

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION R 1089

DIMENSIONS OF TUBULAR ELECTRODE HOLDERS  
FOR SPOT WELDING MACHINES

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ISO Recommendation	R 1089	June 1969
<b>DIMENSIONS OF TUBULAR ELECTRODE HOLDERS FOR SPOT WELDING MACHINES</b>		
1. SCOPE		
This ISO Recommendation concerns tubular electrode holders designed to take straight or cranked electrodes.		
2. FIELD OF APPLICATION		
This ISO Recommendation applies to the dimensions of a series of tubular electrode holders designed to take straight or cranked electrodes,* except for the 20 mm, 50 mm and 63 mm sizes which are for straight electrodes only.		
3. SIZE		
The size of an electrode holder is described by referring to the nominal diameter which is the outside diameter of the holder (dimension $H$ ). Electrode holders are of the following sizes : 20 mm, 25 mm, 31.5 mm, 40 mm, 50 mm and 63 mm.		
4. DIMENSIONS		
Electrode holders should conform to the dimensions shown in the Table on the opposite page.		

\* For this reason, the dimension  $T$  on the Figure, opposite, allows lengths of taper greater than those given in ISO Recommendation R 670, *Dimensions of straight resistance spot welding electrodes*.

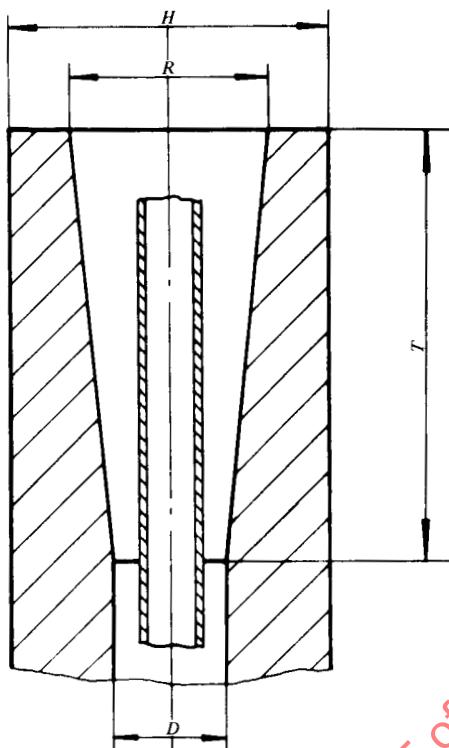


FIGURE – Electrode holder

TABLE – Dimensions of electrode holders

Electrode holder size (nominal diameter) <i>H</i>	Electrode size (diameter of parallel part of electrode)	Diameter <i>R</i>	Cooling hole diameter <i>D</i>		Taper
			min.	max.	
20*	13	12.7	9	10	1/10
25**	16	15.5	11	12	1/10
31.5**	20	19.0	14	15	1/10
40**	25	24.5	16	19	1/10
50	31.5	31.0	16	18	1/5
63	40.0	39.0	22	24	1/5

The tolerance on dimension *H* is h12.

The tolerance on dimension *R* is  ${}^0_{-0.1}$  mm.

##### 5. COOLING HOLE IN THE ELECTRODE AND PIPE\*\*\*

The size of the cooling pipe should be such that the cross-sectional area of its bore is approximately equal to the area of the annulus formed between its outside circumference and the cooling hole in the electrode.

\* This size of holder should only be used with straight electrodes and with a welding force below 150 kgf.

\*\* This size of holder may also be manufactured to take any smaller size of electrode shown in the Table, the other dimensions then being those given for the particular electrode size.

\*\*\* See ISO Recommendation R 670, *Dimensions of straight resistance spot welding electrodes*, and ISO Recommendation R 1045, *Dimensions of straight resistance spot welding electrodes (for loads greater than 1500 kgf)*.