

CONCRETE TRANSFORMER STATIONS VOLTAGE 12/0,4 kV AND 24/0,4 kV TYPE DBN 4 AND 6

Compact concrete transformer station type – DBN



12/0,4 kV and 24/0,4 kV concrete transformer stations, type DBN 4 and 6, for installation of power transformer up to 2 x 1000 kVA are intended for distribution and industry. Suitability, aesthetic appearance and good operation properties of transformer station, type DBN, enable its placing in all urban locations. Concrete transformer station, type DBN, are manufactured in two basic variants:

- compact concrete transformer stations, type DBN 4 and 6
- erecting concrete transformer stations, type DBNm 4 and 6

Transformer station, type DBN i DBNm, consists of :

- CONSTRUCTION PART
- ELECTRICAL EQUIPMENT

Construction part of transformer station is made of prefabricated

reinforced concrete elements and due to that it is simple for mounting and dismantling, so it is suitable for all kinds of locations

whose carrying capacity is more than 0,1 Pa.

It consists of foundation, ground floor part and roof, and everything is in accordance with the construction design and static calculation. All parts are made of MB-300 concrete in steel enclosure with smooth and painted walls, so the maintenance costs are minimum. Hydro-isolation of roof is performed with a coat of suitable emulsion and the same is inclined to remove the atmospheric waters.

Door and blinds on transformer station are made of protected aluminium. Steel equipment, door and blinds and other metal parts make galvanic connection and are connected to the earthing protection of transformer station.

Erecting concrete transformer station type - DBNm



- Electrical equipment consists of prefabricated metal enclosed high voltage and low voltage cubicles with twice pickled sheet metal without appliance of profile steel. Anticorrosive protection is made of two (if necessary three) coats of backed paint whose steadiness is tested in all climate conditions.

High voltage part consists of cubicles type N, normal (N-111, N-112) equipped with autopneumatic switches.

Low voltage part consists of cubicles, type NN, designed in two basic variants:

VARIANT I : With a low voltage circuit breaker in incoming feeder and maximum eight cable leads of rated current up to 400 A which are protected by high-rupturing fuses.

VARIANT II : With a lever switch in incoming feeder and cable leads are the same as in the first variant.

Leads for public lighting are of rated current up to 2 x 100 A, and they are switched on by means of photorelay or switching clock. Compensation for the power factor correction $\cos\phi$ up to 100 kVAr. Electrical equipment is manufactured and tested in accordance with IEC Recommendations. The main technical characteristics are shown in the Table.

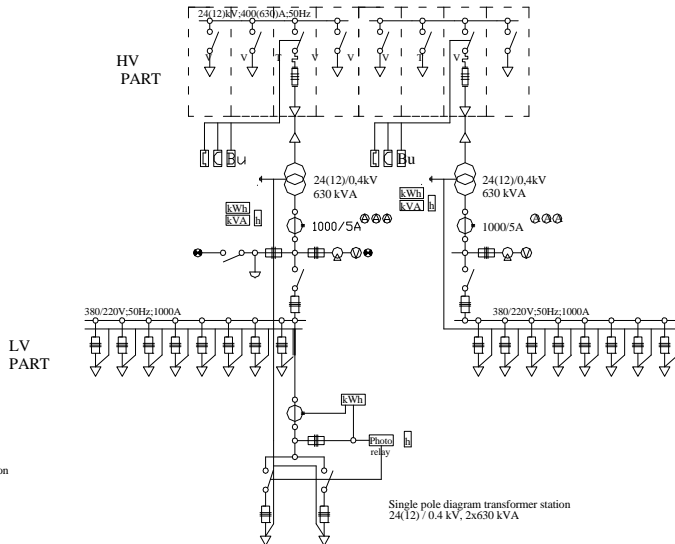
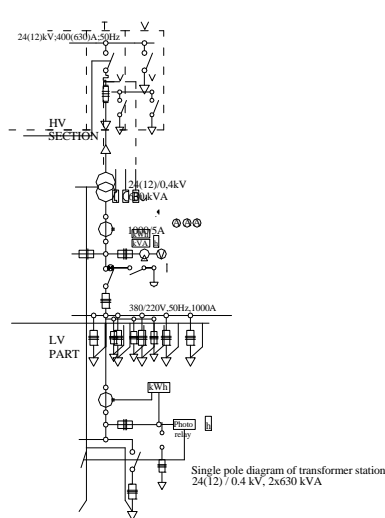
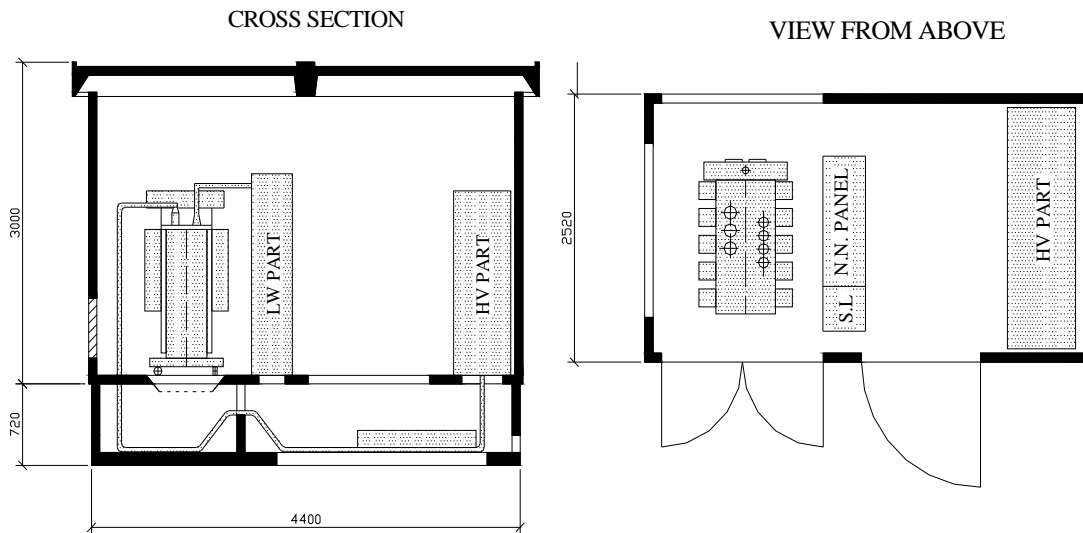
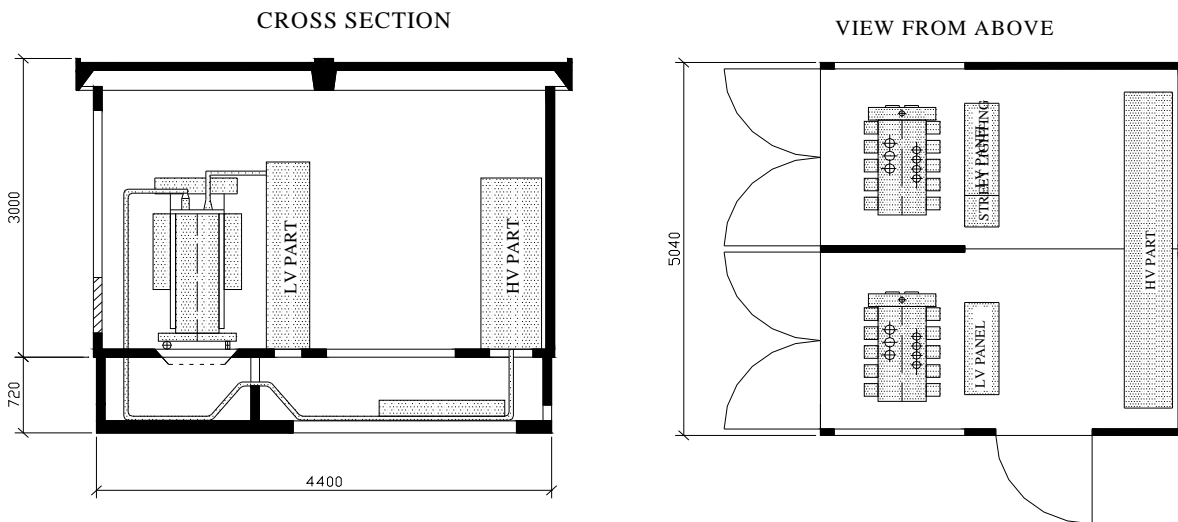


Table 1 Compact concrete transformer station type DBN 4 and 6

Type	DBN 4/I	DBN 4/II	DBN 4/III	DBN 4/III TG	DBN 4/IV	DBN 4/V	DBN 4/VI	DBN 6/II	DBN 6/IV	DBN 6/VI	
Rated voltage (kV)	12	12	12	12	12	12	12	24	24	24	
Rated current on HV side (A)	400	630	400	400	630	400	630	630	630	630	
High voltage part (type and pcs)	N111x2 N112x1 RMU12	N12x3 NFx1 RMU12	N111x2 N112x1 RMU12	N111x3 N112x1 RMU12	N12x3 NF12x1 RMU12	N111x4 N112x2 RMU12	N12x6 NF12x2 RMU12	N24x2 NF24x1 RMU24	N24x2 NF24x1 RMU24	N24x4 NF24x2 RMU24	
Low voltage part (type and pcs)	NN + JR	NN + JR	NN + JR	NN + JR	NN + JR	NNx2 JRx1	NNx2 JRx1	NN + JR	NN + JR	NNx2 JRx1	
Type of construction part	KBTS-B-E	KBTS-B-E	KBTS-C-E	KBTS-CE-1	KBTS-C-E	KBTS-D-E	KBTS-D-E	KBTS-B-E	KBTS-C-E	KBTS-D-E	
Weight (kg) Construction part	Substruction	3000	3000	3000	3500	3000	6000	6000	3000	3000	6000
	Ground floor	3000	3000	6500	7000	6500	11600	11600	3000	6500	11600
	Roof	1700	1700	3400	3400	3400	6800	6800	1700	3400	6800
Electrical equipment without power transformer	1850	900	1850	2250	900	3700	1800	750	750	1500	



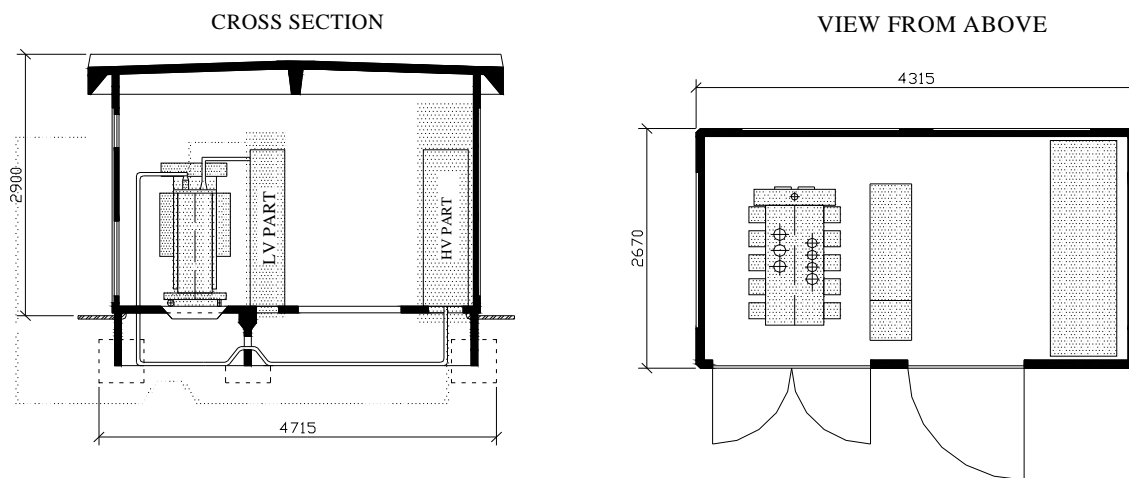
Compact concrete transformer station with inside operation 24(12)/0,4kV, 1x630 kVA type DBN-4/III, DBN-4/IV and DBN-6/IV



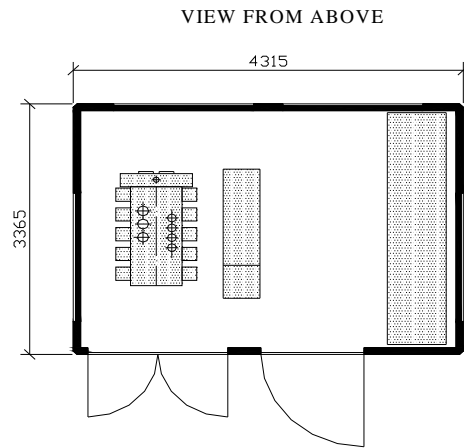
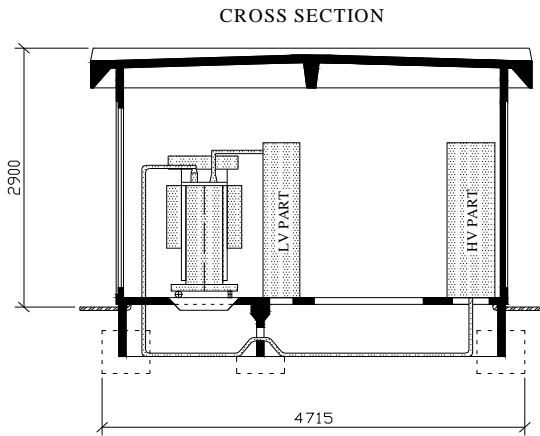
Compact concrete transformer station with inside operation 24(12)/0.4 kV, 2x630 kVA, type DBN-4/V, DBN-4/VI and DBN-6/VI

Table 2 Erecting concrete transformer station type DBNm 4 and 6

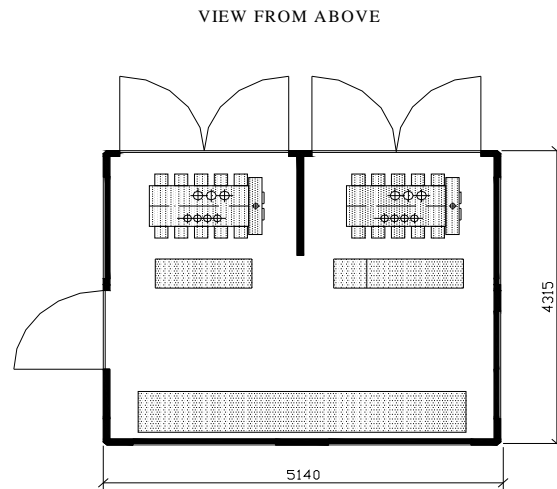
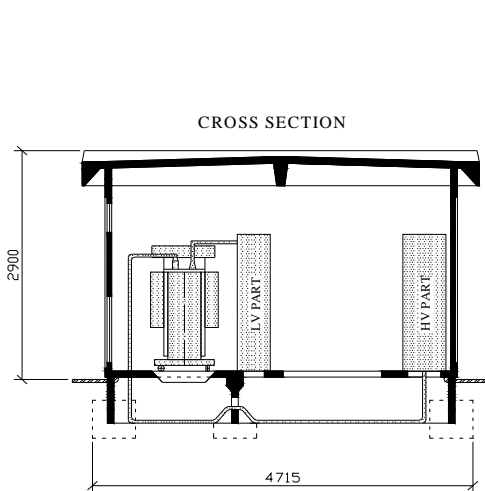
Type	DBN 4/I	DBN 4/II	DBN 4/III	DBN 4/III TG	DBN 4/IV	DBN 4/V	DBN 4/VI	DBN 6/II	DBN 6/IV	DBN 6/VI	
Rated voltage (kV)	12	12	12	12	12	12	12	24	24	24	
Rated current on HV side (A)	400	630	400	400	630	400	630	630	630	630	
High voltage part (type and pcs)	N111x2 N112x1 RMU12	N12x3 NFx1 RMU12	N111x2 N112x1 RMU12	N111x3 N112x1 RMU12	N12x3 NF12x1 RMU12	N111x4 N112x2 RMU12	N12x6 NF12x2 RMU12	N24x2 NF24x1 RMU24	N24x2 NF24x1 RMU24	N24x4 NF24x2 RMU24	
Low voltage part (type and pcs)	NN + JR	NN + JR	NN + JR	NN + JR	NN + JR	NNx2 JRx1	NNx2 JRx1	NN + JR	NN + JR	NNx2 JRx1	
Type of construction part	EBBE-B-E	EBBE-B-E	EBBE-C-E	EBBE-CE-1	EBBE-C-E	EBBE-D-E	EBBE-D-E	EBBE-B-E	EBBE-C-E	EBBE-D-E	
Weight (kg)	Substruction	4200	4200	4500	4500	4500	6100	6100	4200	4500	6100
	Construction part	6800	6800	8600	8600	8600	9800	9800	6800	8600	9800
	Roof	4500	4500	5500	5500	5500	8300	8300	4500	5500	8300
Electrical equipment without power transformer	1850	900	1850	2250	900	3700	1800	750	750	1500	



Erecting concrete transformer station 24(12)/0,4kV, 1x630 kVA
type DBNm-4/I, DBNm-4/II and DBNm-6/II



Erecting concrete transformer station 24(12)/0,4kV, 1x630 kVA,
type DBNm-4/III, DBNm-4/IV and DBNm-6/IV



Erecting concrete transformer station 24(12)/0,4kV, 2x630 kVA,
type DBNm-4/V, DBNm-4/VI and DBNm-6/VI

Transportation and assembling

The transport of the elements to assembling place of concrete transformer station, type DBN, is possible by the transportation means of carrying capacity 7 to 10 tons. The assembling of concrete transformer station, type DBN, is very simple and lasts one day.