

JB Tech Talk No. 3: Blow Me Down – 3-Phase Motor Rotation

Answer to the question from JB Tech Talk No. 2. Automatic flow limiters will not limit flow if installed backwards. Many smaller size valves look like pipeline strainers but flow the reverse compared to strainers and get installed wrong. I did it myself (recently!) on a project at our cottage. Check the arrows!



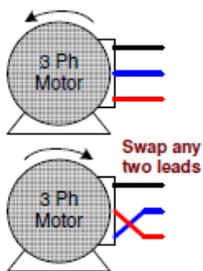
Early in my career, my boss would take me to job sites to investigate problems. I really liked it, not just for the education but also the chance to get out of the office and meet people. One day we zoomed (he had a BMW and thought he was a race car driver) over to a jobsite to check out a problem with an inline vane axial return fan.

When we arrived, the mechanical contractor told us they could not get the fan in question to produce airflow. They had even cut a hole in the side of the duct on the inlet side of the fan to see if that would help.

My boss opined that cutting the hole in the side of the duct likely wouldn't help if there was something mechanically wrong with the fan. What he wanted to do was cover up the hole then turn the fan on and see what was happening. Being a man of action, and consistent with his driving habits, he grabbed a large piece of heavy cardboard that was laying about in the mechanical room, went up a ladder and asked one of the guys to turn on the fan as he held the cardboard over the hole.

They did....and he got blown off the ladder! The fan was rotating backwards.

Fortunately, he didn't get hurt. He was more than a little indignant however; probably to about the same degree that the contractor's guys were embarrassed.



It was a learning experience for everyone. Number one, check the rotation! Some of us also discovered that 3 phase motors can easily be wired to run backwards and simply swapping two of the leads will get them going the right way. If only it were so easy with people.

There was a bit of ranting by my boss on the way back to the office and I understood why. We've all been called to look at problems like this, and there's a mixture of relief that it's not *your* problem and being miffed over wasted time. But, when people call with a problem, they're not kidding. Guys especially don't like to admit defeat. Or ask for directions.

I eventually came to view problem calls as an opportunity to maybe learn something, cement my relationship with the customer, and at the very least, get something to tease them about for years to come.