

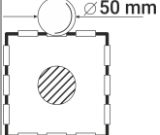
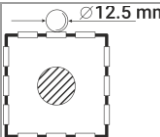
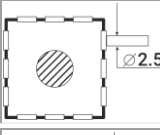
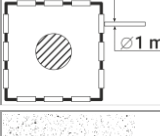


## Table of IP protection ratings (protection against dust and water)

IP values

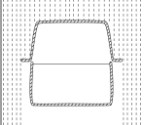
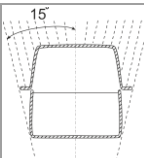
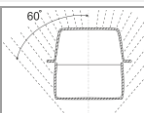
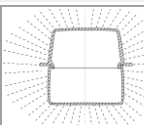
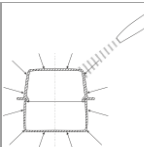
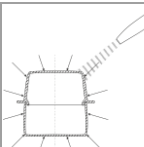
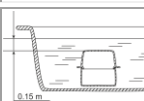
	IP <u>x</u> 0	IP <u>x</u> 1	IP <u>x</u> 2	IP <u>x</u> 3	IP <u>x</u> 4	IP <u>x</u> 5	IP <u>x</u> 6	IP <u>x</u> 7	IP <u>x</u> 8
<b>IP 0<u>x</u></b>	IP 00								
<b>IP 1<u>x</u></b>	IP 10	IP 11	IP 12						
<b>IP 2<u>x</u></b>	IP 20	IP 21	IP 22	IP 23					
<b>IP 3<u>x</u></b>	IP 30	IP 31	IP 32	IP 33	IP 34				
<b>IP 4<u>x</u></b>	IP 40	IP 41	IP 42	IP 43	IP 44				
<b>IP 5<u>x</u></b>	IP 50				IP 54	IP 55			
<b>IP 6<u>x</u></b>	IP 60					IP 65	IP 66	IP 67	IP 68

Test methods for the IP protection ratings (IPxx) against the ingress of solid foreign objects, dust and water.

(In accordance with the International Electrotechnical Commission standard IEC 598 and European Standard EN 60598)

Protection against ingress of solid foreign objects and dust.			
First characteristic numeral IP( <u>X</u> x)	Meaning for the protection of equipment	Test conditions	
0	Non protected		
1	Protection against ingress of solid objects $\geq 50$ mm		The sphere 50 mm in diameter and Standard access probe
2	Protection against ingress of solid objects $\geq 12.5$ mm		The sphere 12.5 mm in diameter and Standard access probe
3	Protection against ingress of solid objects $\geq 2.5$ mm		Standard access probe (or steel rod of 2.5 mm in diameter)
4	Protection against ingress of solid objects $\geq 1.0$ mm		Standard access probe (or steel rod of 1.0 mm in diameter)
5	Dust protected (partial protection)		Dust Chamber (Talc circulation)
6	Dust tight (full protection)		Dust Chamber (Talc circulation)

## Protection against ingress of water

Second characteristic numeral (xX)	Meaning for the protection of equipment	Test conditions	
0	Non protected		
1	Protected against vertically falling water drops		Irrigation system in a drip box
2	Protected against water drops falling at an angle of up to 15 °		Irrigation system in a drip box
3	Protected against water drops falling at an angle of up to 60 °		Artificial rain system equipped with oscillating tube
4	Protected against splashes falling at any angle		Artificial rain system equipped with oscillating tube
5	Protected against jets falling at any angle		Hydro pump with hose and spray nozzle of 6.3 mm in diameter, water flowrate is 12.5 l/min
6	Protection against dynamic water currents (sea wave)		Hydro pump with hose and spray nozzle of 12.5 mm in diameter, water flowrate is 100.0 l/min
7	Protection against water ingress when immersed for a certain depth and time		Immersion in a tank with a water level of 1 m
8	Water protection for unlimited immersion time to a certain depth	Tests according to the methodology agreed with the customer or end user	