

Geometrical reference values (open end parts)

product	material	setting force	stroke	size bulb forming	length under plate
		kN	mm	mm	mm
Round shank					
	Steel C8C	4,0	2,6	6,6 to 6,7	5,9 to 6,1
M3 UPO 20	Alu 5052	2,3	1,9	6,0 to 6,1	6,4 to 6,6
	SS 304Cu	-	-	-	-
M4 UPO 30	Steel C8C	4,5	2,8	7,8 to 7,9	6,7 to 6,8
M4 UPO 30	Alu 5052	2,2	2,7	7,7 to 7,8	6,8 to 7,0
M4 UPO 20	SS 304Cu	6,0	2,4	7,3 to 7,4	7,6 to 7,8
	Steel C8C	6,5	3,8	9,4 to 9,5	7,3 to 7,4
M5 UPO 30	Alu 5052	3,4	3,6	9,3 to 9,4	7,3 to 7,4
	SS 304Cu	8,0	3,5	8,9 to 9,2	7,3 to 7,5
	Steel C8C	9,5	4,0	11,6 to 11,8	9,3 to 9,6
M6 UPO 30	Alu 5052	4,9	3,3	11,2 to 11,3	10,0 to 10,2
	SS 304Cu	13,0	4,0	11,3 to 11,6	9,6 to 10,0
	Steel C8C	12,0	4,0	13,6 to 13,8	10,9 to 11,2
M8 UPO 30	Alu 5052	5,5	3,8	13,6 to 13,8	11,1 to 11,3
	SS 304Cu	15,4	4,2	13,6 to 13,7	11,3 to 11,6
	Steel C8C	14,5	4,4	15,7 to 15,8	14,4 to 14,5
M10 UPO 35	Alu 5052	8,0	4,7	15,6 to 15,9	14,1 to 14,4
	SS 304Cu	15,5	4,0	14,8 to 15,0	13,6 to 14,0
	Steel C8C	15,5	4,5	16,1 to 16,3	15,5 to 15,7
M10 SPO 35	Alu 5052	-	-	-	-
	SS 304Cu	23,5	4,6	15,9 to 16,1	16,6 to 16,9
	Steel C8C	20,5	6,5	20,8 to 21,0	17,5 to 18,0
M12 UPO 40	Alu 5052	-	-	-	-
	SS 304Cu	-	-	-	-
Hexagonal shank					
M4 HUPO 20	Steel C8C	5,5	2,8	7,6 to 8,3	6,1 to 6,4
	SS 304Cu	5,3	2,5	7,5 to 7,9	7,5 to 7,9
M5 HUPO 30	Steel C8C	6,1	4,0	9,8 to 10,4	7,8 to 8,2
	SS 304Cu	7,2	3,3	9,1 to 9,5	7,1 to 7,3
M6 HUPO 30	Steel C8C	11,5	3,6	11,4 to 12,5	9,7 to 10,1
	SS 304Cu	10,0	4,3	11,9 to 12,3	9,0 to 9,3
M8 HUPO 30	Steel C8C	14,0	4,6	14,3 to 15,4	10,7 to 11,1
	SS 304Cu	14,0	4,5	14,0 to 14,5	10,7 to 11,1

product	material	setting force	stroke	size bulb forming	length under plate
		kN	mm	mm	mm
M10 HSPO 35	Steel C8C	13,0	5,5	17,5 to 18,6	14,4 to 14,7
	SS 304Cu	19,0	6,0	17,0 to 17,6	16,0 to 16,7
M12 HUPO 40	Steel C8C	21,0	6,6	20,7 tot 21,6	15,0 to 16,1
	SS 304Cu	-	-	-	-

Length under plate of open end parts: values obtained after setting.

To obtain the length under the plate after setting of **closed end parts**, you can add the following sizes to the above-mentioned:

Steel and aluminium (mm)	
M3	3,5
M4	4,5
M5	6,0
M6	7,0
M8	8,0
M10	10,0
M12	10,0

Stainless steel (mm)	
M4	4,5
M5	6,0
M6	7,0
M8	8,0
M10	7,0

In some cases the real length will be shorter. All dimensions can be checked on the technical data sheets in our catalogue.

Variations due to setting and environmental conditions can be expected in practice. The values can be used as reference and optimized by using additional features.