



**ULTIMHEAT® UNIVERSITY**



**Cable gland selection**



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**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, mm <sup>2</sup>	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
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
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, mm <sup>2</sup>	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