	21000	0,4	81	2050	1310	2390	1070	200	4800	7
3150	NL	EP2NACBA	7	10	400	4600	26000	0,4	83	2150	1310	2400	1070	200	5400	7



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Copper windings available on request

*** For information on enclosure see p. 60**

NL - RED TRANSFORMERS

insulation class 17,5 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter [mm]	Weight [kg]	Enclosure type*
100	**NL**	**EB3NAFBA**	6	15	400	430	1900	2	59	1000	600	1090	520	125	600	1
160	**NL**	**EC3NAFBA**	6	15	400	570	2800	1,7	62	1200	630	1210	520	125	750	1
200	**NL**	**ED3NAFBA**	6	15	400	680	3600	1,5	63	1250	630	1230	520	125	800	1
250	**NL**	**EE3NAFBA**	6	15	400	750	3650	1,3	65	1250	640	1240	520	125	950	2
315	**NL**	**EF3NAFBA**	6	15	400	880	4500	1,2	67	1250	750	1300	670	125	1050	2
400	**NL**	**EG3NAFBA**	6	15	400	1000	5200	1,1	67	1350	750	1390	670	125	1250	3
500	**NL**	**EH3NAFBA**	6	15	400	1200	6700	1	69	1350	750	1520	670	125	1400	3
630	**NL**	**EI3NAFBA**	6	15	400	1600	7800	1	70	1500	850	1630	670	160	1700	4
800	**NL**	**EJ3NAFBA**	6	15	400	1780	9300	0,9	71	1500	850	1780	670	160	2000	4
1000	**NL**	**EK3NAFBA**	6	15	400	2000	10800	0,8	73	1550	1000	1870	820	160	2300	5
1250	**NL**	**EL3NAFBA**	6	15	400	2350	12600	0,7	74	1550	1000	2010	820	160	2750	5
1600	**NL**	**EM3NAFBA**	6	15	400	2750	15500	0,6	76	1650	1000	2190	820	160	3300	6
2000	**NL**	**EN3NAFBA**	6	15	400	3350	18500	0,6	79	1800	1310	2250	1070	200	4000	6
2500	**NL**	**EO3NAFBA**	6	15	400	4300	21800	0,5	81	1950	1310	2320	1070	200	4950	7
3150	**NL**	**EP3NAFBA**	7	15	400	4700	26000	0,4	83	2150	1310	2350	1070	200	5750	7

NL - RED TRANSFORMERS

insulation class 24 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter [mm]	Weight [kg]	Enclosure type*
100	**NL**	**EB4NBGBA**	4	20	400	540	1750	2,1	59	1200	600	1160	520	125	650	1
	NL	**EB4NAGBA**	6	20	400	480	2000	2,1	59	1050	600	1110	520	125	600	1
160	**NL**	**EC4NBGBA**	4	20	400	750	2500	1,8	62	1250	640	1260	520	125	900	1
	NL	**EC4NAGBA**	6	20	400	650	2800	1,8	62	1250	640	1240	520	125	800	1
200	**NL**	**ED4NBGBA**	4	20	400	900	2900	1,7	63	1350	640	1320	520	125	1050	1
	NL	**ED4NAGBA**	6	20	400	800	3600	1,7	63	1250	640	1250	520	125	900	1
250	**NL**	**EE4NBGBA**	4	20	400	1000	3450	1,5	65	1350	640	1360	520	125	1150	2
	NL	**EE4NAGBA**	6	20	400	850	3700	1,5	65	1350	640	1260	520	125	1000	2
315	**NL**	**EF4NBGBA**	4	20	400	1150	4500	1,4	67	1350	750	1450	670	125	1350	2
	NL	**EF4NAGBA**	6	20	400	950	4500	1,4	67	1350	750	1350	670	125	1200	2
400	**NL**	**EG4NBGBA**	4	20	400	1360	4900	1,3	68	1450	750	1530	670	125	1500	3
	NL	**EG4NAGBA**	6	20	400	1150	5400	1,3	68	1500	750	1440	670	125	1350	3
500	**NL**	**EH4NBGBA**	4	20	400	1580	6400	1,2	69	1450	750	1610	670	125	1650	3
	NL	**EH4NAGBA**	6	20	400	1350	6700	1,2	69	1500	750	1560	670	125	1500	3
630	**NL**	**EI4NBGBA**	4	20	400	1950	6900	1,1	70	1500	850	1690	670	160	2000	4
	NL	**EI4NAGBA**	6	20	400	1650	7800	1,1	70	1500	850	1650	670	160	1800	4
800	**NL**	**EJ4NAGBA**	6	20	400	1850	9300	1	71	1550	850	1810	670	160	2100	4
1000	**NL**	**EK4NAGBA**	6	20	400	2200	10800	0,9	73	1650	1000	1890	820	160	2500	5
1250	**NL**	**EL4NAGBA**	6	20	400	2600	12800	0,8	74	1650	1000	2030	820	160	2900	5
1600	**NL**	**EM4NAGBA**	6	20	400	2950	15500	0,7	76	1750	1000	2200	820	160	3550	6
2000	**NL**	**EN4NAGBA**	6	20	400	3800	18600	0,6	79	1900	1310	2270	1070	200	4300	6
2500	**NL**	**EO4NAGBA**	6	20	400	4800	22000	0,5	81	1950	1310	2350	1070	200	5250	7
3150	**NL**	**EP4NAGBA**	7	20	400	5100	26000	0,5	83	2250	1310	2400	1070	200	6250	7

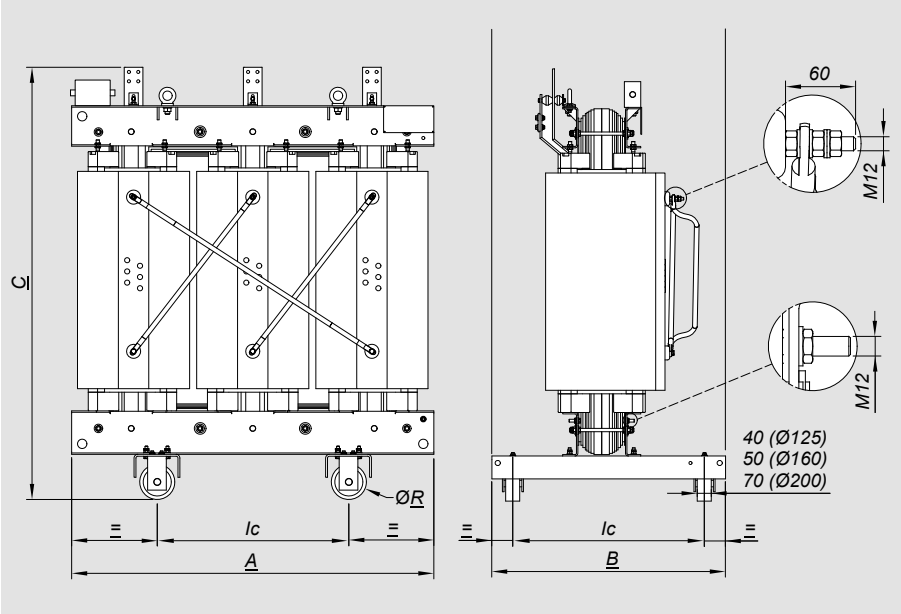
Copper windings available on request

*** For information on enclosure see p. 60**

NL - RED TRANSFORMERS

insulation class 36 kV

S_R [kVA]	Series	Item	Uk [%]	Primary voltage [kV]	Secondary voltage [V]	Po [W]	Pk [W] a 120 °C	Io [%]	LwA-Acoustic power [dB (A)]	Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	Ic - wheel centre line [mm]	R - wheel diameter [mm]	Weight [kg]	Enclosure type*
315	**NL**	**EF5NAQBA**	6	33	400	1300	4500	1,4	69	1600	820	1580	670	125	1550	3
400	**NL**	**EG5NAQBA**	6	33	400	1500	5800	1,3	70	1600	880	1620	670	160	1650	3
500	**NL**	**EH5NAQBA**	6	33	400	1700	6600	1,2	71	1650	890	1750	670	160	1900	4
630	**NL**	**EI5NAQBA**	6	33	400	2000	7500	1	73	1650	900	1760	670	160	2200	4
800	**NL**	**EJ5NAQBA**	6	33	400	2450	9700	0,9	74	1750	920	1920	670	160	2650	5
1000	**NL**	**EK5NAQBA**	7	33	400	2600	11300	0,8	75	1900	1000	2040	820	160	2950	6
1250	**NL**	**EL5NAQBA**	8	33	400	2900	14000	0,7	76	1950	1020	2180	820	160	3450	6
1600	**NL**	**EM5NAQBA**	8	33	400	3400	16000	0,6	77	2050	1030	2220	820	160	4000	7
2000	**NL**	**EN5NAQBA****	8	33	400	4200	18000	0,5	79	2100	1310	2290	1070	200	4800	7
2500	**NL**	**EO5NAQBA****	8	33	400	5200	22000	0,5	80	2300	1310	2350	1070	200	5950	7



Values are for reference only. Construction drawings must be used for design.
Data provided may be modified without notice for reasons of technical production or product improvement.

Copper windings available on request

*** For information on enclosure see p. 60**

**** Placed on the ground**

BoBk – XC – NL Cast resin transformers

installation accessories

Ventilation bars

Cat. Nos.

The ventilation bars temporarily increase the transformer rated power (under normal service conditions)
According to standard IEC 60076-1, a transformer is called AN even if it is equipped with ventilation bars for temporary use
If a transformer is requested AF, please contact Legrand

	Rating (kVA)	ΔPower (%)	Notes
CB02444	100 - 315	+ 40	Temporary increase at rated conditions (50Hz)
CB02454	400 - 500	+ 40	
CB02464	630 - 1000	+ 40	
CB01414	1250 - 2000	+ 40	
CB01412	2500 - 3150	+ 40	

Temperature measurement probes

Probes are supplied mounted on the transformer and wired to the aluminium IP66 junction box

	Type	Rating (kVA)	N°	Δt (°C)	Installation
200073	Pt100	≤2000	3	-	on the LV (3) windings
200074	Pt100	≥2500	3	-	on the LV (3) windings
200137	Pt100	≤2000	3+1	-	on the LV (3) windings + on the core (1)
200138	Pt100	≥2500	3+1	-	on the LV (3) windings + on the core (1)
CB00120	PTC	-	3+3	130-140	on the LV (3 pairs) windings for alarm and trip.
CB02400	PTC	-	3+3	110-120	on the LV (3 pairs) windings for alarm and trip.
CB0272	PTC	-	3+3+3	130-140-90	on the LV (3 pairs) windings for alarm, trip and fan control.

Temperature control devices

Central units are supplied unassembled

	Type	Description
220002	T154	temperature control for 4 Pt100 probes
220023	MT200L	temperature control for 4 Pt100 probes
220004	T 119	temperature control for PTC probes
220010	T119DIN	temperature control for PTC probes, preset for DIN rail mounting
220197	NT935AD	temperature control for 4 Pt100 probe with analogue and digital output
220035	VRT200	fan control
220174	AT100	fan control

Surge arrester kit

Cat. Nos.

	HV*(kV)	Ur (kV)
130075D	6	9
130054D	10-11	12
130055D	15	18
130056D	20	24

* other values of HV on request
Ur: rated voltage of surge arrester

Rubber supports (anti vibration)

	Rating (kVA)	Description
170019	≤1600	4 antivibration pads supplied for mounting under the transformer wheels
170020	≥2000	4 antivibration pads supplied for mounting under the transformer wheels

Wheels in “Cast Iron” on request

Cupal plates BoBk - NL

Cupal is a bimetal sheet made of one copper sheet and one aluminium sheet welded together through a special mechanical procedure

	Rating (kVA)	Description
030014 **	≤160	40 x 40 CUPAL plate
030008 **	≥ 200 and ≤ 400	50 x 50 CUPAL plate
030009 **	≥ 500 and ≤ 800	60 x 60 CUPAL plate
030010 **	1000	80 x 80 CUPAL plate
030011 **	1250	100 x 100 CUPAL plate
030012 **	≥ 1600	120 x 120 CUPAL plate

** The codes refer to a single CUPAL plate

Example:
- For a transformer rated 1250 kVA, the correct CUPAL plate is item 030011
- Quantity calculation: 2 plates x 4 BT terminals = 8 CUPAL plates

Cupal plates XC

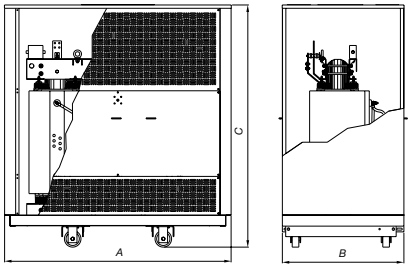
Cupal is a bimetal sheet made up of one copper sheet and one aluminium sheet inseparably welded together through a special mechanical procedure

	Rating (kVA)	Description
030008 **	≥ 250 and ≤ 315	50 x 50 CUPAL plate
030009 **	≥ 400 and ≤ 630	60 x 60 CUPAL plate
030010 **	800	80 x 80 CUPAL plate
030011 **	1000	100 x 100 CUPAL plate
030012 **	≥ 1250	120 x 120 CUPAL plate

** The codes refer to a single CUPAL plate

Example:
- For a transformer rated 1250 kVA, the correct CUPAL plate is item 030012
- Quantity calculation: 2 plates x 4 BT terminals = 8 CUPAL plates

ENCLOSURES
RAL 7035 colour
AREL door lock on the box, Cat. Nos. 230076

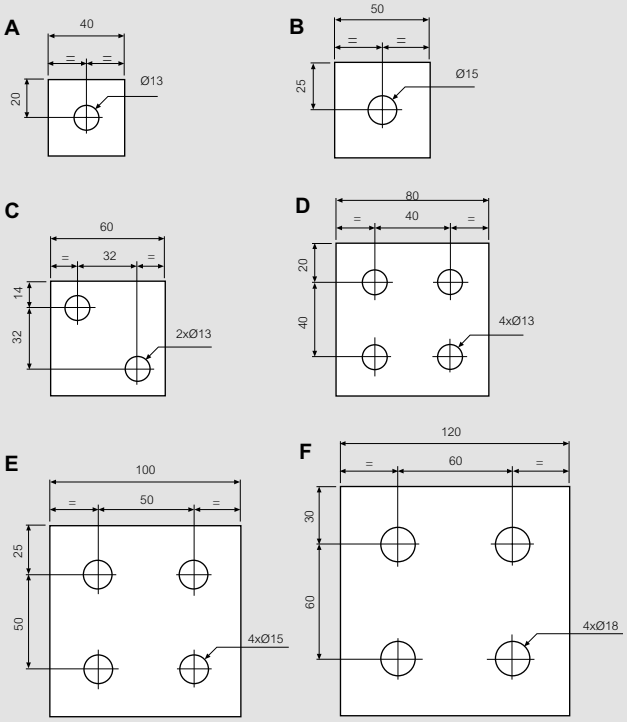


Cat. Nos.	Enclosure type	IP degree	Dimensions (mm)			Weight (kg)	Rating** [kVA]
			Length (A)	Width (B)	Height (C)		
Class 12kV-17,5kV-24kV							
230288	1	23	1600	900	1470	140	100 -160 - 200
230353	1	31	1600	900	1470	135	
230273	2	23	1700	950	1580	155	250-315
230263	2	31	1700	950	1580	150	
230215	3	23	1800	1000	1680	170	400-500
230234	3	31	1800	1000	1680	165	
230277	4	23	1900	1050	1950	185	630-800
230222	4	31	1900	1050	1950	180	
230221	5	23	2050	1100	2200	235	1000-1250
230223	5	31	2050	1100	2200	225	
230267	6	23	2300	1310	2500	325	1600 - 2000
230249	6	31	2300	1310	2500	315	
230309	7	23	2500	1310	2700	365	2500 - 3150
230371	7	31	2500	1310	2700	350	
Class 36kV							
231120	3	23	2200	1400	2050	280	315 - 400
231119	3	31	2200	1400	2050	265	
231123	4	23	2300	1400	2150	300	500 - 630
230665	4	31	2300	1400	2150	285	
231124	5	23	2450	1450	2500	355	800
230667	5	31	2450	1450	2500	335	
231125	6	23	2600	1500	2700	395	1000 - 1250
230669	6	31	2600	1500	2700	370	
231122	7	23	2900	1700	2800	470	1600 - 2000 - 2500
231121	7	31	2900	1700	2800	440	

Enclosures can be supplied non-assembled or assembled on the transformer
The above references are of non-assembled enclosures. If an assembled enclosure is requested, add the "M" suffix to the enclosure code (e.g. 231043M)

**Transformer rating per enclosure type and reference. Please note that surge arresters and/or connections to the busbar are not considered.

SIZES AND DRILLING OF LV CONNECTION TERMINALS



DRILLING STANDARD

LV connection terminals are made of from aluminium. Special CUPAL bimetallic plates can be supplied for the connection of copper cables on bars.

	BoBk - NL		XC	
Drawing	Rating (kVA)	Thickness (mm)	Rating (kVA)	Thickness (mm)
A	100	4	-	-
	160	4	-	-
B	200	5	-	-
	250	5	250	5
	315	5	315	5
	400	5	-	-
C	500	6	400	6
	630	8	500	8
	800	8	630	8
D	1000	8	800	8
E	1250	8	1000	8
F	-	-	1250	8
	1600	10	1600	12
	2000	12	2000	16
	2500	16	2500	18
	3150	20	3150	22

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