聚氯乙烯绝缘控制电缆

Control Cable with PVC Insulation

本产品适用于交流额定电压450/750V及以下控制，监控回路及保护线路等场合使用。

This product is suitable for Protective link or control & monitoring circuits, with the AC rated voltages up to and including 450/750V

一、生产执行标准

GB/T 9330-2020。

Executive standard

GB/T 9330-2020.

二、使用特点

1、电缆导体的长期允许工作温度为70℃；

2、电缆的敷设温度应不低于0℃，推荐的允许弯曲半径：无铠装层的电缆，应不小于电缆外径的6倍；有铠装或铜带屏蔽结构的电缆；应不小于电缆外径的12倍；有屏蔽层结构的软电缆，应不小于电缆外径的6倍。

Operational performance

1.Long term working temperature of conductor allowed by cable is 70°C.

2.Environment temperature for installation is no less than 0°C. Recommended Bending Radius for laying:For armored cable or copper tape shielding cable , not less than 12 times of cable outer diameter.For screened flexible cable and without armor cable , not less than 6 times.

三、电缆型号及主要使用范围

Type , Description and Application Occasion

型号 Type	名称 Description	主要使用范围 Application occasion
KVV	铜芯聚氯乙烯绝缘聚氯乙烯护套控制电缆 Control cable with Cu core, PVC insulation and sheath	敷设在室内、电缆沟、管道固定场合 Lay in a fixed place,such as indoors, cable trench and conduit
KVVP	铜芯聚氯乙烯绝缘聚氯乙烯护套编织屏蔽控制电缆 Control cable with Cu core, PVC insulation and sheath, copper wire braided shielding	敷设在室内、电缆沟、管道等要求屏蔽的固定场合 For laying indoors, in cable trench and conduit.the cable should be shielded and for fixed installation.
KVVP2	铜芯聚氯乙烯绝缘聚氯乙烯护套铜带屏蔽控制电缆 Control cable with Cu core, PVC insulation and sheath, copper tape shielding	敷设在室内、电缆沟、管道等要求屏蔽的固定场合 For laying indoors, in cable trench and conduit.the cable should be shielded and for fixed installation.
KVVP3	铜芯聚氯乙烯绝缘聚氯乙烯护套铝塑复合带屏蔽控制电缆 Control cable with Cu conductor, PVC insulation, PVC sheath and Aluminum polyester tape	敷设在室内、电缆沟、管道等要求屏蔽的固定场合 For laying indoors, in cable trench and conduit.the cable should be shielded and for fixed installation.
KVVP4	铜芯聚氯乙烯绝缘聚氯乙烯护套铜塑复合带屏蔽控制电缆 Control cable with Cu conductor, PVC insulation, PVC sheath and Cu polyester tape	敷设在室内、电缆沟、管道等要求屏蔽的固定场合 For laying indoors, in cable trench and conduit.the cable should be shielded and for fixed installation.
KVV22	铜芯聚氯乙烯绝缘聚氯乙烯护套钢带铠装控制电缆 Control cable with Cu core, PVC insulation and sheath, steel tape armoring	敷设在室内、电缆沟、管道直埋等能承受较大机械外力的固定场合 For laying indoors, in cable trench, in conduit and underground , able to bear heavier pulling force, and for fixed installation.
KVVP2-22	铜芯聚氯乙烯绝缘聚氯乙烯护套铜带屏蔽钢带铠装控制电缆 Control cable with Cu conductor, PVC insulation, PVC sheath and steel tape armred	敷设在室内、电缆沟、管道直埋等要求屏蔽并能承受较大机械外力的固定场合 For laying indoors, in cable trench, in conduit and underground , able to bear heavier pulling force, the cable should be shielded and for fixed installation.
KVV32	铜芯聚氯乙烯绝缘聚氯乙烯护套细钢丝铠装控制电缆 Control cable with Cu core, PVC insulation and sheath, steel wire armoring	敷设在室内、电缆沟、管道竖井等能承受较大机械拉力等固定场合 For laying indoors, in trenches, in ducts and down well , able to bear heavier pulling force, and for fixed installation.
KVVR	铜芯聚氯乙烯绝缘聚氯乙烯护套控制软电缆 Control soft cable with Cu core, PVC insulation and sheath	敷设在室内移动要求柔软等场合 To be laid indoor with demand on mobility and softness
KVVRP	铜芯聚氯乙烯绝缘聚氯乙烯护套编织屏蔽控制软电缆 Control soft cable with Cu core, PVC insulation and sheath, copper wire braided shielding	敷设在室内移动要求柔软、屏蔽等场合 To be laid indoor with demand on shielding and softness

①阻燃电缆、耐火电缆及其组合型电缆的名称和型号应按GB/T 19666的规定在上述型号的基础上编制。

②比如阻燃型电缆，在原型号前加“Z-”、“ZA-”、“ZB-”、“ZC”“ZD-”。

③耐火型电缆，在原型号前加“N-”、“ZAN-”、“ZBN-”、“ZCN”“ZDN-”

④低烟低卤阻燃电缆，在原型号前加“DDZ-”、“DDZA-”、“DDZB-”、“DDZC”“DDZD-”。

①The names and models of flame retardant cables, fire resistant cables and their combined type cables shall be compiled on the basis of the above models according to the provisions of GB/T 19666

②For flame-retardant cable type, add "Z-", "ZA-", "ZB-", "ZC" and "ZD-" before the original model

③For fire-resistant cable type , add "–", "ZAN-", "ZBN-", "ZCN", "ZDN-" before the original model;

④For Low smoke and low halogen flame retardant cable type, add "DDZ-", "DDZA-", "DDZB-", "DDZC" and "DDZD-" before the original model。

四、生产范围　　Production Scope

型号 Type	导体标称截面 mm² Nominal cross section of conductor area							
	0.5	0.75	1.0	1.5	2.5	4	6	10
	芯数 Core number							
KVV，KVVP	/	2~61				2~19		2~10
KVVP2，KVVP3，KVVP4	/	4~61				4~19		4~10
KVV22	/	7~61		4~61		4~19		4~10
KVVP2-22	/	7~61		4~61		4~19		4~10
KVV32	/	19~61		4~61		4~19		4~10
KVVR	2~61					/		/
KVVRP	2~61			2~48		/		/

注：阻燃电缆、耐火电缆及其组合型电缆的规格范围同上述对应型号的规格范围。
推荐的芯数系列为：2、3、4、5、7、8、10、12、14、16、19、24、27、30、37、44、48、52和61芯。
The specifications of flame retardant cable,fire resistant and its combination cable shall be the same as the specifications of the corresponding modles in the table above.Recommended number of cores is 2,3,4,5,7,8,10,12,14,16,19,24,27,30,37,44,48,52 and 61.

五、技术参数　　Technical Parameter

1、成品电缆导体20℃时直流电阻

1、DC resistance of finished cable conductor at 20℃.

项目 Item	单位 Unit	技术指标 Technical indices							
20℃时导体直流电阻 DC resistance of conductor at 20℃	Ω/km	截面mm² Cross section area	0.75	1.0	1.5	2.5	4	6	10
		1类或2类 Category 1 or2	24.5	18.1	12.2	7.41	4.61	3.08	1.83
		5类，Category 5	26.0	19.5	13.3	7.98	/	/	/

2、成品电缆应经受3.0kV/5min工频交流电压试验，绝缘不击穿。

2、Finished cable should bear A.C. voltage of 3.0KV under power frequency for 5min without puncture of insulation.

3、电缆在70℃时绝缘电阻。

3、Insulation resistance of finished cable at 70℃.

项目 Item	单位 Unit	技术指标 Technical indices							
70℃时绝缘电阻 Insulation resistance at 70℃	MΩ.km	截面mm² Cross section area	0.75	1.0	1.5	2.5	4	6	10
		1类，Category 1	0.012	0.011	0.011	0.010	0.0085	0.0079	/
		2类，Category 2	0.014	0.013	0.010	0.009	0.0077	0.0065	0.0065

六、典型电缆结构及外形尺寸　　External Dimension of Common Type

KVV型铜芯聚氯乙烯绝缘及护套控制电缆
Control cable with Cu core, PVC insulation and sheath (KVV)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
2×0.75	1	7.0	8×2.5	1	14.9	24×0.75	1	16.4
2×1.0	1	7.2	8×4	1	16.3	24×1.0	1	17.0
2×1.5	1	8.2	8×6	1	18.0	24×1.5	1	20.4
2×2.5	1	9.4	10×0.75	1	11.4	24×2.5	1	24.0
2×4	1	10.2	10×1.0	1	11.8	27×0.75	1	16.7
2×6	1	11.2	10×1.5	1	14.4	27×1.0	1	17.3
3×0.75	1	7.4	10×2.5	1	16.8	27×1.5	1	20.8
3×1.0	1	7.6	10×4	1	18.4	27×2.5	1	24.5
3×1.5	1	8.6	10×6	1	20.8	30×0.75	1	17.3
3×2.5	1	9.9	12×0.75	1	11.8	30×1.0	1	17.9
3×4	1	10.8	12×1.0	1	12.2	30×1.5	1	21.5
3×6	1	11.9	12×1.5	1	14.8	30×2.5	1	25.4
4×0.75	1	7.9	12×2.5	1	17.3	37×0.75	1	18.6
4×1.0	1	8.2	12×4	1	19.0	37×1.0	1	19.7
4×1.5	1	9.4	12×6	1	21.5	37×1.5	1	23.2

4×2.5	1	10.8	14×0.75	1	12.3	37×2.5	1	27.4
4×4	1	11.8	14×1.0	1	13.3	44×0.75	1	21.2
4×6	1	13.6	14×1.5	1	15.5	44×1.0	1	22.0
5×0.75	1	8.5	14×2.5	1	18.2	44×1.5	1	26.0
5×1.0	1	8.8	14×4	1	20.4	44×2.5	1	31.4
5×1.5	1	10.2	14×6	1	22.6	48×0.75	1	21.5
5×2.5	1	11.8	16×0.75	1	13.5	48×1.0	1	22.3
5×4	1	13.5	16×1.0	1	14.0	48×1.5	1	26.4
5×6	1	14.8	16×1.5	1	16.4	48×2.5	1	31.9
7×0.75	1	9.2	16×2.5	1	19.6	52×0.75	1	22.1
7×1.0	1	9.5	16×4	1	21.5	52×1.0	1	22.9
7×1.5	1	11.0	16×6	1	23.8	52×1.5	1	27.1
7×2.5	1	13.4	19×0.75	1	14.2	52×2.5	1	32.8
7×4	1	14.6	19×1.0	1	14.7	61×0.75	1	23.4
7×6	1	16.1	19×1.5	1	17.2	61×1.0	1	24.3
8×0.75	1	10.2	19×2.5	1	20.6	61×1.5	1	29.4
8×1.0	1	10.5	19×4	1	22.6	61×2.5	1	35.2
8×1.5	1	12.3	19×6	1	25.1	/	/	/

KVV型铜芯聚氯乙烯绝缘聚氯乙烯护套控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath (KVV)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
2×0.75	2	7.2	8×0.75	2	10.5	19×2.5	2	21.1
2×1.0	2	7.4	8×1.0	2	10.9	19×4	2	23.6
2×1.5	2	8.4	8×1.5	2	12.6	19×6	2	26.1
2×2.5	2	9.6	8×2.5	2	15.3	24×0.75	2	17.0
2×4	2	10.6	8×4	2	17.0	24×1.0	2	17.6
2×6	2	11.6	8×6	2	18.7	24×1.5	2	21.0
2×10	2	14.8	8×10	2	23.6	24×2.5	2	24.6
3×0.75	2	7.6	10×0.75	2	11.8	27×0.75	2	17.3
3×1.0	2	7.8	10×1.0	2	12.2	27×1.0	2	18.0
3×1.5	2	8.9	10×1.5	2	14.8	27×1.5	2	21.4
3×2.5	2	10.2	10×2.5	2	17.2	27×2.5	2	25.1
3×4	2	11.2	10×4	2	19.2	30×0.75	2	17.9
3×6	2	12.3	10×6	2	21.6	30×1.0	2	18.6
3×10	2	15.7	10×10	2	26.8	30×1.5	2	22.2
4×0.75	2	8.2	12×0.75	2	12.2	30×2.5	2	26.0
4×1.0	2	8.4	12×1.0	2	12.6	37×0.75	2	19.3
4×1.5	2	9.6	12×1.5	2	15.3	37×1.0	2	20.4
4×2.5	2	11.1	12×2.5	2	17.8	37×1.5	2	23.9
4×4	2	12.3	12×4	2	19.8	37×2.5	2	28.1
4×6	2	14.1	12×6	2	22.3	44×0.75	2	22.0
4×10	2	17.2	14×0.75	2	12.7	44×1.0	2	22.8
5×0.75	2	8.8	14×1.0	2	13.8	44×1.5	2	26.8
5×1.0	2	9.1	14×1.5	2	16.0	44×2.5	2	32.2
5×1.5	2	10.4	14×2.5	2	18.6	48×0.75	2	22.3
5×2.5	2	12.1	14×4	2	21.2	48×1.0	2	23.2
5×4	2	14.0	14×6	2	23.4	48×1.5	2	27.2
5×6	2	15.4	16×0.75	2	14.0	48×2.5	2	32.7
5×10	2	18.9	16×1.0	2	14.5	52×0.75	2	22.9
7×0.75	2	9.5	16×1.5	2	16.8	52×1.0	2	23.8
7×1.0	2	9.8	16×2.5	2	20.1	52×1.5	2	28.0
7×1.5	2	11.3	16×4	2	22.4	52×2.5	2	33.6
7×2.5	2	13.7	16×6	2	24.8	61×0.75	2	24.3
7×4	2	15.2	19×0.75	2	14.7	61×1.0	2	25.2
7×6	2	16.7	19×1.0	2	15.2	61×1.5	2	30.3
7×10	2	21.0	19×1.5	2	17.7	61×2.5	2	36.1

KVVP型铜芯聚氯乙烯绝缘聚氯乙烯护套编织屏蔽控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath and copper wire braided shielding (KVVP)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
2×0.75	1	7.8	8×2.5	1	15.9	24×0.75	1	17.4
2×1.0	1	8.0	8×4	1	17.3	24×1.0	1	18.0
2×1.5	1	9.0	8×6	1	19.0	24×1.5	1	21.4
2×2.5	1	10.2	10×0.75	1	12.2	24×2.5	1	25.3
2×4	1	11.0	10×1.0	1	13.2	27×0.75	1	17.7
2×6	1	12.0	10×1.5	1	15.4	27×1.0	1	18.3
3×0.75	1	8.1	10×2.5	1	17.8	27×1.5	1	21.8
3×1.0	1	8.3	10×4	1	19.8	27×2.5	1	25.8
3×1.5	1	9.4	10×6	1	21.8	30×0.75	1	18.3
3×2.5	1	10.7	12×0.75	1	13.1	30×1.0	1	18.9
3×4	1	11.6	12×1.0	1	13.5	30×1.5	1	22.5
3×6	1	13.2	12×1.5	1	15.8	30×2.5	1	26.6
4×0.75	1	8.7	12×2.5	1	18.3	37×0.75	1	20.0
4×1.0	1	8.9	12×4	1	20.4	37×1.0	1	20.7
4×1.5	1	10.1	12×6	1	22.5	37×1.5	1	24.2
4×2.5	1	11.6	14×0.75	1	13.7	37×2.5	1	29.3
4×4	1	13.1	14×1.0	1	14.3	44×0.75	1	22.2
4×6	1	14.6	14×1.5	1	16.5	44×1.0	1	23.0
5×0.75	1	9.3	14×2.5	1	19.6	44×1.5	1	27.3
5×1.0	1	9.6	14×4	1	21.4	44×2.5	1	32.7
5×1.5	1	10.9	14×6	1	23.6	48×0.75	1	22.5
5×2.5	1	13.1	16×0.75	1	14.5	48×1.0	1	23.3
5×4	1	14.5	16×1.0	1	15.0	48×1.5	1	27.7
5×6	1	15.8	16×1.5	1	17.4	48×2.5	1	33.2
7×0.75	1	10.0	16×2.5	1	20.6	52×0.75	1	23.1
7×1.0	1	10.3	16×4	1	22.5	52×1.0	1	23.9
7×1.5	1	11.8	16×6	1	25.1	52×1.5	1	29.0
7×2.5	1	14.4	19×0.75	1	15.2	52×2.5	1	34.0
7×4	1	15.6	19×1.0	1	15.7	61×0.75	1	24.4
7×6	1	17.1	19×1.5	1	18.2	61×1.0	1	25.6
8×0.75	1	10.9	19×2.5	1	21.6	61×1.5	1	30.7
8×1.0	1	11.3	19×4	1	23.6	61×2.5	1	36.7
8×1.5	1	13.6	19×6	1	26.4	/	/	/

KVVP型铜芯聚氯乙烯绝缘聚氯乙烯护套编织屏蔽控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath and copper wire braided shielding (KVVP)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
2×0.75	2	8.0	7×10	2	22.0	19×2.5	2	22.1
2×1.0	2	8.2	8×0.75	2	11.3	24×0.75	2	18.0
2×1.5	2	9.2	8×1.0	2	11.6	24×1.0	2	18.6
2×2.5	2	10.4	8×1.5	2	14.2	24×1.5	2	22.0
2×4	2	11.4	8×2.5	2	16.3	24×2.5	2	25.9
2×6	2	12.4	8×4	2	18.0	27×0.75	2	18.3
2×10	2	15.8	8×6	2	20.1	27×1.0	2	19.0
3×0.75	2	8.3	8×10	2	24.9	27×1.5	2	22.4
3×1.0	2	8.5	10×0.75	2	13.2	27×2.5	2	26.4
3×1.5	2	9.6	10×1.0	2	13.6	30×0.75	2	18.9
3×2.5	2	10.9	10×1.5	2	15.8	30×1.0	2	20.0
3×4	2	12.0	10×2.5	2	18.2	30×1.5	2	23.2
3×6	2	13.7	10×4	2	20.6	30×2.5	2	27.3
3×10	2	16.7	10×6	2	22.6	37×0.75	2	20.7
4×0.75	2	8.9	10×10	2	28.1	37×1.0	2	21.4
4×1.0	2	9.2	12×0.75	2	13.5	37×1.5	2	25.2
4×1.5	2	10.4	12×1.0	2	14.2	37×2.5	2	30.0

4×2.5	2	11.8	12×1.5	2	16.3	44×0.75	2	23.0
4×4	2	13.6	12×2.5	2	18.8	44×1.0	2	23.8
4×6	2	15.1	12×4	2	21.2	44×1.5	2	28.1
4×10	2	18.2	12×6	2	23.3	44×2.5	2	33.5
5×0.75	2	9.6	14×0.75	2	14.3	48×0.75	2	23.3
5×1.0	2	9.8	14×1.0	2	14.8	48×1.0	2	24.2
5×1.5	2	11.2	14×1.5	2	17.0	48×1.5	2	29.1
5×2.5	2	13.4	14×2.5	2	20.0	48×2.5	2	34.0
5×4	2	15.0	14×4	2	22.2	52×0.75	2	23.9
5×6	2	16.4	14×6	2	24.7	52×1.0	2	25.0
5×10	2	20.3	16×0.75	2	15.0	52×1.5	2	29.8
7×0.75	2	10.3	16×1.0	2	15.5	52×2.5	2	35.3
7×1.0	2	10.6	16×1.5	2	17.8	61×0.75	2	25.3
7×1.5	2	12.1	16×2.5	2	21.1	61×1.0	2	26.5
7×2.5	2	14.7	19×0.75	2	15.7	61×1.5	2	31.6
7×4	2	16.2	19×1.0	2	16.2	61×2.5	2	37.6
7×6	2	17.7	19×1.5	2	18.7	/	/	/

KVVP2(P3,P4)型铜芯聚氯乙烯绝缘聚氯乙烯护套铜带（铝塑复合带，铜塑复合带）控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath and Copper tape(Aluminium polyester tape ,Copper polyester tape)shielding KVVP2(P3,P4)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
4×0.75	1	8.3	10×6	1	21.2	27×0.75	1	17.1
4×1.0	1	8.6	12×0.75	1	12.8	27×1.0	1	17.7
4×1.5	1	9.8	12×1.0	1	13.2	27×1.5	1	21.2
4×2.5	1	11.2	12×1.5	1	15.2	27×2.5	1	24.9
4×4	1	12.2	12×2.5	1	17.7	30×0.75	1	17.7
4×6	1	14.0	12×4	1	19.4	30×1.0	1	18.3
5×0.75	1	8.9	12×6	1	21.9	30×1.5	1	21.9
5×1.0	1	9.2	14×0.75	1	13.3	30×2.5	1	25.8
5×1.5	1	10.6	14×1.0	1	13.7	37×0.75	1	19.0
5×2.5	1	12.2	14×1.5	1	15.9	37×1.0	1	20.1
5×4	1	13.9	14×2.5	1	18.6	37×1.5	1	23.6
5×6	1	15.2	14×4	1	20.8	37×2.5	1	27.8
7×0.75	1	9.6	14×6	1	23.0	44×0.75	1	21.6
7×1.0	1	9.9	16×0.75	1	13.9	44×1.0	1	22.4
7×1.5	1	11.4	16×1.0	1	14.4	44×1.5	1	26.4
7×2.5	1	13.2	16×1.5	1	16.8	44×2.5	1	31.8
7×4	1	15.0	16×2.5	1	20.0	48×0.75	1	21.9
7×6	1	16.5	16×4	1	21.9	48×1.0	1	22.7
8×0.75	1	10.6	16×6	1	24.2	48×1.5	1	26.8
8×1.0	1	10.9	19×0.75	1	14.6	48×2.5	1	32.3
8×1.5	1	13.3	19×1.0	1	15.1	52×0.75	1	22.5
8×2.5	1	15.3	19×1.5	1	17.6	52×1.0	1	23.3
8×4	1	16.7	19×2.5	1	21.0	52×1.5	1	27.5
8×6	1	18.4	19×4	1	23.0	52×2.5	1	33.2
10×0.75	1	11.8	19×6	1	25.5	61×0.75	1	23.8
10×1.0	1	12.8	24×0.75	1	16.8	61×1.0	1	24.7
10×1.5	1	14.8	24×1.0	1	17.4	61×1.5	1	29.2
10×2.5	1	17.2	24×1.5	1	20.8	61×2.5	1	35.2
10×4	1	18.8	24×2.5	1	24.4	/	/	/

KVVP2(P3,P4)型铜芯聚氯乙烯绝缘聚氯乙烯护套铜带（铝塑复合带，铜塑复合带）控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath and Copper tape(Aluminium polyester tape ,Copper polyester tape)shielding KVVP2(P3,P4)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
4×0.75	2	8.6	10×2.5	2	17.6	24×2.5	2	25.0
4×1.0	2	8.8	10×4	2	19.6	27×0.75	2	17.7
4×1.5	2	10.0	10×6	2	22.0	27×1.0	2	18.4
4×2.5	2	11.5	10×10	2	27.2	27×1.5	2	21.8
4×4	2	12.7	12×0.75	2	13.2	27×2.5	2	25.5
4×6	2	14.5	12×1.0	2	13.6	30×0.75	2	18.3
4×10	2	17.6	12×1.5	2	15.7	30×1.0	2	19.0
5×0.75	2	9.2	12×2.5	2	18.2	30×1.5	2	22.6
5×1.0	2	9.5	12×4	2	20.6	30×2.5	2	26.4
5×1.5	2	10.8	12×6	2	22.7	37×0.75	2	20.1
5×2.5	2	12.5	12×10	2	28.1	37×1.0	2	20.8
5×4	2	14.4	14×0.75	2	13.7	37×1.5	2	24.3
5×6	2	15.8	14×1.0	2	14.2	37×2.5	2	28.5
5×10	2	19.3	14×1.5	2	16.4	44×0.75	2	22.4
7×0.75	2	9.9	14×2.5	2	19.0	44×1.0	2	23.2
7×1.0	2	10.2	14×4	2	21.6	44×1.5	2	27.2
7×1.5	2	11.7	14×6	2	23.8	44×2.5	2	32.6
7×2.5	2	14.1	14×10	2	29.6	48×0.75	2	22.7
7×4	2	15.6	16×0.75	2	14.4	48×1.0	2	23.6
7×6	2	17.1	16×1.0	2	14.9	48×1.5	2	27.6
7×10	2	21.0	16×1.5	2	17.2	48×2.5	2	33.1
8×0.75	2	10.9	16×2.5	2	20.5	52×0.75	2	23.3
8×1.0	2	11.3	19×0.75	2	15.1	52×1.0	2	24.2
8×1.5	2	13.6	19×1.0	2	15.6	52×1.5	2	28.4
8×2.5	2	15.7	19×1.5	2	18.1	52×2.5	2	34.0
8×4	2	17.4	19×2.5	2	21.5	61×0.75	2	24.7
8×6	2	19.1	19×4	2	24.0	61×1.0	2	25.6
8×10	2	24.0	19×6	2	26.5	61×1.5	2	30.1
10×0.75	2	12.8	24×0.75	2	17.4	61×2.5	2	36.5
10×1.0	2	13.2	24×1.0	2	18.0	/	/	/
10×1.5	2	15.2	24×1.5	2	21.4	/	/	/

KVV22型铜芯聚氯乙烯绝缘聚氯乙烯护套钢带铠装控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath and steel tape armored (KVV22)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
4×1.5	1	12.8	12×1.0	1	15.6	27×1.5	1	23.6
4×2.5	1	14.2	12×1.5	1	17.6	27×2.5	1	27.7
4×4	1	15.2	12×2.5	1	20.5	30×0.75	1	20.5
4×6	1	16.4	12×4	1	22.2	30×1.0	1	21.1
5×1.5	1	13.6	12×6	1	24.3	30×1.5	1	24.3
5×2.5	1	15.2	14×0.75	1	15.7	30×2.5	1	28.6
5×4	1	16.3	14×1.0	1	16.1	37×0.75	1	21.8
5×6	1	17.6	14×1.5	1	18.3	37×1.0	1	22.5
7×0.75	1	12.6	14×2.5	1	21.4	37×1.5	1	26.0
7×1.0	1	12.9	14×4	1	23.2	37×2.5	1	31.2
7×1.5	1	14.4	14×6	1	25.4	44×0.75	1	24.0
7×2.5	1	16.2	16×0.75	1	16.3	44×1.0	1	24.8
7×4	1	17.4	16×1.0	1	16.8	44×1.5	1	29.2
7×6	1	18.9	16×1.5	1	19.6	44×2.5	1	34.6
8×0.75	1	13.6	16×2.5	1	22.4	48×0.75	1	24.3
8×1.0	1	13.9	19×0.75	1	17.0	48×1.0	1	25.1
8×1.5	1	15.7	19×1.0	1	17.5	48×1.5	1	30.2
8×2.5	1	17.7	19×1.5	1	20.4	48×2.5	1	35.5

8×4	1	19.5	19×2.5	1	23.4	52×0.75	1	24.9
8×6	1	21.2	19×4	1	25.4	52×1.0	1	25.7
10×0.75	1	14.8	19×6	1	28.3	52×1.5	1	30.9
10×1.0	1	15.2	24×0.75	1	19.6	52×2.5	1	36.4
10×1.5	1	17.2	24×1.0	1	20.2	61×0.75	1	26.2
10×2.5	1	20.0	24×1.5	1	23.2	61×1.0	1	27.5
10×4	1	21.6	24×2.5	1	27.2	61×1.5	1	32.6
10×6	1	23.6	27×0.75	1	19.9	61×2.5	1	39.6
12×0.75	1	15.2	27×1.0	1	20.5	/	/	/

KVV22型铜芯聚氯乙烯绝缘聚氯乙烯护套钢带铠装控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath and steel tape armored (KVV22)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
4×1.5	2	13.0	10×6	2	24.4	24×2.5	2	27.8
4×2.5	2	14.5	10×10	2	30.6	27×0.75	2	20.5
4×4	2	15.7	12×0.75	2	15.6	27×1.0	2	21.2
4×6	2	16.9	12×1.0	2	16.0	27×1.5	2	24.2
4×10	2	20.4	12×1.5	2	18.1	27×2.5	2	28.3
5×1.5	2	13.8	12×2.5	2	21.0	30×0.75	2	21.1
5×2.5	2	15.5	12×4	2	23.0	30×1.0	2	21.8
5×4	2	16.8	12×6	2	25.1	30×1.5	2	25.0
5×6	2	18.2	14×0.75	2	16.1	30×2.5	2	29.2
5×10	2	22.1	14×1.0	2	16.6	37×0.75	2	22.5
7×0.75	2	12.9	14×1.5	2	18.8	37×1.0	2	23.2
7×1.0	2	13.2	14×2.5	2	21.8	37×1.5	2	27.1
7×1.5	2	14.7	14×4	2	24.0	37×2.5	2	31.9
7×2.5	2	16.5	14×6	2	26.2	44×0.75	2	24.8
7×4	2	18.0	16×0.75	2	16.8	44×1.0	2	25.6
7×6	2	19.9	16×1.0	2	17.3	44×1.5	2	30.0
7×10	2	23.8	16×1.5	2	20.0	44×2.5	2	35.4
8×0.75	2	13.9	16×2.5	2	22.9	48×0.75	2	25.1
8×1.0	2	14.3	16×4	2	25.2	48×1.0	2	26.0
8×1.5	2	16.0	16×6	2	28.0	48×1.5	2	31.0
8×2.5	2	18.1	19×0.75	2	17.5	48×2.5	2	36.3
8×4	2	20.2	19×1.0	2	18.0	52×0.75	2	25.7
8×6	2	21.9	19×1.5	2	20.5	52×1.0	2	27.0
8×10	2	26.8	19×2.5	2	23.9	52×1.5	2	31.8
10×0.75	2	15.2	19×4	2	26.8	52×2.5	2	38.4
10×1.0	2	15.6	19×6	2	29.9	61×0.75	2	27.5
10×1.5	2	17.6	24×0.75	2	20.2	61×1.0	2	28.4
10×2.5	2	20.4	24×1.0	2	20.8	61×1.5	2	33.5
10×4	2	22.4	24×1.5	2	23.8	61×2.5	2	40.5

KVVP2（P3,P4）-22型铜芯聚氯乙烯绝缘聚氯乙烯护套铜带（铝塑复合带，铜塑复合带）屏蔽钢带铠装控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath ,Copper tape(Aluminium polyester tape , Copper polyester tape)shielding and steel tape armored KVVP2(P3,P4)-22

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
4×1.5	1	12.0	12×0.75	1	15.6	27×1.5	1	22.8
4×2.5	1	12.7	12×1.0	1	16.0	27×2.5	1	26.9
4×4	1	14.1	12×1.5	1	17.2	30×0.75	1	20.9
4×6	1	15.1	12×2.5	1	20.1	30×1.0	1	21.5
4×10	1	16.3	12×4	1	21.8	30×1.5	1	23.5
5×1.5	1	13.4	12×6	1	23.9	30×2.5	1	27.7
5×2.5	1	15.0	14×0.75	1	16.1	37×0.75	1	22.2
5×4	1	16.1	14×1.0	1	16.5	37×1.0	1	22.9
5×6	1	17.5	14×1.5	1	17.9	37×1.5	1	25.0

7×0.75	1	13.0	14×2.5	1	20.9	37×2.5	1	30.2
7×1.0	1	13.3	14×4	1	22.7	44×0.75	1	24.4
7×1.5	1	14.2	14×6	1	24.9	44×1.0	1	25.2
7×2.5	1	16.0	16×0.75	1	16.7	44×1.5	1	28.0
7×4	1	17.2	16×1.0	1	17.2	44×2.5	1	33.4
7×6	1	18.7	16×1.5	1	18.6	48×0.75	1	24.7
8×0.75	1	14.0	16×2.5	1	21.8	48×1.0	1	25.2
8×1.0	1	14.3	19×0.75	1	17.4	48×1.5	1	28.0
8×1.5	1	15.4	19×1.0	1	17.9	48×2.5	1	33.4
8×2.5	1	17.4	19×1.5	1	19.8	52×0.75	1	25.3
8×4	1	18.8	19×2.5	1	22.8	52×1.0	1	26.1
8×6	1	20.9	19×4	1	24.8	52×1.5	1	29.7
10×0.75	1	15.2	19×6	1	27.3	52×2.5	1	35.1
10×1.0	1	15.6	24×0.75	1	20.0	61×0.75	1	27.0
10×1.5	1	16.8	24×1.0	1	20.6	61×1.0	1	27.9
10×2.5	1	19.6	24×1.5	1	22.4	61×1.5	1	31.2
10×4	1	21.2	24×2.5	1	26.0	61×2.5	1	38.2
10×6	1	23.2	27×0.75	1	20.3	/	/	/
10×10	1	26.8	27×1.0	1	20.9	/	/	/

KVVP2-22型铜芯聚氯乙烯绝缘聚氯乙烯护套铜带屏蔽钢带铠装控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath ,Copper tape shielding and steel tape armored (KVVP2-22)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
4×1.5	2	12.9	10×6	2	24.0	27×1.0	2	21.6
4×2.5	2	14.4	10×10	2	28.0	27×1.5	2	23.4
4×4	2	15.6	12×0.75	2	16.0	27×2.5	2	27.5
4×6	2	16.8	12×1.0	2	16.4	30×0.75	2	21.5
4×10	2	19.0	12×1.5	2	17.6	30×1.0	2	22.2
5×1.5	2	13.7	12×2.5	2	20.5	30×1.5	2	24.1
5×2.5	2	15.3	12×4	2	22.6	30×2.5	2	28.4
5×4	2	16.7	12×6	2	24.7	37×0.75	2	22.9
5×6	2	18.0	14×0.75	2	16.5	37×1.0	2	23.6
5×10	2	20.8	14×1.0	2	17.0	37×1.5	2	25.7
7×0.75	2	13.3	14×1.5	2	18.3	37×2.5	2	30.9
7×1.0	2	13.6	14×2.5	2	21.4	44×0.75	2	25.2
7×1.5	2	14.5	14×4	2	23.6	44×1.0	2	26.0
7×2.5	2	16.3	14×6	2	25.8	44×1.5	2	29.4
7×4	2	17.8	16×0.75	2	17.2	44×2.5	2	34.6
7×6	2	19.7	16×1.0	2	17.7	48×0.75	2	25.5
7×10	2	22.4	16×1.5	2	19.5	48×1.0	2	26.0
8×0.75	2	14.3	16×2.5	2	22.3	48×1.5	2	29.4
8×1.0	2	14.7	19×0.75	2	17.9	48×2.5	2	34.6
8×1.5	2	15.7	19×1.0	2	18.4	52×0.75	2	26.1
8×2.5	2	17.8	19×1.5	2	20.3	52×1.0	2	27.4
8×4	2	19.9	19×2.5	2	23.3	52×1.5	2	30.5
8×6	2	21.6	19×4	2	25.8	52×2.5	2	37.2
8×10	2	24.7	19×6	2	28.3	61×0.75	2	27.9
10×0.75	2	15.6	24×0.75	2	20.6	61×1.0	2	29.4
10×1.0	2	16.0	24×1.0	2	21.2	61×1.5	2	32.1
10×1.5	2	17.2	24×1.5	2	23.0	61×2.5	2	39.1
10×2.5	2	20.0	24×2.5	2	27.0	/	/	/
10×4	2	22.0	27×0.75	2	20.9	/	/	/

KVV32型铜芯聚氯乙烯绝缘聚氯乙烯护套钢丝铠装控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath and steel wire armored (KVV32)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
4×2.5	1	14.5	14×1.5	1	19.6	30×1.5	1	25.5
4×4	1	16.4	14×2.5	1	22.9	30×2.5	1	29.7
4×6	1	17.6	14×4	1	24.7	37×0.75	1	24.2
5×2.5	1	16.3	14×6	1	26.9	37×1.0	1	24.9
5×4	1	17.4	16×1.5	1	20.3	37×1.5	1	27.0
5×6	1	18.8	16×2.5	1	23.8	37×2.5	1	32.2
7×1.5	1	14.6	19×0.75	1	18.7	44×0.75	1	26.4
7×2.5	1	17.3	19×1.0	1	19.6	44×1.0	1	27.2
7×4	1	18.5	19×1.5	1	21.8	44×1.5	1	30.6
7×6	1	20.4	19×2.5	1	24.8	44×2.5	1	36.2
8×1.5	1	14.6	19×4	1	26.8	48×0.75	1	26.7
8×2.5	1	17.3	19×6	1	29.7	48×1.0	1	27.5
8×4	1	18.5	24×0.75	1	22.0	48×1.5	1	31.0
8×6	1	20.4	24×1.0	1	22.6	48×2.5	1	37.1
10×1.5	1	18.1	24×1.5	1	24.4	52×0.75	1	27.3
10×2.5	1	20.9	24×2.5	1	28.0	52×1.0	1	28.1
10×4	1	23.2	27×0.75	1	22.3	52×1.5	1	31.7
10×6	1	25.2	27×1.0	1	22.5	52×2.5	1	37.5
12×1.5	1	18.5	27×1.5	1	24.8	61×0.75	1	32.4
12×2.5	1	22.1	27×2.5	1	29.1	61×1.0	1	33.7
12×4	1	23.8	30×0.75	1	22.9	61×1.5	1	38.4
12×6	1	25.9	30×1.0	1	23.5	61×2.5	1	43.8

KVV32型铜芯聚氯乙烯绝缘聚氯乙烯护套钢丝铠装控制电缆
Control Cable with Cu conductor,PVC insulation and PVC sheath and steel wire armored (KVV32)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
4×2.5	2	15.7	12×2.5	2	22.5	30×1.0	2	24.2
4×4	2	16.9	12×4	2	24.6	30×1.5	2	26.1
4×6	2	18.1	12×6	2	26.7	30×2.5	2	31.0
4×10	2	20.7	14×1.5	2	20.0	37×0.75	2	24.9
5×2.5	2	16.6	14×2.5	2	23.4	37×1.0	2	25.6
5×4	2	18.0	14×4	2	25.6	37×1.5	2	27.7
5×6	2	19.7	14×6	2	27.8	37×2.5	2	33.7
5×10	2	22.8	16×1.5	2	20.8	44×0.75	2	27.2
7×1.5	2	15.8	16×2.5	2	24.3	44×1.0	2	28.0
7×2.5	2	17.6	19×0.75	2	19.6	44×1.5	2	31.4
7×4	2	19.5	19×1.0	2	20.1	44×2.5	2	37.4
7×6	2	21.7	19×1.5	2	22.3	48×0.75	2	27.5
7×10	2	24.4	19×2.5	2	25.3	48×1.0	2	28.4
8×1.5	2	17.0	19×4	2	27.8	48×1.5	2	31.8
8×2.5	2	19.1	19×6	2	31.3	48×2.5	2	37.9
8×4	2	21.9	24×0.75	2	22.6	52×0.75	2	28.1
8×6	2	23.6	24×1.0	2	23.2	52×1.0	2	30.0
8×10	2	26.7	24×1.5	2	25.0	52×1.5	2	33.3
10×1.5	2	18.5	24×2.5	2	29.2	52×2.5	2	38.8
10×2.5	2	22.0	27×0.75	2	22.9	61×0.75	2	33.7
10×4	2	24.0	27×1.0	2	23.6	61×1.0	2	35.0
10×6	2	26.0	27×1.5	2	25.4	61×1.5	2	39.3
10×10	2	30.6	27×2.5	2	30.1	61×2.5	2	45.3
12×1.5	2	18.9	30×0.75	2	23.5	/	/	/

KVVR型铜芯聚氯乙烯绝缘聚氯乙烯护控制软电缆
Flexible Control Cable with Cu conductor,PVC insulation and PVC sheath (KVVR)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
2×0.5	5	7.0	8×1.0	5	10.9	24×0.5	5	16.4
2×0.75	5	7.2	8×1.5	5	12.6	24×0.75	5	17.0
2×1.0	5	7.6	8×2.5	5	15.3	24×1.0	5	17.6
2×1.5	5	8.4	8×4	5	17.0	24×1.5	5	21.0
2×2.5	5	9.8	8×6	5	18.7	24×2.5	5	24.6
2×4	5	10.8	8×10	5	23.6	27×0.5	5	16.7
2×6	5	11.8	10×0.5	5	11.4	27×0.75	5	17.3
2×10	5	15.0	10×0.75	5	11.8	27×1.0	5	18.0
3×0.5	5	7.4	10×1.0	5	12.2	27×1.5	5	21.4
3×0.75	5	7.6	10×1.5	5	14.8	27×2.5	5	25.1
3×1.0	5	8.0	10×2.5	5	17.2	30×0.5	5	17.3
3×1.5	5	8.9	10×4	5	19.2	30×0.75	5	17.9
3×2.5	5	10.4	10×6	5	21.6	30×1.0	5	18.6
3×4	5	11.5	10×10	5	26.8	30×1.5	5	22.2
3×6	5	12.5	12×0.5	5	11.8	30×2.5	5	26.0
3×10	5	15.9	12×0.75	5	12.2	37×0.5	5	18.6
4×0.5	5	7.9	12×1.0	5	12.6	37×0.75	5	19.3
4×0.75	5	8.2	12×1.5	5	15.3	37×1.0	5	20.4
4×1.0	5	8.7	12×2.5	5	17.8	37×1.5	5	23.9
4×1.5	5	9.6	12×4	5	19.8	37×2.5	5	28.1
4×2.5	5	11.3	12×6	5	22.3	44×0.5	5	21.2
4×4	5	12.5	14×0.5	5	12.3	44×0.75	5	22.0
4×6	5	14.3	14×0.75	5	12.7	44×1.0	5	22.8
4×10	5	17.5	14×1.0	5	13.8	44×1.5	5	26.8
5×0.5	5	8.5	14×1.5	5	16.0	44×2.5	5	32.2
5×0.75	5	8.8	14×2.5	5	18.6	48×0.5	5	21.5
5×1.0	5	9.4	14×4	5	21.2	48×0.75	5	22.3
5×1.5	5	10.4	14×6	5	23.4	48×1.0	5	23.2
5×2.5	5	12.3	16×0.5	5	13.5	48×1.5	5	27.2
5×4	5	14.3	16×0.75	5	14.0	48×2.5	5	32.7
5×6	5	15.6	16×1.0	5	14.5	52×0.5	5	22.1
5×10	5	19.1	16×1.5	5	16.8	52×0.75	5	22.9
7×0.5	5	9.2	16×2.5	5	20.1	52×1.0	5	23.8
7×0.75	5	9.5	16×4	5	22.4	52×1.5	5	28.0
7×1.0	5	10.1	16×6	5	24.8	52×2.5	5	33.6
7×1.5	5	11.3	19×0.5	5	14.2	61×0.5	5	23.4
7×2.5	5	14.0	19×0.75	5	14.7	61×0.75	5	24.3
7×4	5	15.5	19×1.0	5	15.2	61×1.0	5	25.2
7×6	5	17.0	19×1.5	5	17.7	61×1.5	5	30.3
7×10	5	21.3	19×2.5	5	21.1	61×2.5	5	36.1
8×0.5	5	10.2	19×4	5	23.6	/	/	/
8×0.75	5	10.5	19×6	5	26.1	/	/	/

KVVRP型铜芯聚氯乙烯绝缘聚氯乙烯护套铜丝编织屏蔽控制软电缆
Flexible Control Cable with Cu conductor,PVC insulation ， PVC sheath and Copper braided shield(KVVRP)

芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter	芯数×标称截面 mm² Core No.*nominal cross section area	导体种类 Conductor category	外径 mm Outer diameter
2×0.5	5	7.8	8×1.0	5	12.0	24×0.5	5	17.4
2×0.75	5	8.0	8×1.5	5	14.2	24×0.75	5	18.0
2×1.0	5	8.4	8×2.5	5	16.6	24×1.0	5	19.6
2×1.5	5	9.2	8×4	5	18.3	24×1.5	5	22.0
2×2.5	5	10.6	8×6	5	20.5	24×2.5	5	26.5
2×4	5	11.6	8×10	5	25.2	27×0.5	5	17.7
2×6	5	13.2	10×0.5	5	12.2	27×0.75	5	18.3
2×10	5	16.0	10×0.75	5	13.2	27×1.0	5	20.0

3×0.5	5	8.1	10×1.0	5	14.2	27×1.5	5	22.4
3×0.75	5	8.3	10×1.5	5	15.8	27×2.5	5	27.0
3×1.0	5	8.8	10×2.5	5	18.6	30×0.5	5	18.3
3×1.5	5	9.6	10×4	5	21.0	30×0.75	5	18.9
3×2.5	5	11.1	10×6	5	23.0	30×1.0	5	20.6
3×4	5	12.2	10×10	5	29.1	30×1.5	5	23.2
3×6	5	14.1	12×0.5	5	13.1	30×2.5	5	27.9
3×10	5	16.9	12×0.75	5	13.5	37×0.5	5	20.0
4×0.5	5	8.7	12×1.0	5	14.6	37×0.75	5	20.7
4×0.75	5	8.9	12×1.5	5	16.3	37×1.0	5	22.1
4×1.0	5	9.4	12×2.5	5	19.6	37×1.5	5	25.2
4×1.5	5	10.4	12×4	5	21.7	37×2.5	5	30.7
4×2.5	5	12.1	12×6	5	23.7	44×0.5	5	22.2
4×4	5	14.1	14×0.5	5	13.7	44×0.75	5	23.0
4×6	5	15.3	14×0.75	5	14.3	44×1.0	5	24.9
4×10	5	18.5	14×1.0	5	15.2	44×1.5	5	28.1
5×0.5	5	9.3	14×1.5	5	17.0	44×2.5	5	34.7
5×0.75	5	9.6	14×2.5	5	20.5	48×0.5	5	22.5
5×1.0	5	10.1	14×4	5	22.7	48×0.75	5	23.3
5×1.5	5	11.2	14×6	5	25.1	48×1.0	5	25.2
5×2.5	5	13.7	16×0.5	5	14.5	48×1.5	5	29.1
5×4	5	15.3	16×0.75	5	15.0	48×2.5	5	35.2
5×6	5	16.6	16×1.0	5	16.0	52×0.5	5	23.1
5×10	5	20.5	16×1.5	5	17.8	52×0.75	5	23.9
7×0.5	5	10.0	16×2.5	5	21.5	52×1.0	5	25.9
7×0.75	5	10.3	16×4	5	23.9	52×1.5	5	29.8
7×1.0	5	10.9	16×6	5	26.5	52×2.5	5	36.4
7×1.5	5	12.1	19×0.5	5	15.2	61×0.5	5	24.4
7×2.5	5	15.0	19×0.75	5	15.7	61×0.75	5	25.6
7×4	5	16.5	19×1.0	5	16.7	61×1.0	5	27.4
7×6	5	18.0	19×1.5	5	18.7	61×1.5	5	31.6
7×10	5	22.3	19×2.5	5	22.6	61×2.5	5	38.5
8×0.5	5	10.9	19×4	5	25.4	/	/	/
8×0.75	5	11.3	19×6	5	27.9	/	/	/