Technical information N°3 : cable glands selection

To fulfill its function, especially tear strength and ingress protection, cable gland must be adapted to the diameter of the cable.
This diameter is a function of several parameters: the number of conductors, electrical power, voltage insulation, cable length and type of mechanical protection depending its application
The selection must be done in 3 steps

Step 1: selection of cable Gauge, upon power and maximum length of cables, single phase and three phase.

Gauge, mm²	Single phase 230V, power factor =1			3 phase, power factor = 0.8		
	Power (kw)	Electrical rating, (A)	Maximum cable length, with voltage drop less than 3% (m)	Power (kw)	Electrical rating, (A)	Maximum cable length, with voltage drop less than 5% (m)
1.5	1	4.6	50			
	1.5	6.8	33			
	2	9	25			
	2.5	11.5	20	2.5	5	190
	3	13.5	17	3	6	160
	3.5	16	14	3.5	7	135
				4	8	120
				4.5	9	105
				5	10	96
				6	12	79
				7	14	68
				8	16	60
				9	18	51
2.5	1	4.6	84			
	1.5	6.8	57			
	2	9	43			
	2.5	11.5	34	2.5	5	325
	3	13.5	29	3	6	270
	3.5	16	24	3.5	7	230
	4	18	21	4	8	200
	4.5	20	19	4.5	9	180
				5	10	165
				6	12	135
				7	14	115
				8	16	105
				9	18	92
				10	19	84
				12	23	69
4	1	4.6	135			
	1.5	6.8	90			
	2	9	88			
	2.5	11.5	54	2.5	5	510
	3	13.5	45	3	6	420
	3.5	16	39	3.5	7	365
	4	18	34	4	8	320
	4.5	20	30	4.5	9	285
	5	23	27	5	10	255
	6	27	23	6	12	210
				7	14	180
				8	16	160
				9	18	145
				10	19	130
				12	23	110
				14	27	94
				16	31	81

Step 2, depending of application, select insulation and mechanical protection, and find cable outside diameter (Most usual flexible cables)

Gauge, mm²	H05-VVF 500V, PVC insulation	Cable gland size	H05-RRF 500V, rubber insulation	Cable gland size	H07-RNF, 450/750 V. Can be used in fixed installations with nominal voltages up to 1000V: see NF G 15-100, 512.1.1. Excellent resistance to weathering, oils and fats, resistance to mechanical and thermal stresses, outdoor use, hazardous areas, agricultural areas, connecting mobile devices	Cable gland size
3 x 1	6.8	M16	8.5	M16	11.5	M20, M24
3 x 1.5	7.2	M16	10.4	M20	12.5	M20, M24
3 x 2.5	8	M16, M20	12.4	M20, M24	14.5	M24, M25
3 x 4	10	M16, M20	14.5	M24, M25	16	M24, M25
5 x 1	9.8	M16, M20	10.3	M20	13.5	M24, M25
5 x 1.5	11.6	M20, M24	12.7	M20, M24	15	M24, M25
5 x 2.5	13.9	M24, M25	15.3	M24, M25	17	M25
5 x 4	16	M24-M25				

Step 3: select cable gland size upon its internal diameter ranges (standard models used in this catalogue)

Models	M16	M20	M24	M25
Min and max dia.	6-10	8-13	11-16	13-18

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