








Ingress Protection (IP) Rating

IEC (International Electrotechnical Commission) Standard (IEC60529: 2001)


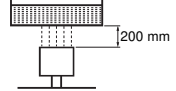

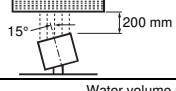

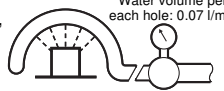

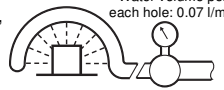

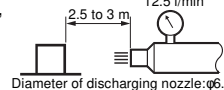

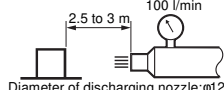

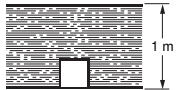

IP-@@

Protection specification code (International Protection)

"First Digit" Protection against solid object

Code	Level of protection	
0		No protection
1		Ingress of solid object diameter 50 mm is protected
2		Ingress of solid object diameter 12.5 mm is protected
3		Ingress of solid object diameter 2.5 mm is totally protected
4		Ingress of solid object diameter 1.0 mm is totally protected
5		Protected against harmful dust
6		Totally protected against dust

"Second Digit" Protection against liquid object

Code	Level of protection		Test method outline (test performed using pure water)
0	No protection	no protection against liquid object	No test
1	Protection against water drop 	No harmful effect of vertical water drip	By using water drip tool vertically dropping water for 10 min 
2	Protection against water drop 	No harmful effect of water drip from vertical direction when the enclosure is tilted at 15° from its normal position	By using water drip tool, move it in angle of 15°, dripping water for 10 min (2.5 min per direction) 
3	Protection against water spray 	No harmful effect of water spray at any angle up to 60° from the vertical direction	By using tool as described in right picture, spraying water vertically in angle up to 60° for 10 min 
4	Protection from water splash 	No harmful effect of water spray from all direction	By using tool as described in right picture, splashing water from all direction for 10 min 
5	Protection from water jets 	No harmful effect of water splash from all direction	By using tool as described in right picture, Jet the water from all direction to the object surface for 1 m ² /min, at least for 3 min in total. 
6	Protection from strong water jets 	No harmful effect of strong water jets from all direction	By using tool as described in right picture, Jet the water from all direction to the object surface for 1 m ² /min, at least for 3 min in total. 
7	Protection from water dip 	No harmful effect of water dip in certain level of pressure and length of time	Dip into 1 m depth water for 30 min 
8	Protection from water sink 	No harmful effect against water sink which the condition is decided between customer & manufacturer (in severer condition comparing to no.7)	Should be decided between customer and manufacturer