

## Training 20 – Applications – 培训20-应用

### Compressed air consumption measurement

### 压缩空气消耗量测量

#### Introduction

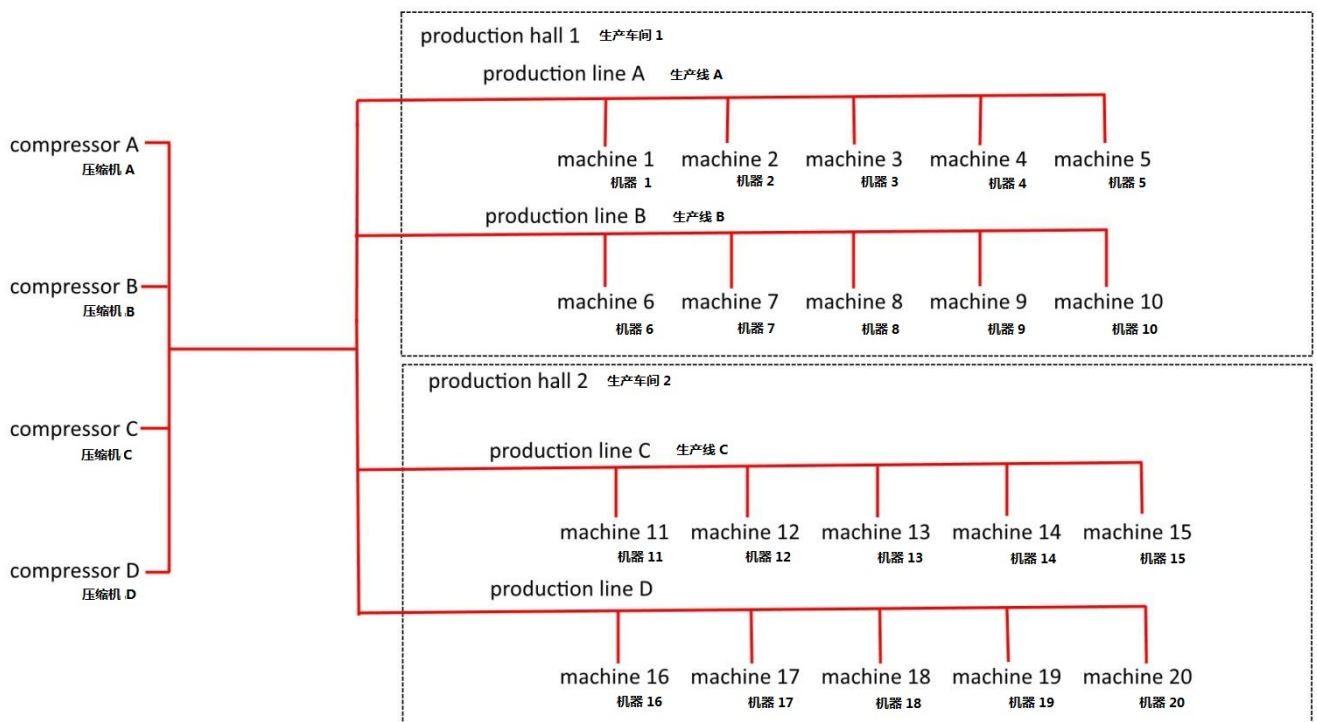
Compressed air is very expensive, because you need a lot of current for your compressors to generate it. Because of that every company should try to use as few compressed air as possible. 压缩空气非常昂贵，因为你需要大量的电流才能产生它。因为每个公司都应该尽量少使用压缩空气。 The probably most important way to reduce your compressed air consumption is to reduce leakages. There are compressed air systems which loose more than 30 % of the generated compressed air because of leakages. If you reduce those leakages you will save a lot of money and of course also help the environment. 减少压缩空气的最重要的方法是减少泄漏。有压缩空气系统，由于泄漏，释放出超过30%的压缩空气。如果你减少这些泄漏，你将节省很多钱，当然也有助于环境。

#### Why do you need flow sensors to reduce your compressed air consumption?

#### 为什么需要流量传感器来减少压缩空气的消耗?

Let's look at the compressed air system of this fictional company:

让我们来看看这个虚构公司的压缩空气系统:

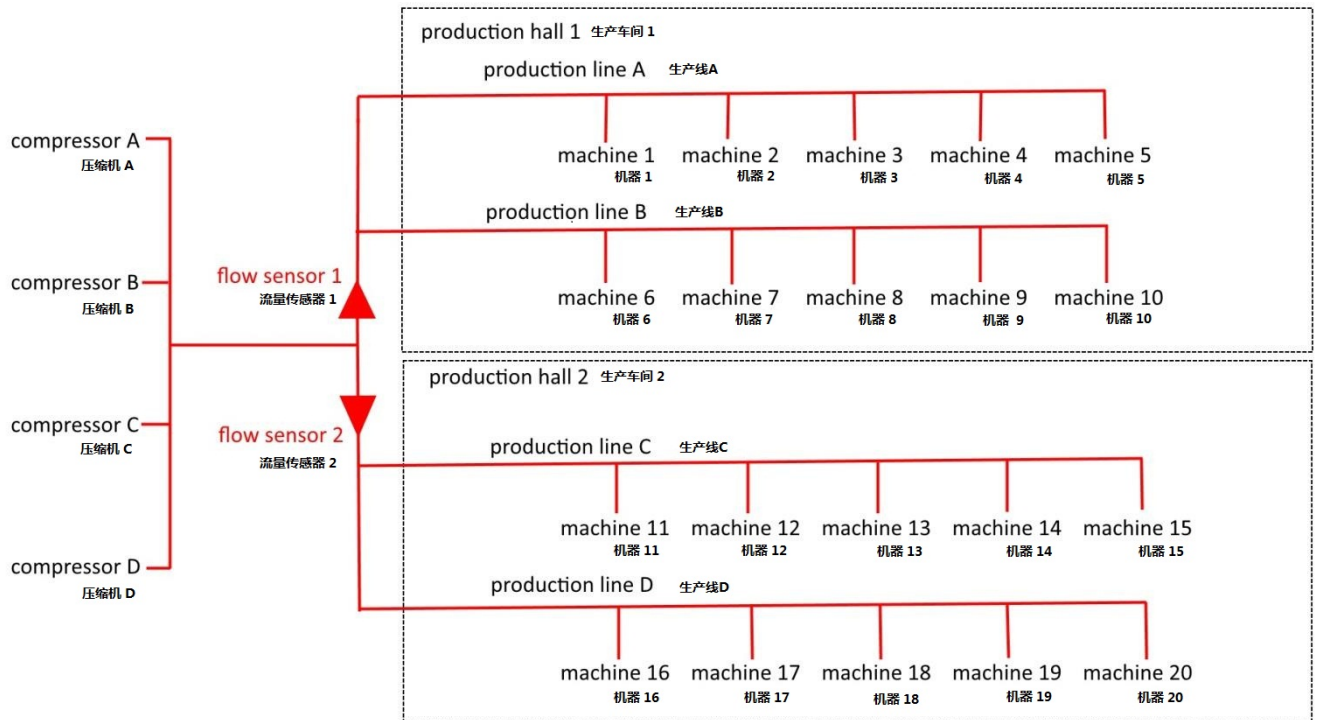


Where would you start to reduce leakages? If you don't know the compressed air consumption of your production halls, production lines and machines then you don't know where it is reasonable to start reducing leakages.

你会在哪里开始减少泄漏?如果你不知道你的生产大厅、生产线和机器的压缩空气消耗量，那么你就不知道在哪里开始减少泄漏是合理的。

Because of this it would be a good idea to buy two flow sensors to measure the compressed air consumption of the two production halls:

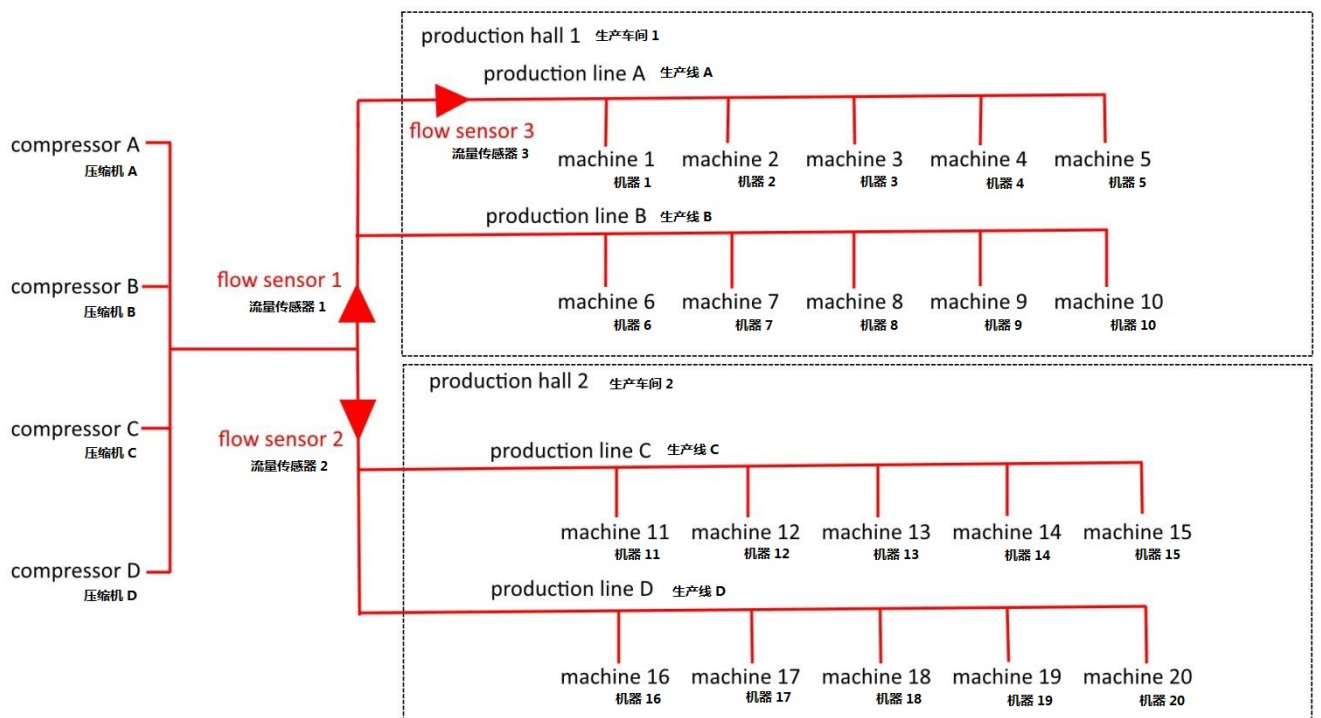
因此，买两个流量传感器来测量两个生产大厅的压缩空气消耗量是个不错的主意：



Now you know that production hall 1 needs about 5000 Nm<sup>3</sup> of compressed air per day and production hall 2 needs about 1000 Nm<sup>3</sup> of compressed air per day. So you know that you should focus on hall 1, because it needs 5 times more compressed air than hall 2.

现在你知道生产车间1每天需要大约5000Nm<sup>3</sup>的压缩空气和生产车间2每天需要大约1000Nm<sup>3</sup>的压缩空气。所以你知道你应该集中在一号大厅，因为它需要的压缩空气比车间2要多5倍。

The next step could be to install another flow sensor to measure the consumption of production line A: 下一步可能是安装另一个流量传感器来测量生产线的消耗量A:



Now you know that production line A needs about 4000 Nm<sup>3</sup> of compressed air per day. That means that production line B only needs 1000 Nm<sup>3</sup> per day because line A and B together need 5000 Nm<sup>3</sup> per day.

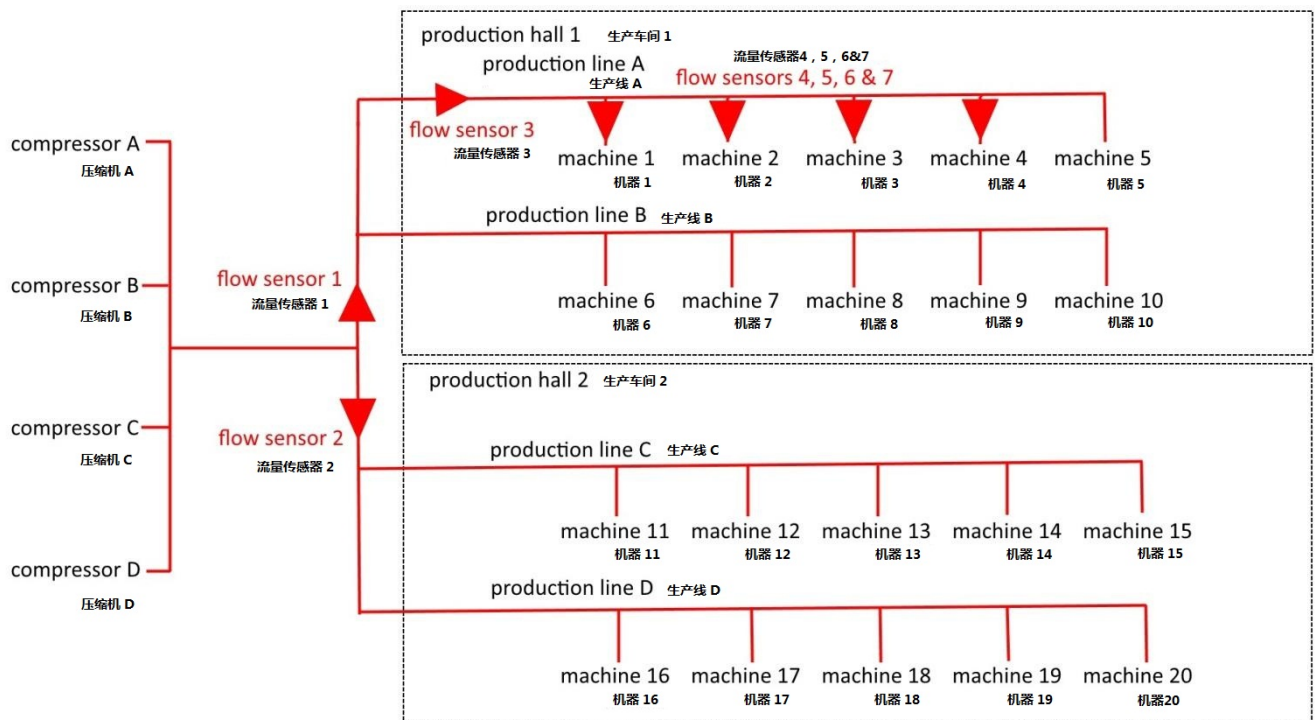
现在你知道生产线每天需要大约4000Nm<sup>3</sup>的压缩空气。这意味着B生产线每天只需要1000 Nm<sup>3</sup>因为线A和B在一起每天需要5000 Nm<sup>3</sup>。

So you know that your focus has to be on production line A. If you reduce leakages on production line A you will significantly reduce your total compressed air consumption.

所以你要知道，你的重点必须放在生产线上，如果你减少生产线上的泄漏，你将大大减少压缩空气的总量。

Of course now you could be interested in knowing the compressed air consumption of every single machine of production line A:

当然，现在你可能有兴趣知道每台生产线的压缩空气消耗量A:



Now you know the compressed air consumption of every machine. So if you observe the compressed air consumption of your halls, lines and machines, you will notice if for example machine 2 needs much more compressed air as usual. So you can decide where it is most important to reduce leakages next.

现在你知道了每台机器的压缩空气消耗量。因此，如果你观察到你的大厅、线路和机器的压缩空气消耗，你会注意到，例如，机器2需要比平常更多的压缩空气。因此，您可以决定接下来减少泄漏最重要的地方。