

### ▶ Application

Filter reactor, or called DC flat wave reactor, is applied to DC side of converter, the flow of a reactor is a DC current with an AC component. It keeps the AC component of DC current in one kind of range.

It is applied to the DC side of the parallel converter to reduce the intermittent limit and limit the circulation in the circulation line, is applied to DC fast cut off fault current limiting current rise rate. It is used in the DC flat wave of the current, voltage type inverter in the middle, which can be used for the rectification of the power flat wave to eliminate the ripple.

The flat wave reactor is used in the DC circuit after rectification. The pulse wave number of the rectifier circuit is always limited, and there is always a ripple in the output of the whole direct voltage. And the ripple is harmful, need to be suppressed by the flat wave reactor DC transmission are equipped with flat wave reactor, is close to the ideal output DC.

flat wave reactor and DC filter are constitute DC harmonic filter circuit of high voltage DC DC converter station together. flat wave reactor is tandem connecting between DC output and DC circuit of each converters, is one of the important equipment in HVDC converter station.

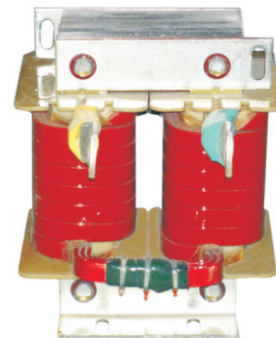
the flat wave reactor and DC filter constitute the DC T type harmonic filter network together, reduce the AC pulse component and filter part of harmonic, reduce the interference of DC line to communication and avoid harmonics to influence adkust instability.

and it can also prevent the steep wave impulse generated by the DC line into the valve chamber, so that the flow valve to avoid damage of over voltage.

When some faults occur in the inverter, it can avoid the secondary commutation failure. The probability of commutation failure caused by AC voltage drop can be reduced. When the DC circuit is shorten, the peak value of the short circuit current is limited under the rectifier side regulation coordination. Inductance value is not the bigger the better, it will have an impact on the performance of the DC transmission system.

In the DC transmission system, when the DC current is interrupted, it will produce high over voltage, which is disadvantageous to the insulation, and the control is not stable.

The flat wave reactor can prevent the interruption of the DC current by limiting the current change rate caused by the fast voltage change, thereby reducing the commutation failure rate of the converter.



### ▶ Characteristic

The DC flat wave reactor is mainly used to improve the quality of the power grid and improve the power factor in the circuit. It mainly consists of two parts, the iron core and the coil, iron core is two core pillar structure, core column is made up of silicon steel and the insulating plate, after assembly, screw is pressing down and reduce noise.

### ▶ Main technical parameter

3.1 rated operational voltage: 400V-1200V/50Hz

3.2 rated operational current: 3A to 1500A/40C

3.3 electrical strength: iron core -coil 3000VAC/50Hz/10mA/10s without arcing breakdown

3.4 insulation resistance: iron core -coil 3000VDC, insulation value larger than 100M

3.5 reactor noise lower than 65dB (Measuring in distance of 1 meters with reactor)

3.6 protective level: IP00

3.7 insulation level: F level

3.8 production standard: IEC289:1987 reactor



▶ Model No. and dimension

Model No.	applicable power(kW)	rated current(A)	inductance(MH)	insulation level	shape(mm)	install(mm)	bore
DCL-6	0.75(1.5)	6	10.6	F,H	100×95×115	85×75	5
DCL-10	2.2	10	6.37	F,H	100×95×115	85×75	5
DCL-10	3.7(4.0)	10	6.37	F,H	100×95×115	85×75	5
DCL-15	5.5	15	4.25	F,H	100×95×115	85×75	5
DCL-20	7.5	20	3.18	F,H	140×140×170	65×70	6
DCL-30	11	30	2.12	F,H	140×140×170	65×70	6
DCL-40	15	40	1.6	F,H	140×140×170	65×70	6
DCL-50	18.5	50	1.27	F,H	140×140×170	65×70	6
DCL-60	22	60	1.06	F,H	140×140×170	65×70	6
DCL-80	30	80	0.79	F,H	140×160×170	65×85	8
DCL-110	37	110	0.56	F,H	140×160×170	65×85	8
DCL-120	45	120	0.53	F,H	140×160×170	65×85	8
DCL-150	55	150	0.42	F,H	180×190×210	70×110	8
DCL-200	75	200	0.32	F,H	180×190×210	70×110	8
DCL-250	93	250	0.25	F,H	180×185×260	70×110	8
DCL-280	110	280	0.22	F,H	180×185×260	70×110	10
DCL-300	132	300	0.21	F,H	180×185×260	70×110	10
DCL-400	160	400	0.16	F,H	200×200×230	70×120	10
DCL-450	187	450	0.14	F,H	220×200×290	90×125	10
DCL-500	200(220)	500	0.127	F,H	220×200×290	90×125	10
DCL-600	250(280)	600	0.11	F,H	230×230×290	90×130	10
DCL-800	315	800	0.08	F,H	230×250×290	90×130	10
DCL-1000	400	1000	0.063	F,H	240×270×350	155×130	10