

IP Ratings

SOLIDS

0	No protection
1	Objects over 55 mm (hand)
2	Objects over 12 mm (finger)
3	Objects over 2.5 mm (tools/wires)
4	Objects over 1 mm (small tools/wires)
5	Dust-limited ingress (no harmful deposit)
6	Totally protected against dust

LIQUIDS

0	No protection
1	Vertically falling drops of water
2	Direct sprays up to 15° from vertical
3	Direct sprays up to 60° from vertical
4	Sprays from all directions, limited ingress
5	Weak jets of water from all directions, limited ingress
6	Strong jets of water from all directions, limited ingress
7	Water immersion between 15 cm and 1 m up to 30 minutes
8	Long periods of immersion under pressure
9	High temp (steam) and high pressure water sprays (IP69K)

Temperature Class Ratings

MAX INTERNAL TEMP AT HOTTEST SPOT

A	105°C	N	200°C
B	130°C	R	220°C
F	155°C	S	240°C
H	180°C	>240°C	>240°C

Groschopp's standard insulation class ratings, based on UL 1446 temperature classes.

A
B
H