



上海稳压器厂
SHANGHAI
VOLTAGE REGULATOR PLANT

Stabilization

Electrical source **Expert**

稳定电源专家



上海稳压器厂
SHANGHAI
VOLTAGE REGULATOR PLANT

地址：上海市松江区文翔东路58号（中山工业园）
电话：400 186 8989 021-6410 8585
网址：www.csvrp.com

电抗器产品手册

REACTOR PRODUCT MANUAL

关于公司 ABOUT THE COMPANY

上海稳压器厂作为国内电源的优质生产商，我厂主营交流稳压器、隔离变压器、电抗器，滤波器、UPS电源、变频电源、调压器，直流稳压电源等产品我们都有着成熟稳定可靠的技术，产品适用场所广泛，公司可为客户提供标准以及特殊应用解决方案。也可在项目的早期阶段为客户提供专业技术和支持。

电子技术的发展对电能质量的要求越来越高，电能质量越来越被重视，而电力电子设备的增加导致电网电能质量日益恶化，造成电压波动、谐波、三相不平衡、谐振等电网污染。优化电网质量功率因数校正(PFC)技术也将得到大规模的应用，我厂产品可降低用电消耗，减轻电网污染，提升输电效率，不仅节约能源，净化电网，也是回报率极高的投资。

电能质量产品目前应用领域有石油、化工、煤炭、冶金、钢铁、能源、生物、交通、纺织、造纸、造船、烟草、建筑、水泥等行业。各行业都有突出的业绩。

Shanghai voltage regulator plant is an excellent electronic component manufacturer in China. The company's products are mainly engaged in the research and development, manufacturing, sales, and service of power electronic products such as reactors and resistors, filters, heaters, capacitors, etc.

Electric focuses on the rapidly growing cutting-edge technology market, including industrial automation, reactive power compensation, power quality, and new energy. The company can provide customers with standard components as well as special application solutions. The company can provide professional technology and support to clients in the early stages of the project. To continuously improve the technological level of electrical engineering, thereby enhancing the quality of its products and services. The company has passed ISO9001/CE certification. The development of electronic technology has increasingly high requirements for power quality, and power quality is being valued more and more.

However, the increase of power electronic equipment has led to the deterioration of power quality in the power grid, causing voltage fluctuations, harmonics, three-phase imbalances, resonance and other grid pollution. Optimizing the quality of the power grid through power factor correction(PFC) technology will also be widely applied, as electrical products can reduce electricity consumption, alleviate grid pollution, improve transmission efficiency, not only save energy and purify the grid, but also provide a high return on investment.

Electric's power quality products are currently applied in industries such as petroleum, chemical, coal, metallurgy, steel, energy, biology, transportation, textiles, papermaking, shipbuilding, tobacco, construction, cement, etc. Each industry has outstanding performance.



企业文化 CORPORATE CULTURE

我们怀揣着“引领行业变革，构建美好未来”的公司愿景，秉持“以人为本，诚信共赢”的经营理念，将客户需求与员工成长置于首位，以诚信为基石，与合作伙伴携手共进，共享发展成果。在质量方针上，坚持“精益求精，品质至上”，从原材料采购到产品交付的每一个环节，都严格把控，确保产品质量超越客户期待。我们的产品理念是“创新驱动，匠心独运”，持续投入研发与技术创新，不断优化产品设计与生产工艺，以匠心雕琢每一件产品，致力于为客户提供兼具创新性与高品质的产品，助力企业在激烈的市场竞争中稳步前行，实现公司愿景。

We hold the company vision of "Leading Industry Transformation and Building a Better Future" and adhere to the business philosophy of "People-oriented, Integrity and Win-win Cooperation". We prioritize our customers' needs and the growth of our employees. With integrity as the cornerstone, we move forward hand in hand with our partners and share the fruits of development.

In terms of our quality policy, we adhere to "Striving for Perfection and Putting Quality First". We exercise strict control over every link, from the procurement of raw materials to the delivery of products, to ensure that the product quality exceeds our customers' expectations.

Our product concept is "Driven by Innovation and Crafted with Unique Ingenuity". We continuously invest in research and development as well as technological innovation, and keep optimizing product designs and production processes. We meticulously carve and polish each product, aiming to provide our customers with innovative and high-quality products. We strive to help enterprises move forward steadily in the fierce market competition and realize our company's vision.

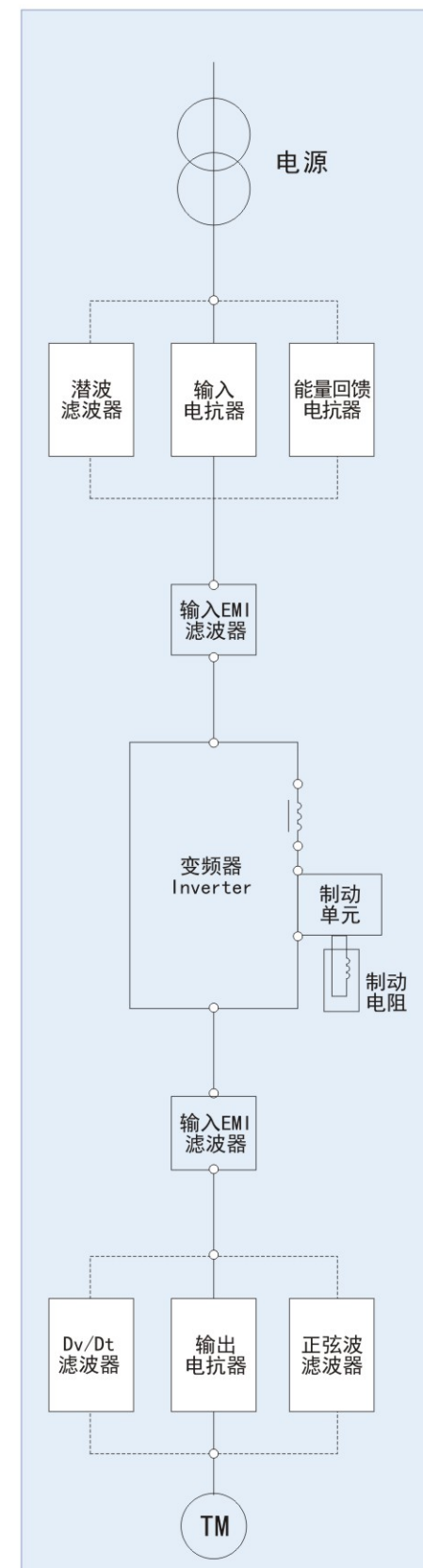


目录 CONTENTS

- 交流输入电抗器(ICR)
AC Input Reactor
- 交流输出电抗器(OCR)
AC Output Reactor
- 直流电抗器(DCR)
DC reactor
- 正弦波滤波器(ISFR)
Sine wave filter

电机驱动系统解决方案

Motor Drive System Solution



输入电抗器 (ICR)

提高输入电源功率因数，减少高次谐波，抑制变频器电源设备上的浪涌。有下列情况时，应安装交流输入电抗器。

1. 当电源的容量超过500KVA,并超过变频器容量的10倍时。
2. 与电源波形畸变的系统，如晶闸管、大容量变频器等，接同一电源上的时候。因为不同规格的电抗器，其阻抗是不同的。为了保证电抗器能达到良好的效果，请与我们联系。

Improve the power factor of the input power supply, reduce high-order harmonics, and suppress surges on the power supply equipment of the frequency converter. An AC input reactor should be installed in the following situations:

1. When the capacity of the power supply exceeds 500 KVA and is more than 10 times the capacity of the frequency converter.
2. When it is connected to the same power supply as a system with distorted power supply waveforms, such as thyristors, large-capacity frequency converters, etc. Since the impedance of reactors of different specifications is different, in order to ensure

能量回馈电抗器 (IFR)

变频器制动时所产生的再生能量回馈到电网，并加以利用，但是整流单元为IGBT,会产生较多的高次谐波被电流，进而对电网污染。所以变频的前端加上能量回馈电抗器改善电能质量

When the frequency converter brakes, the regenerative energy generated is fed back to the power grid and utilized. However, since the rectifier unit is an IGBT, it will generate a relatively large amount of high-order harmonic currents, which will in turn pollute the power grid. Therefore, an energy feedback reactor is added to the front end of the frequency converter to improve the power quality.

谐波滤波器 (IHFR)

1. 当连接在变频器前端，经谐波滤波器滤波后总谐波电流小于满载时基波电流的10%。
2. 效率大于98%,功率可到250KW,无源谐波滤波器提供了具有高性价比和稳定可靠的谐波解决方案。
3. 作为独立选项，易于安装到现有有机柜内。
4. 该系列滤波器与品牌变频器做过精心匹配，适合多种电机控制方式，确保系统稳定工作，不会对电网产生任何不良影响。

1. When connected to the front end of the frequency converter, after being filtered by the harmonic filter, the total harmonic current is less than the fundamental wave current at full load or 10%.
2. With an efficiency greater than 98% and a power capacity of up to 250KW, the passive harmonic filter provides a harmonic solution with high cost-effectiveness, stability and reliability.
3. As an independent option, it is easy to install in the existing cabinet.
4. This series of filters has been carefully matched with the branded frequency converters, is suitable for various motor control methods, ensures the stable operation of the system, and will not have any adverse effects on the power grid.

直流电抗器 (DCR)

直流电抗器提高功率因数效果比交流输入电抗器要好的多，当变频器用于多可靠性要求较高的系统中，建议选用交流输入电抗器的同时，再选用一个直流。

电抗器	改善功率因数	抑制谐波	吸收浪涌
输入电抗器	0	0	0
直流电抗器	0	0	×
效果	非常有效	非常有效	无效

The effect of a DC reactor in improving the power factor is much better than that of an AC input reactor. When the frequency converter is used in a system with relatively high requirements for reliability, it is recommended to select an AC input reactor and also select a DC reactor.

EMI 滤波器	1.能有效地抑制音频设备的无线电干扰，靠近变频器安装。2.安装在变频器的输入侧。 3.适用于波长范围100K至30MHZ。 4.当噪声干扰设备安装在变频器附近时，使用这个类型的滤波器 1. It can effectively suppress the radio interference of audio equipment and should be installed close to the frequency converter. 2. Install it on the input side of the frequency converter. 3. It is applicable to the wavelength range of 100K to 30MHZ. 4. When the noise interference equipment is installed near the frequency converter, use this type of filter.
制动单元 制动电阻	能有效的控制母线电压泵升，对变频器具有一定的保护作用，并能提高变频器的制动能力。当变频传动系统需要频繁制动时，就需要使用制动单元。它可将电机制动时的机械能转换成热能。 能有效的控制母线电压泵升，对变频器具有一定的保护作用，并能提高变频器的制动能力。当变频传动系统需要频繁制动时，就需要使用制动单元。它可将电机制动时的机械能转换成热能。 It can effectively control the bus voltage pumping-up, play a certain protective role for the frequency converter, and improve the braking ability of the frequency converter. When the variable frequency drive system needs to brake frequently, a braking unit is required. It can convert the mechanical energy generated during the motor braking into heat energy. It can effectively control the bus voltage pumping-up, play a certain protective role for the frequency converter, and improve the braking ability of the frequency converter. When the variable frequency drive system needs to brake frequently, a braking unit is required. It can convert the mechanical energy generated during the motor braking into heat energy.
输出 电抗器 (OCR)	能将电机制动过程中的机械能通过制动电阻以热能的形式消耗掉，可以缩短变频传动系统的减速时间。 备注：变频器是否需要频繁启停 It can consume the mechanical energy during the motor braking process in the form of heat energy through the braking resistor, which can shorten the deceleration time of the variable frequency drive system. Remarks: Does the frequency converter need to be frequently started and stopped?
Dv/Dt 滤波器 (DUDT)	1.有效降低变频伺服电动机端的dv/dt电压； 2.防止传输电缆和伺服电机线圈的过早老化和击穿； 3.延长伺服电机的使用寿命，提高伺服的可靠性和正常运行时间； 4.有效降低伺服电机端脉冲尖峰电压。 备注：输出电缆150-300米 1. Effectively reduce the dv/dt voltage at the end of the variable frequency servo motor; 2. Prevent the premature aging and breakdown of the transmission cable and the servo motor coil; 3. Extend the service life of the servo motor and improve the reliability and uptime of the servo system; 4. Effectively reduce the pulse spike voltage at the end of the servo motor. Remarks: The length of the output cable is 150-300 meters.
正弦 波滤波器 (ISFR)	1.能有效的抑制马达的噪声及振动。 2.能有效的抑制变频器输出侧100KHz以内的差模噪声。运用了高速开关器件的变频器，其输出含有高频谐波，并且P波的dv/dt很高。用于驱动一个普通的马达时，由于马达动力电缆的长度，安装方式，电缆特性等原因，将产生行波叠加浪涌电压。浪涌电压将对马达线圈的绝缘性造成损害，因此有必要在马达的前端使用正弦滤波器，正确选用正弦滤波器可以使马达电缆有效长度延长至3000m。 备注：输出电缆150-500米 1. It can effectively suppress the noise and vibration of the motor. 2. It can effectively suppress the differential mode noise within 100KHz on the output side of the frequency converter. For the frequency converter using high-speed switching devices, its output contains high-frequency harmonics, and the dv/dt of the P-wave is very high. When used to drive an ordinary motor, due to reasons such as the length of the motor power cable, installation method, and cable characteristics, traveling wave superposition surge voltage will be generated. The surge voltage will damage the insulation of the motor coil. Therefore, it is necessary to use a sinusoidal filter at the front end of the motor. The correct selection of the sinusoidal filter can extend the effective length of the motor cable to 3000m.

交流输入电抗器(ICR)

ACInputReactor



产品概述 Product overview

进线电抗器可被用于给线路电源提供改进的过载保护，并能减少变频器产生的电流谐波失真。提高输入电源的功率因素，减少高次谐波，抑制变频器在电源设备上的浪涌。

Incoming reactors can be used to provide improved overload protection for line power supplies and reduce current harmonic distortion generated by frequency converters. Improve the power factor of the input power supply, reduce high-order harmonics, and suppress surges of the frequency converter on the power equipment.

产品应用 Product Application

特别在下列环境下推荐使用进线电抗器：

- 几个变频器并联连接
- 线路电源有来自其他设备的明显扰动(干扰，过电压)
- 线路电源各相之间存在电压不平衡，超过额定电压的1.8%
- 在同一线路上安装有大量的变频器
- 减小cosφ校正电容器上的过载，如果装置中含有一个功率系数校正设备

It is recommended to use incoming reactors in the following environments: Several frequency converters are closely connected in parallel The power supply of the line has obvious disturbances (interference, overvoltage) from other devices There is voltage imbalance between the phases of the line power supply,exceeding 1.8%of the rated voltageInstall a large number of frequency converters on the same lineReduce the overload on the cosine correction capacitor if the device contains a power factor correction device.

技术规格 Technical specifications

工作电压：220VAC-3300VAC 工作频率：50/60Hz 工作电流：3A-1600A

绝缘等级：class F, H 防护等级：IP00-IP22 噪音：≤65dB

压降：<4%大于此范围会引起转矩损失 最大电流：1.5×额定电流，持续60S

抗电强度：铁芯-绕组3000VAC/50Hz/5mA/10S 无飞狐击穿(工厂测试)

绝缘电阻：1000VDC 绝缘阻值≥100MQ

Working voltage:220VAC-3300VAC Operating frequency:50/60Hz

Working current:3A-1600A Insulation level:Class F,H Protection level:IP00-IP22

Pressure drop:<4%.Exceeding this range willcause torque loss Noise:≤65dB

·Maximum current:1.5 times rated current, lasting for 60 seconds

Temperature rise:≤85K Electrical strength:Iron core winding

3000VAC/50Hz/5mA/10S without flying fox breakdown (factory test)

·Insulation resistance: 1000VDC insulation resistance≥100MQ

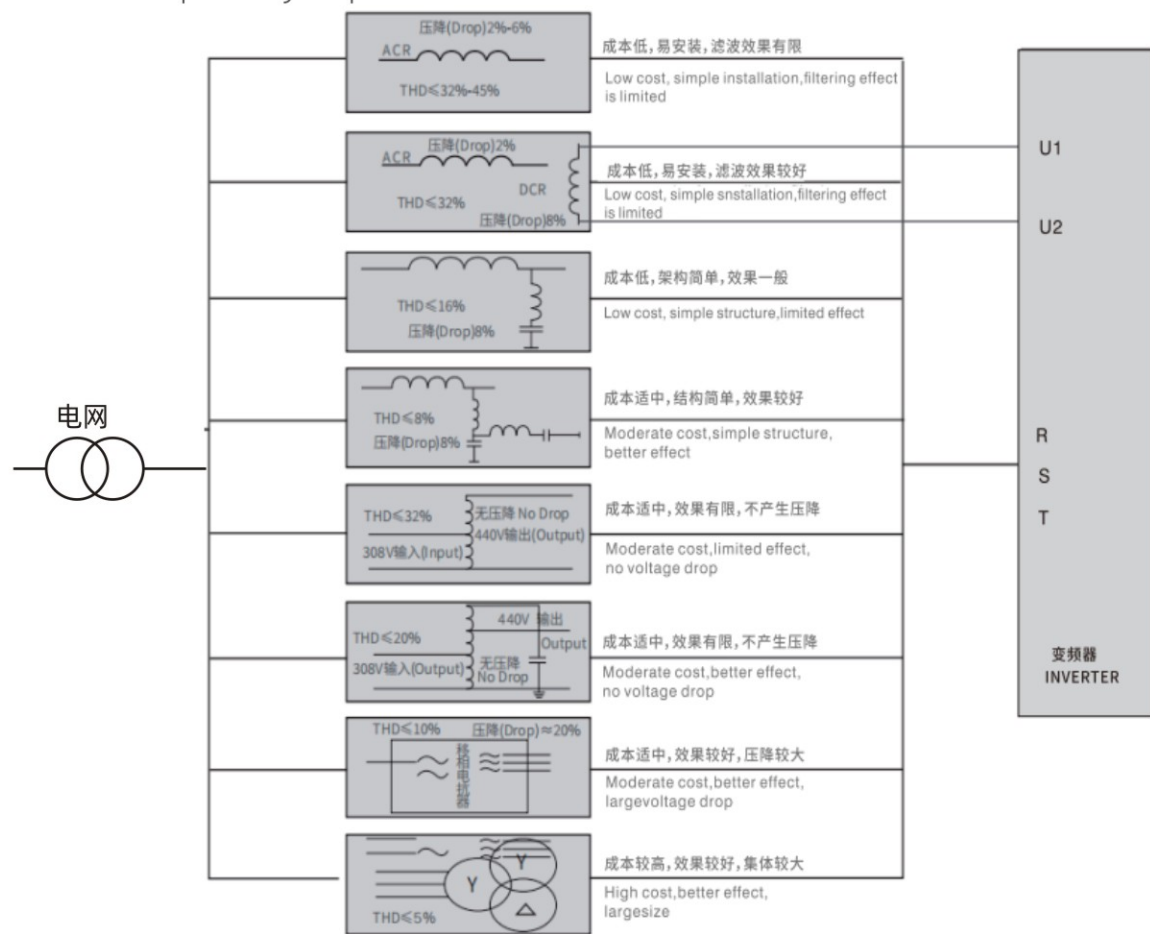
执行标准 Execution standards

·IEC289:1987 Reactor ·GB10229-88 Reactor

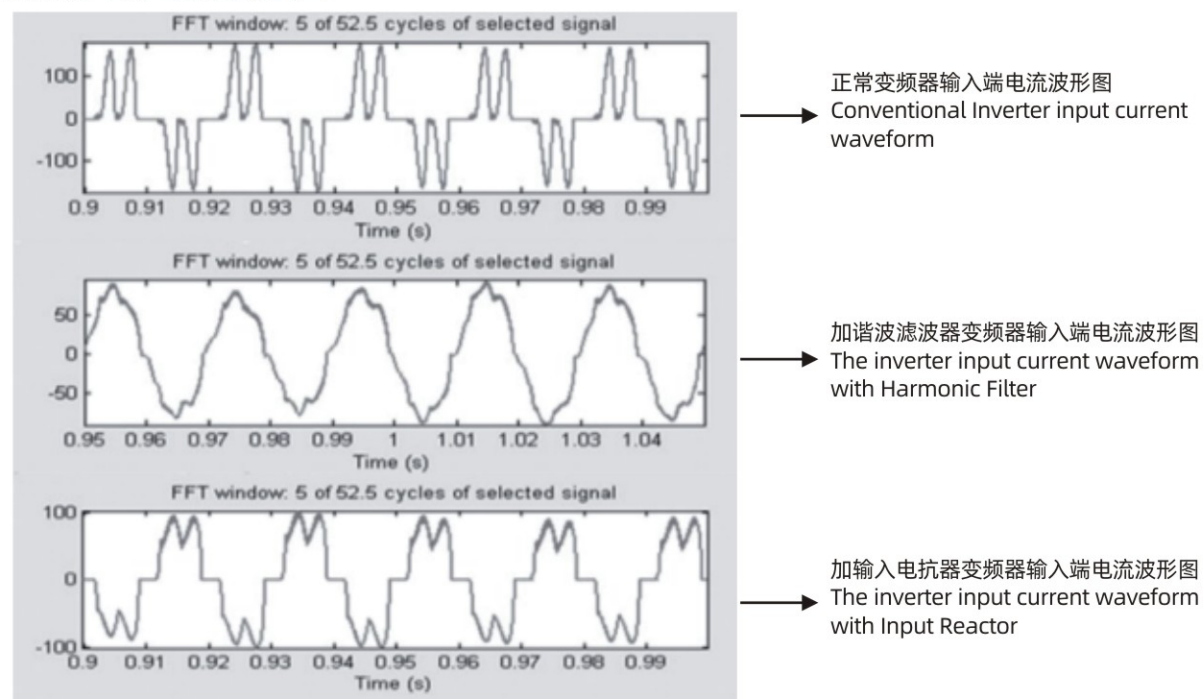
·JB9644-1999 Reactor used for semiconductor electrical driving

变频输入端解决方案

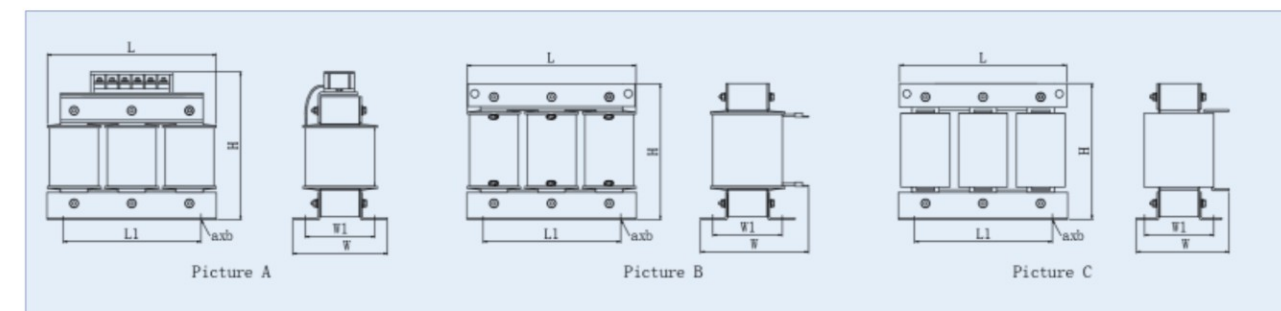
Variable frequency input solution



变频器输入端电流波形图



产品尺寸图 product overview



3-380VAC 2%压降 输入电抗器

Three-phase, 380VAC, with a voltage drop of 2%, input reactor

电抗器型号	图号	适配功率 (KW)	额定电流 (A)	额定电感 (mH)	尺寸: mm						绝缘 等级	重量 (kg)
					L	W	H	L1	W1	a*b		
ICR-0005-2M80-0.4SW	A	1.5	5	2.8	120	95	140	90	55	6*15	F、H	2.8
ICR-0007-2M00-0.4SW		2.2	7	2.0	120	95	140	90	55	6*15	F、H	2.8
ICR-0010-1M40-0.4SW		3.7	10	1.4	120	95	140	90	55	6*15	F、H	3
ICR-0015-940U-0.4SW		5.5	15	0.94	120	95	140	90	55	6*15	F、H	3
ICR-0020-700U-0.4SW	B	7.5	20	0.70	160	150	140	95	56	6*15	F、H	3.8
ICR-0025-550U-0.4SW		11	25	0.55	160	150	140	95	56	6*15	F、H	3.8
ICR-0030-450U-0.4SW		15	30	0.45	160	150	140	95	56	6*15	F、H	4
ICR-0037-360U-0.4SW		18.5	37	0.36	160	150	140	95	56	6*15	F、H	4.2
ICR-0045-300U-0.4SW		22	45	0.30	160	170	140	95	76	6*15	F、H	6
ICR-0060-230U-0.4SW		30	60	0.23	160	170	140	95	76	6*15	F、H	6.3
ICR-0075-180U-0.4SW		37	75	0.18	190	155	165	120/64	60	8.5*20	F、H	7
ICR-0090-150U-0.4SW		45	90	0.15	190	170	165	120/64	78	8.5*20	F、H	9.2
ICR-0110-120U-0.4SW		55	110	0.12	190	170	165	120/64	78	8.5*20	F、H	9.5
ICR-0150-090U-0.4SW		75	150	0.09	190	180	165	120/64	88	8.5*20	F、H	11
ICR-0180-075U-0.4SW	C	90	180	0.075	190	170	235	120/64	90	8.5*20	F、H	16
ICR-0220-062U-0.4SW		110	220	0.062	254	165	250	182/100	90	11*18	F、H	20
ICR-0265-050U-0.4SW		132	265	0.05	245	170	250	182/100	95	11*18	F、H	19
ICR-0330-040U-0.4SW		160	330	0.04	245	180	250	182/100	105	11*18	F、H	24
ICR-0390-036U-0.4SW		185	390	0.036	245	190	250	182/100	110	11*18	F、H	26
ICR-0450-030U-0.4SW		220	450	0.03	285	205	265	214/150	110	11*18	F、H	32
ICR-0500-027U-0.4SW		250	500	0.027	285	205	265	214/150	110	11*18	F、H	32.5
ICR-0610-022U-0.4SW		300	610	0.022	285	220	265	214/150	130	11*18	F、H	38.5
ICR-0650-020U-0.4SW		315	650	0.020	285	220	290	214/150	130	11*18	F、H	42
ICR-0710-018U-0.4SW		355	710	0.0180	285	230	290	214/150	130	11*18	F、H	43
ICR-0760-17U5-0.4SW		380	760	0.0175	285	235	290	214/150	130	11*18	F、H	44
ICR-0910-014U-0.4SW		450	910	0.014	315	270	305	243	152	11*18	F、H	56
ICR-1150-11U7-0.4SW		550	1150	0.0117	315	275	350	243	157	11*18	F、H	66
ICR-1400-9U50-0.4SW		630	1400	0.0095	365	295	370	260	147	15*25	F、H	77
ICR-1600-8U60-0.4SW		710	1600	0.0086	365	295	370	260	147	15*25	F、H	79

3-690VAC 2%压降 输入电抗
Three-phase, 690VAC, with an input reactance and a voltage drop of 2%

电抗器型号	图号	适配功率 (KW)	额定电流 (A)	额定电感 (mH)	尺寸: mm						绝缘 等级	重量 (kg)
					L	W	H	L1	W1	a*b		
ICR-0005-5M00-0.7SW	A	3.7	5	5.0	160	110	175	95	56	6*15	F、H	4
ICR-0007-3M60-0.7SW		5.5	7	3.6	160	110	175	95	56	6*15	F、H	4
ICR-0010-2M55-0.7SW		7.5	10	2.55	160	110	175	95	56	6*15	F、H	4.2
ICR-0015-1M60-0.7SW		11	15	1.60	160	110	175	95	56	6*15	F、H	4.2
ICR-0020-1M25-0.7SW	B	15/18.5	20	1.25	160	150	140	95	56	6*15	F、H	4.5
ICR-0030-820U-0.7SW		22/30	30	0.82	190	155	165	120/64	60	8.5*20	F、H	6.5
ICR-0040-620U-0.7SW		37	40	0.62	190	155	165	120/64	60	8.5*20	F、H	6.5
ICR-0050-500U-0.7SW		45	50	0.50	190	170	165	120/64	78	8.5*20	F、H	9.2
ICR-0060-420U-0.7SW		55	60	0.42	190	170	165	120/64	78	8.5*20	F、H	9.5
ICR-0080-350U-0.7SW		75	80	0.31	190	180	165	120/64	88	8.5*20	F、H	11.5
ICR-0090-280U-0.7SW		90	90	0.280	245	170	190	182/100	84	11*18	F、H	13.5
ICR-0110-230U-0.7SW		110	110	0.230	245	190	190	182/100	104	11*18	F、H	17.5
ICR-0150-165U-0.7SW		132	150	0.165	245	180	250	182/100	105	11*18	F、H	23.5
ICR-0180-140U-0.7SW		160	180	0.140	245	190	250	182/100	115	11*18	F、H	27.5
ICR-0220-115U-0.7SW	C	185/220	220	0.115	245	190	250	182/100	115	11*18	F、H	28
ICR-0265-095U-0.7SW		250	265	0.095	285	200	265	214/150	125	11*18	F、H	36
ICR-0330-077U-0.7SW		280/315	330	0.077	285	215	265	214/150	135	11*18	F、H	39
ICR-0390-065U-0.7SW		355	390	0.065	315	230	275	243	152	11*18	F、H	49
ICR-0490-051U-0.7SW		450	490	0.051	315	260	305	243	152	11*18	F、H	55
ICR-0560-045U-0.7SW		550	560	0.045	315	260	305	243	152	11*18	F、H	56.5
ICR-0650-039U-0.7SW		630	650	0.039	365	265	320	260	152	15*25	F、H	67
ICR-0710-035U-0.7SW		710	710	0.035	365	270	330	260	152	15*25	F、H	69
ICR-0800-031U-0.7SW		800	800	0.0310	365	300	330	260	177	15*25	F、H	90
ICR-1000-024U-0.7SW		1000	1000	0.0240	365	300	365	260	177	15*25	F、H	96
ICR-1200-20U5-0.7SW		1200	1200	0.021	365	330	370	260	177	15*25	F、H	102
ICR-1600-15U0-0.7SW		1600	1600	0.015	415	345	400	350	192	15*25	F、H	134

交流输出电抗器
(OCR) AcOutput Reactor



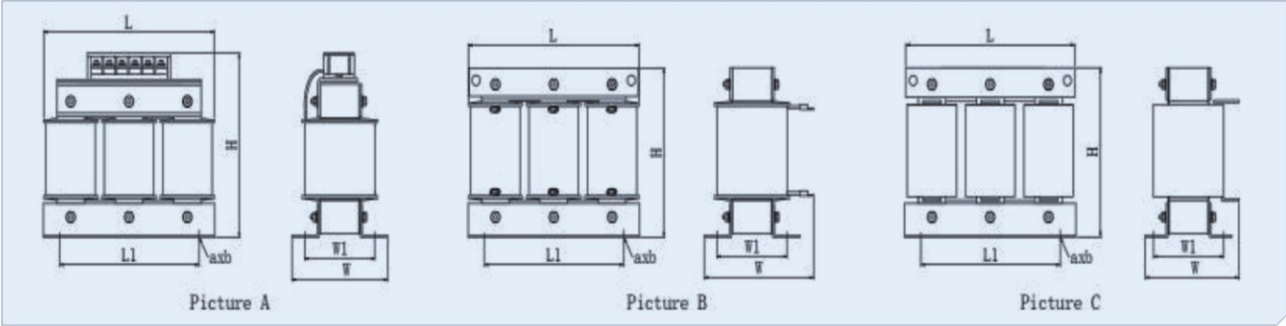
■产品概述 Product overview
安装在变频器输出端，用于限制变频器与电机连接电缆的容性充电电流，钝化变频器输出的PWM波的电压上升率。电机电缆长度超过一定值时，建议在变频器与电机之间插入一个电机电抗器用于补偿在长导线时的电容再充电电流。此长度决定于变频器的额定值以及电机电缆的类型。
Installed at the output end of the frequency converter,it is used to limit the capacitive charging current of the cable connecting the frequency converter and the motor,and to passivate the voltage rise rate of the PWM wave output by the frequency converter.When the length of the motor cable exceeds a certain value,it is recommended to insert a motor reactor between the frequency converter and the motor.Used to compensate for the recharging current of capacitors in long wires.This length depends on the rated value of the frequency converter and the type of motor cable.

■产品应用 Product Applicator
将dv/dt 限制到500V/us
·将电机端子上的过电压限制到：1000V至400V~(rms 值)1150V至460V~(rms 值)
·避免滤波器与电机之间的接触器所引起的滤波器干扰
·减小电机接地泄漏电流
Limit dv/dt to 500V/usLimit the overvoltage on the motor terminals to 1000V to 400V~(rms value)1150V460V~(rms value)Filter interference caused by opening the contactor between the fiter and the motorReduce motor grounding leakage current.

■技术规格 Technical specifications
·工作电压：220VAC-3300VAC ·工作频率：50/60Hz ·额定电流：3A-1600A
·载波频率：2-8KHz ·绝缘等级：class F,H ·防护等级：IP00-IP22
·使用环境：-10~+45℃,额定值不会降低。最高可达+55℃,在45℃以上，每升高1℃,额定电流降低2% ·压降：<4%大于此范围会引起转矩损失
·最大电流：1.5×额定电流，持续60S ·噪音：小于等于65dB ·温升：≤85K
·抗电强度：铁芯-绕组3000VAC/50Hz/5mA/10S 无飞狐击穿(工厂测试)
·绝缘电阻：1000VDC 绝缘阻值≥100MQ ·海拔高度不超过2000米
·运行环境温度-25℃~+45℃,相对湿度不超过90%
·周围无有害气体，无易燃易爆物品
·周围环境应有良好的通风条件，如装在柜内，应加装通风设备
Working voltage:220VAC-3300VAC ·Operating frequency:50/60Hz
Rated current:3A-1600A Carrier frequency:2-8KHz
·Protection level:IP00-1P22
Operatingenvironment:-10~+45℃,rated value will not decrease.Up to+55℃,above 45℃,for every 1℃increase, the rated current decreases by2%
Pressure drop:<4%.Exceeding this range will cause torque loss
Maximum current:1.5 times rated current, lastingfor60 seconds
·Noise:less than orequal to65dB·Temperature rise:≤85K
·Electrical strength:Iron core winding3000VAC/50Hz/5mA/10Swithout flying fox breakdown(factory test) Insulation resistance:1000VDCinsulation resistance≥100MQ
· metersOperatingenvironment temperature:-25℃ -+45℃,relative humidity not exceeding90%
· There are no harmful gases or flammable or explosive materials around The surrounding environment should have good ventilation conditions.
-Ifinstalled in a cabinet,ventilation equipment should beinstalled.

■ 执行标准 Execution standards
IEC289:1987 Reactor GB10229-88 Reactor(equiEC289:1987)
JB9644-1999 Reactor used for semiconductor electrical driving

产品尺寸图 Product overview



3-380VAC 1%压降 输出电抗器

Three-phase, 380VAC, with an output reactor and a voltage drop of 1%

电抗器型号	图号	适配功率 (KW)	额定电流 (A)	额定电感 (mH)	尺寸: mm						绝缘 等级	重量 (kg)
					L	W	H	L1	W1	a*b		
OCR-0005-1M40-0.4SW	A	1.5	5	1.4	120	95	140	90	55	6*15	F、H	2.8
OCR-0007-1M00-0.4SW		2.2	7	1.0	120	95	140	90	55	6*15	F、H	2.8
OCR-0010-700U-0.4SW		3.7	10	0.7	120	95	140	90	55	6*15	F、H	3
OCR-0015-470U-0.4SW		5.5	15	0.47	120	95	140	90	55	6*15	F、H	3
OCR-0020-350U-0.4SW	B	7.5	20	0.35	160	150	140	95	56	6*15	F、H	3.8
OCR-0025-270U-0.4SW		11	25	0.27	160	150	140	95	56	6*15	F、H	3.8
OCR-0030-230U-0.4SW		15	30	0.23	160	150	140	95	56	6*15	F、H	4
OCR-0037-180U-0.4SW		18.5	37	0.18	160	150	140	95	56	6*15	F、H	4
OCR-0045-150U-0.4SW		22	45	0.15	160	150	140	95	56	6*15	F、H	4.2
OCR-0060-110U-0.4SW		30	60	0.11	160	170	140	95	76	6*15	F、H	6
OCR-0075-090U-0.4SW		37	75	0.09	190	155	165	120/64	60	8.5*20	F、H	6.5
OCR-0090-076U-0.4SW		45	90	0.076	190	170	165	120/64	78	8.5*20	F、H	9.2
OCR-0110-060U-0.4SW		55	110	0.06	190	170	165	120/64	78	8.5*20	F、H	9.5
OCR-0150-045U-0.4SW		75	150	0.045	190	180	165	120/64	88	8.5*20	F、H	11
OCR-0180-038U-0.4SW	C	90	180	0.038	190	170	235	120/64	90	8.5*20	F、H	14.5
OCR-0220-030U-0.4SW		110	220	0.03	190	170	235	120/64	90	8.5*20	F、H	15.5
OCR-0265-026U-0.4SW		132	265	0.026	245	170	250	182/100	95	11*18	F、H	19.5
OCR-0330-020U-0.4SW		160	330	0.02	245	170	250	182/100	95	11*18	F、H	22
OCR-0390-017U-0.4SW		185	390	0.017	245	175	250	182/100	95	11*18	F、H	23
OCR-0450-015U-0.4SW		220	450	0.015	285	195	265	214/150	105	11*18	F、H	28
OCR-0500-013U-0.4SW		250	500	0.013	285	205	265	214/150	110	11*18	F、H	31
OCR-0610-011U-0.4SW		300	610	0.011	285	205	265	214/150	115	11*18	F、H	34
OCR-0650-010U-0.4SW		315	650	0.010	285	205	290	214/150	115	11*18	F、H	36
OCR-0710-9U50-0.4SW		355	710	0.0095	285	220	290	214/150	115	11*18	F、H	36
OCR-0760-8U70-0.4SW		380	760	0.0087	285	220	290	214/150	115	11*18	F、H	37.5
OCR-0910-7U50-0.4SW		450	910	0.0075	315	260	305	243	144	11*18	F、H	50
OCR-1150-6U00-0.4SW		550	1150	0.006	315	260	355	243	144	11*18	F、H	53
OCR-1400-5U00-0.4SW		630	1400	0.005	365	290	370	260	132	15*25	F、H	68
OCR-1600-4U30-0.4SW		710	1600	0.0043	365	290	370	260	132	15*25	F、H	70

3-690VAC 1%压降 输出电抗器

Three-phase, 690VAC, with an output reactor and a voltage drop of 1%

电抗器型号	图号	适配功率 (KW)	额定电流 (A)	额定电感 (mH)	尺寸: mm						绝缘 等级	重量 (kg)
					L	W	H	L1	W1	a*b		
OCR-0005-5M00-0.7SW	A	3.7	5	2.5	120	96	175	95	55	6*15	F、H	3.5
OCR-0007-3M60-0.7SW		5.5	7	1.80	120	95	175	95	55	6*15	F、H	3.5
OCR-0010-2M55-0.7SA		7.5	10	1.27	120	95	175	95	55	6*15	F、H	3.5
OCR-0015-1M60-0.7SW		11	15	0.80	160	110	175	95	56	6*15	F、H	4.2
OCR-0020-1M25-0.7SW	B	15/18.5	20	0.63	160	150	140	95	56	6*15	F、H	4.2
OCR-0030-820U-0.7SW		22/30	30	0.41	190	155	165	120/64	60	8.5*20	F、H	6.5
OCR-0040-620U-0.7SW		37	40	0.31	190	155	165	120/64	60	8.5*20	F、H	6.5
OCR-0050-500U-0.7SW		45	50	0.25	190	170	165	120/64	78	8.5*20	F、H	9.2
OCR-0060-420U-0.7SW		55	60	0.21	190	170	165	120/64	78	8.5*20	F、H	9.5
OCR-0080-35U-0.7SW		75	80	0.16	190	180	165	120/64	88	8.5*20	F、H	11.5
OCR-0090-280U-0.7SW		90	90	0.14	245	170	190	182/100	84	11*18	F、H	14
OCR-0110-230U-0.7SW		110	110	0.115	245	180	190	182/100	94	11*18	F、H	16.5
OCR-0150-165U-0.7SW		132	150	0.084	245	180	250	182/100	105	11*18	F、H	24
OCR-0180-140U-0.7SW		160	180	0.070	245	180	250	182/100	105	11*18	F、H	25
OCR-0220-115U-0.7SW	C	185/220	220	0.057	245	185	250	182/100	110	11*18	F、H	27
OCR-0265-095U-0.5W		250	265	0.048	285	190	265	214/150	120	11*18	F、H	35
OCR-0330-077U-0.7SW		280/315	330	0.038	285	205	265	214/150	120	11*18	F、H	35
OCR-0390-065U-0.7SW		355	390	0.032	285	215	275	243	135	11*18	F、H	41
OCR-0490-051U-0.7SW		450	490	0.025	285	255	305	243	135	11*18	F、H	45
OCR-0560-045U-0.7SW		550	560	0.0225	315	260	305	243	152	11*18	F、H	56
OCR-0650-039U-0.7SW		630	650	0.0195	365	260	320	260	142	15*25	F、H	62
OCR-0710-035U-0.7SW		710	710	0.018	365	265	330	260	142	15*25	F、H	64
OCR-0800-031U-0.7SW		800	800	0.0150	365	275	330	260	152	15*25	F、H	69
OCR-1000-024U-0.7SW		1000	1000	0.0120	365	280	365	260	152	15*25	F、H	78
OCR-1200-20U5-0.7SW		1200	1200	0.010	365	305	370	260	152	15*25	F、H	80
OCR-1600-15U07-0.7SW		1600	1600	0.0075	415	345	400	350	167	15*25	F、H	112

直流电抗器(DCR) Pcreactor



■ 产品概述 Product overview

现代电力电子设备的大量使用产生的非线性电流正以谐波方式影响电网并加重电网污染,并导致电容器,变压器及传输设备过载并故障,对测量,传动,计算等设备产生的严重干扰,谐振及电压畸变还造成供电事故。串联电抗器得以改善与避免。电容器串联电抗器后谐振频率低于系统最低(一般为5次及7次),使其在工频下呈容性,以改善功率因数,而在谐振并无放大谐波之滤,良好的阻抗匹配后,电容器组可吸收谐波电流(如5次)30%-60%。

The extensive use of modern power electronic devices generates nonlinear currents that affect the power grid in a harmonic manner, exacerbating grid pollution and causing overload and failure of capacitors, transformers, and transmission equipment. This causes serious interference, resonance, and voltage distortion to measurement, transmission, calculation, and other equipment, leading to power supply accidents. Series reactors can be improved and avoided. After connecting capacitors in series with reactors, the resonant frequency is lower than the lowest in the system(usually 5th and 7th), making it capacitive at power frequency to improve power factor. In resonance, there is no filtering of amplified harmonics, and after good impedance matching, the capacitor bank can absorb 30%-60% of harmonic current(such as 5th).

■ 产品应用 Product Application

- 改善电容滤波造成的输入电流波形畸变;
- 减少和防止因冲击电流造成整流桥损坏和电容过热;
- 提高功率因素,降低直流母线交流脉冲; ·改善电网电压的瞬变;
- 与并联连接的电容一起共同抑制或滤掉直流中纹波,以排除对负载的不利影响。
- Improve the distortion of input current waveform caused by capacitor filtering;
- Reduce and prevent damage to rectifier bridges and overheating of capacitors caused by surge currents;
- Improve power factor and reduce DC bus AC pulses;
- Improve the transient voltage of the power grid; Together with capacitors connected in parallel, suppress or filter out DC ripple to eliminate adverse effects on the load.

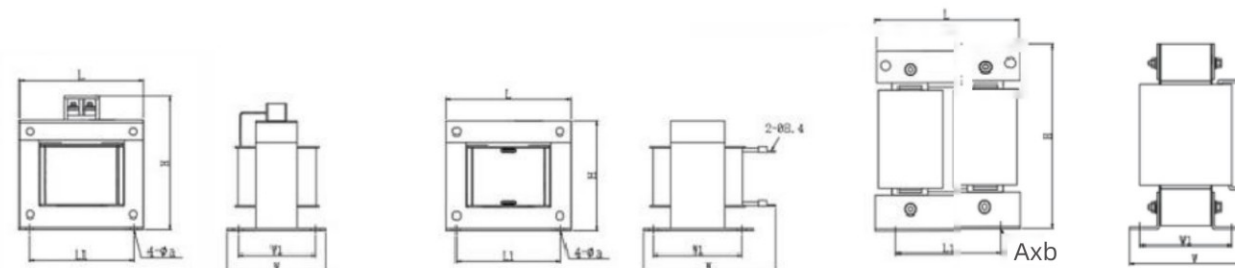
■ 技术规格 Technical specifications

·工作电压: 220VAC-1140VAC ·工作频率: 50/60Hz. ·工作电流: 3A-1600A
·绝缘等级: class F,H ·防护等级: IP00-IP22 ·最大电流: 1.5×额定电流,持续60S
·使用环境: -10...+45°C,额定值不会降低。最高可达+55°C,在45°C以上,每升高1°C,额定电流降低2% ·噪音: ≤65dB ·温升: ≤85K
·抗电强度: 铁芯-绕组3000VAC/50Hz/5mA/10s 无飞弧击穿(工厂测试)
·绝缘电阻: 1000VDC绝缘阻值≥100MQ ·海拔高度不超过2000米
·运行环境温度-25°C~+45°C相对湿度不超过90% ·周围无有害气体,无易燃易爆物品
·周围环境应有良好的通风条件,如装在柜内,应加装通风设备。
Working voltage:220VAC-1140VAC Operating frequency:50/60Hz
Operating environment:-10...+45°C rated value will not decrease.Up to+55 °C,above 45°C, for every 1 °C increase, the rated current decreases by 2%
· Protection level: IP00-IP22 Maximum current:1.5 times rated current, lasting for 60 seconds. ·Noise:≤65dB·Temperature rise:≤85K
· Electrical strength: Iron core winding 3000VAC/50Hz/5mA/10s without flying fox breakdown (factory test ·Altitude not exceeding 2000 metersOperating environment temperature: -25°C ~+45°C , relative humidity not exceeding 90%There are no harmful gases or flammable or explosive materials around The surrounding environment should have good ventilation conditions. If installed in a.

■ 执行标准 Execution standards

IEC289:1987 Reactor GB10229-88 Reactor(eqvIEC289:1987)

■ 产品尺寸图 Product overview



Picture A

Picture B

Picture C

系统电压: 3-AC400V

System voltage: 3-phase, AC 400V

电抗器型号	图号	适配功率 (KW)	额定电流 (A)	额定电感 (mH)	尺寸: mm						绝缘 等级	重量 (kg)
					L	W	H	L1	W1	a*b		
DCR-0003-25MO-0.4SW	A	1.1	3	25.0	88	90	110	70	75	6	F、H	2.5
DCR-0003-25MO-0.4SW		2.2	6	10.0	88	90	110	70	75	6	F、H	2.5
DCR-0003-25MO-0.4SW		4	10	6.0	88	90	110	70	75	6	F、H	3
DCR-0003-25MO-0.4SW		5.5	15	3.7	110	105	125	85	90	8	F、H	3.5
DCR-0020-2M80-0.4SW	B	7.5	20	2.8	110	105	125	85	90	8	F、H	3.5
DCR-0030-1M90-0.4SW		11	30	1.9	110	175	95	85	90	8	F、H	5.6
DCR-0040-1M40-0.4SW		15/18.5	40	1.4	110	180	95	85	90	8	F、H	5.8
DCR-0050-1M10-0.4SW		22	50	1.1	110	195	95	85	110	8	F、H	7
DCR-0065-800U-0.4SW		30	65	0.8	135	210	120	110	120	10	F、H	7.2
DCR-0080-700U-0.4SW		37	80	0.7	135	210	120	110	120	10	F、H	9.3
DCR-0100-540U-0.4SW		45	100	0.54	135	220	120	110	120	10	F、H	10.3
DCR-0120-450U-0.4SW		55	120	0.45	135	230	120	110	140	10	F、H	11.5
DCR-0160-360U-0.4SW		75	160	0.36	185	180	250	130	100	10*15	F、H	14
DCR-0200-280U-0.4SW		90	200	0.028	185	180	250	130	100	10*15	F、H	14.5
DCR-0250-220U-0.4SW	C	110	250	0.22	185	190	250	130	100	10*15	F、H	15.5
DCR-0300-190U-0.4SW		132	300	0.19	185	200	250	130	110	10*15	F、H	17.5
DCR-0350-160U-0.4SW		160	350	0.16	225	215	275	150	122	11*18	F、H	25.5
DCR-0450-092U-0.4SW		185	450	0.092	225	225	275	150	122	11*18	F、H	26
DCR-0500-062U-0.4SW		220	500	0.062	225	225	275	150	122	11*18	F、H	26
DCR-0600-051U-0.4SW		300	650	0.051	225	235	275	150	122	11*18	F、H	27
DCR-0800-036U-0.4SW		350	800	0.036	225	245	275	150	132	11*18	F、H	29.5
DCR-1000-029U-0.4SW		450	1000	0.029	250	255	320	180	132	15*25	F、H	37
DCR-1200-026U-0.4SW		500	1200	0.026	250	270	365	180	137	15*25	F、H	44
DCR-1600-018U-0.4SW		630	1600	0.018	250	290	365	180	147	15*25	F、H	51

正弦波滤波器(ISFR) Sine wave filter



■ 产品概述 Product overview

正弦波滤波器是在PWM变频器驱动下，其开关频率范围在2-8kHz之间仍提供正弦波输出电压。在变频器驱动应用中，这种滤波器可以消除电机绝缘失效问题并通过消除与变频器输出波形相关的高dv/dt来减少电磁干扰。改善电机的性能和寿命，延长变频器输出距离，最长可达3KM。为保护电线电缆，使用正弦波滤波器可防止长引线驱动电机的过电压问题。在其他能源应用下，比如风力发电机，逆变器将电力通过升压变压器还原到实用的配电系统，这种滤波器可以允许使用标准变压器。满载并在60Hz时给变压器输入的谐波电压畸变是5%的话，那么满载时给电机输入的谐波电压畸变一般就是5%。

A sine wave filter provides a sinusoidal output voltage even when the switching frequency of the PWM frequency converter is in the range of 2 - 8 kHz. In frequency converter drive applications, this filter can eliminate the problem of motor insulation failure and reduce electromagnetic interference by eliminating the high dv/dt associated with the frequency converter's output waveform. It improves the performance and lifespan of the motor and extends the output distance of the frequency converter, up to a maximum of 3 kilometers. To protect the wires and cables, using a sine wave filter can prevent the over-voltage problem in motors driven by long leads.

In other energy applications, such as wind turbines, the inverter restores the power to the practical power distribution system through a step-up transformer. This filter allows the use of standard transformers. If the harmonic voltage distortion of the input to the transformer at full load and 60 Hz is 5%, then the harmonic voltage distortion of the input to the motor at full load is generally also 5%.

■ 产品应用 Product Application

- 将变频器输出的PWM波转换成正弦波
- 降低电机的涡流损耗以及电机噪声
- 减少输出电缆上和电机中的脉冲电流，延长电机寿命
- 可在变频器与电机间使用更长的电缆连线
- 减小对外的辐射，在一定场合可以使用非屏蔽电缆，降低了对现场布线的要求
- 有效防止高dv/dt、过电压、电机过温和涡流损耗造成的电机提前损坏
- Convert the PWM wave output by the frequency converter into a sine wave.- Reduce the eddy current loss of the motor and the motor noise.- Decrease the pulse current in the output cable and the motor, thus extending the service life of the motor.- Enable the use of longer cables for connection between the frequency converter and the motor.- Minimize external radiation. In certain situations, unshielded cables can be used, which reduces the requirements for on-site wiring.- Effectively prevent the premature damage of the motor caused by high dv/dt, overvoltage, motor overheating and eddy current loss.

■ 技术规格 Technical specifications

- 工作电压：220VAC-690VAC ·工作电流：15A-1500A
- 工作频率：50/60Hz ·载波频率：2K-8K
- 绝缘等级：class F,H ·压降：8%-12%
- 电压谐波畸变失真THD≤5% ·空载电流≤8%
- 使用环境：-10...+45℃,额定值不会降低。最高可达+55℃,在45℃以上，每升高1℃,额定电流降低2%
- 防护等级：1P00-1P22 ·最大电流：1.5×额定电流，持续60S
- 噪音：≤65dB ·温升：≤75K
- 抗电强度：铁芯-绕组3000VAC/50Hz/5mA/10S 无飞弧击穿(工厂测试)
- 绝缘电阻：1000VDC绝缘阻值≥100MQ
- 海拔高度不超过2000米 ·运行环境温度-25℃~+45℃,相对湿度不超过90%
- 周围无有害气体，无易燃易爆物品
- 周围环境应有良好的通风条件，如装在柜内，应加装通风设备
- Working voltage: 220VAC - 690VAC - Working current: 15A - 1500A - Working frequency: 50/60Hz - Carrier frequency: 2K - 8K - Insulation class: class F, H - Voltage drop: 8% - 12% - Total Harmonic Distortion of voltage (THD) ≤ 5% - No-load current ≤ 8% - Operating environment: -10...+45℃, the rated value will not decrease. It can reach up to +55℃. Above 45℃, for every 1℃ increase, the rated current decreases by 2%.
- Protection level: 1P00 - 1P22 - Maximum current: 1.5 × rated current, lasting for 60S - Noise: ≤ 65dB - Temperature rise: ≤ 75K - Dielectric strength: Core - winding 3000VAC/50Hz/5mA/10S, no flashover breakdown (factory test) - Insulation resistance: 1000VDC, insulation resistance value ≥ 100MΩ - Altitude not exceeding 2000 meters - Operating environment temperature: -25℃ ~ +45℃, relative humidity not exceeding 90% - There are no harmful gases and no flammable or explosive substances around. - The surrounding environment should have good ventilation conditions. If it is installed in a cabinet, ventilation equipment should be added.

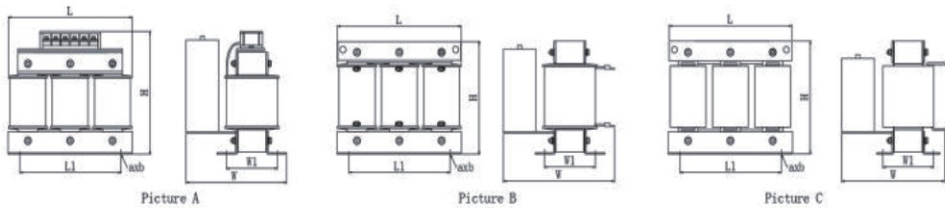
■ 执行标准 Execution standards

- IEC289: 1987 Reactor
- GB10229-88 Reactor
- Jb9644 -1999 Reactor used for semiconductor electrical driving

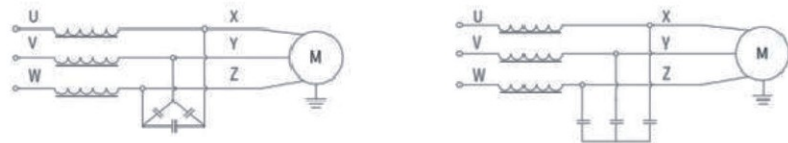
■ 加入正弦波滤波器前后的电压电流波形图对比



■产品尺寸图 Product overview



■电子原理图 Electronic schematic diagram



380VAC 正弦波滤波器
380VAC sine wave filter

电抗器型号	图号	适配功率 (KW)	额定电流 (A)	额定电感 (mH)	尺寸: mm						绝缘 等级	重量 (kg)
					L	W	H	L1	W1	a*b		
ISFR-0007-10M0-0.4SW	A	2.2	7	10.0	190	210	210	120/64	60	8.5*20	F、H	8.5
ISFR-0010-6M80-0.4SW		3.7	10	6.8	190	230	210	120/64	78	8.5*20	F、H	11
ISFR-0015-4M50-0.4SW		5.5	15	4.5	190	240	210	120/64	88	8.5*20	F、H	12.5
ISFR-0020-3M40-0.4SW		7.5	20	3.4	245	290	190	182/100	94	11*18	F、H	16.5
ISFR-0025-2M50-0.4SW	B	11	25	2.5	245	290	190	182/100	94	11*18	F、H	17
ISFR-0030-2M20-0.4SW		15	30	2.2	245	300	190	182/100	104	11*18	F、H	19
ISFR-0037-1M80-0.4SW		18.5	37	1.8	285	300	225	214/150	118	11*18	F、H	29
ISFR-0045-1M45-0.4SW		22	45	1.5	285	300	235	214/150	118	11*18	F、H	29.5
ISFR-0060-1M10-0.4SW		30	60	1.1	285	325	235	214/150	138	11*18	F、H	36
ISFR-0075-880U-0.4SW		37	75	0.88	310	315	270	240	140	11*18	F、H	43
ISFR-0090-740U-0.4SW		45	90	0.74	310	345	270	240	150	11*18	F、H	47
ISFR-0110-600U-0.4SW		55	110	0.60	310	375	270	240	180	11*18	F、H	57
ISFR-0150-440U-0.4SW	C	75	150	0.44	315	415	305	243	177	11*18	F、H	68.5
ISFR-0200-330U-0.4SW		90	200	0.33	365	425	325	260	177	15*25	F、H	85.5
ISFR-0220-300U-0.4SW		110	220	0.30	415	415	345	350	162	15*25	F、H	97
ISFR-0265-240U-0.4SW		132	265	0.24	415	435	345	350	185	15*25	F、H	108
ISFR-0330-210U-0.4SW		160	330	0.21	415	460	395	350	185	15*25	F、H	126
ISFR-0390-170U-0.4SW		185	390	0.17	415	490	395	350	202	15*25	F、H	146
ISFR-0450-145U-0.4SW		220	450	0.145	485	490	425	400	212	15*25	F、H	168
ISFR-0500-130U-0.4SW		250	500	0.13	485	490	425	400	212	15*25	F、H	178
ISFR-0560-117U-0.4SW		280	560	0.117	485	530	425	400	212	15*25	F、H	185
ISFR-0610-110U-0.4SW		300	610	0.11	485	540	480	400	217	15*25	F、H	210
ISFR-0650-100U-0.4SW		315	650	0.10	485	540	480	400	222	15*25	F、H	216
ISFR-0710-090U-0.4SW		355	710	0.09	485	540	480	400	222	15*25	F、H	234
ISFR-0770-085U-0.4SW		380	770	0.085	550	550	505	450	222	15*25	F、H	254
ISFR-0910-072U-0.4SW		450	910	0.072	550	570	505	450	222	15*25	F、H	265
ISFR-1150-057U-0.4SW		550	1150	0.057	635	580	600	400	320	15*25	F、H	362