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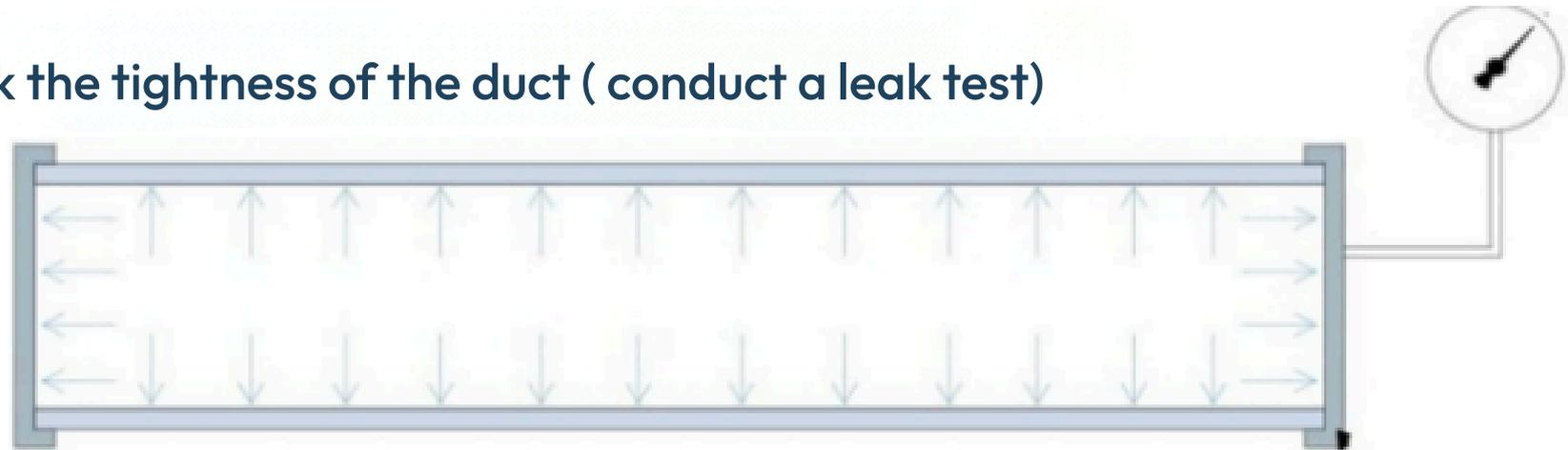
**GOLDEN RULES
OF BLUE DRAGON**

Blue Dragon Jet®

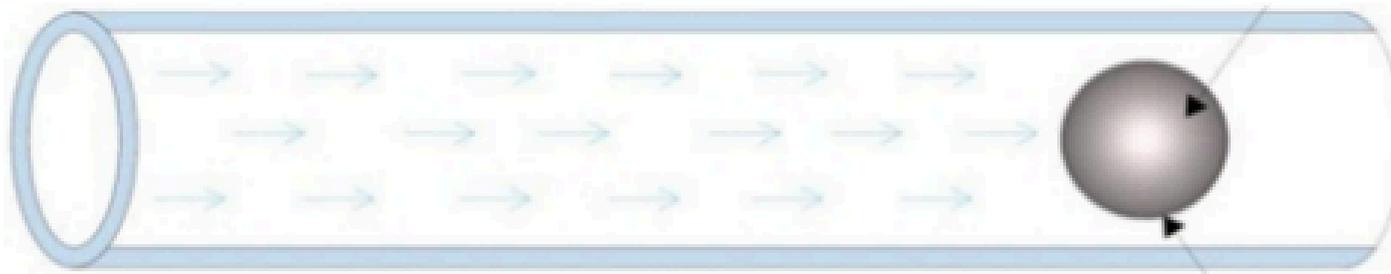
1

Prepare the duct system accordingly

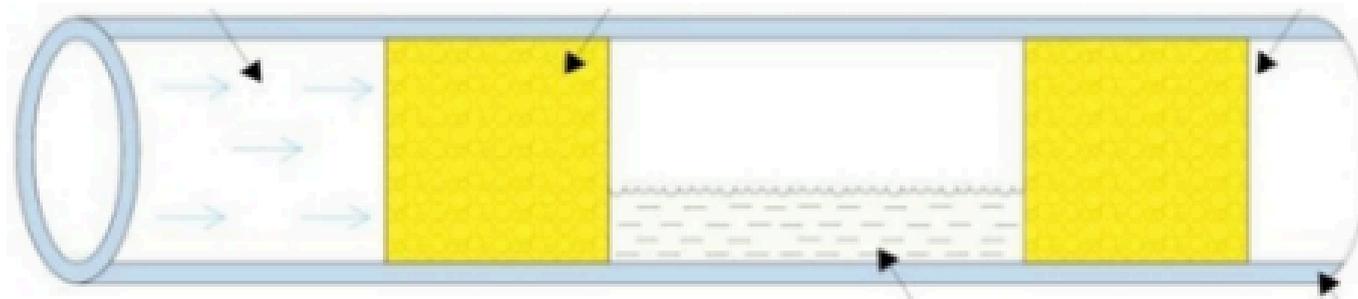
a. Check the tightness of the duct (conduct a leak test)



b. Check the patency and geometry of the duct (perform the calibration by blowing steel balls with a diameter of 0.8-0.9 of the inside diameter of the pipe)



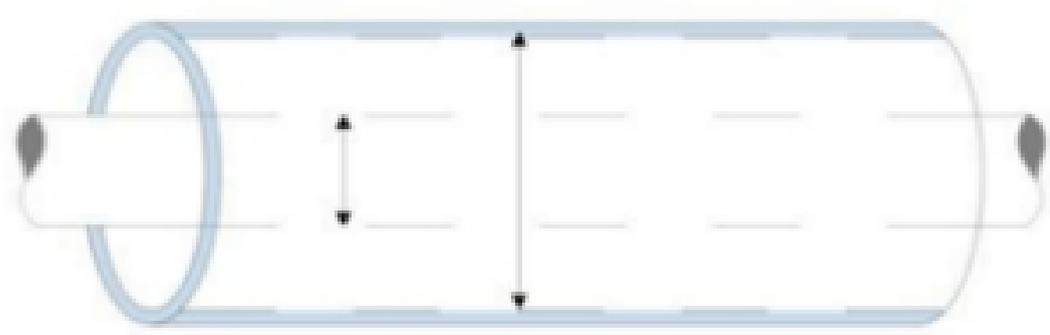
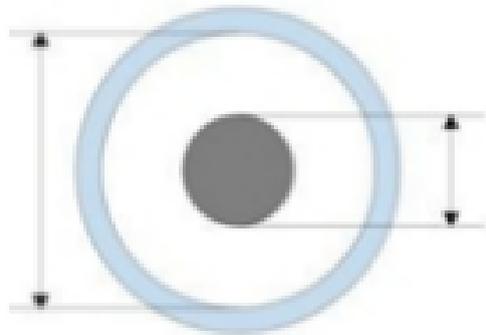
c. Clean and lubricate the duct by blowing through sponges with a suitable lubricant



2

SELECT THE SUITABLE CABLE DIAMETER FOR THE EXISTING DUCT SYSTEM

- a. The ratio of the outer diameter of the cable to the inner diameter of the duct should be close to 60%. With this value, the greatest blowing distance is achieved.





CHOOSE THE RIGHT COMPRESSOR

- a. For ducts $D = 32$ mm to $D = 50$ mm, large compressors are needed with a capacity of $8-11 \text{ m}^3/\text{min}$ and an operating pressure of 8-10 bar.
- b. For ducts with diameters of 12 mm-20 mm, a compressor with a pressure of 15 bar and capacity up to $2 \text{ m}^3/\text{min}$ is needed.
- c. For pipes with diameters of 7 mm-12 mm, a compressor with a pressure of 15 bar and capacity of $1 \text{ m}^3/\text{min}$ is needed.
- d. For microducts with diameters up to 7 mm, compressors with a pressure of 10-12 bar and capacity of 0.1 to $0.5 \text{ m}^3/\text{min}$ are needed.

SELECT THE RIGHT BLOWING MACHINE

- a. Tubes up to 12 mm - BDJ Budget
- b. Tubes up to 20 mm - BDJ Mini, BDJ Standard
- c. Tubes up to 50 mm - BDJ Max, BDJ Hydro, BDJ Hydro Chain
- d. Microduct blowing - BDJ Multitube, BDJ Multitube Belt





CHOOSE THE RIGHT EQUIPMENT

- a. Equipment for compressors: air coolers, air dryers, air heaters.
- b. Equipment for fiber blowing: Y connectors, blowing heads.
- c. Cable equipment: cable trailers, stands for cable pay-off, cable storage device for uncoiling excess cable (Twister, Figaro).
- d. Accessories for tubes and microducts: trailers and unwinders, cutters, leak testers, calibrators, location probes.



TAKE CARE OF THE ORGANIZATION OF THE CONSTRUCTION SITE

- a. Assure free cable unwinding with the ability to control the unwinding speed.
- b. Place the blowing machine on a secure and stable stand.
- c. Make sure that the cable drum, blowing machine and duct are in line as much as possible.
- d. Make sure that the outgoing air and the outgoing cable cannot hit anyone at the end of the blowing route.



TAKE CARE OF EQUIPMENT FOR WORKERS

- a. All operating members must be trained to work on the operated machines. Machines should be accompanied by operating manuals.
- b. The staff should be equipped with appropriate protective clothing ensuring safe work.
- c. Keep workers connected at the beginning and end of the blowing route.
- d. After completing blowing in, reduce the pressure to atmospheric in all devices and lines.



PREPARE THE CABLE PROPERLY

- a. Check if the cable is correctly coiled on the drum.
- b. Check if the cable is not deformed or damaged.
- c. Make sure that the cable is not dirty.
- d. Mount a suitable cap on the head of the cable.



CONDUCT A CRASH TEST

- a. Attach a short 1-1.5 m length of cable to the blowing head.
- b. Block the microduct outlet.
- c. In the blowing machine's feeder, place a 3-4 m long cable.
- d. Set the motors to low power and start the feeder so that the cable hits the end of the blanked conduit at the highest possible speed.
- e. Repeat the operation several times, increasing the power of the motors each time, until you make the cable break.
- f. The maximum allowable pushing force will be the one from the last attempt, which did not damage the cable.



CARRY OUT THE BLOWING PROCESS CORRECTLY

- a. Place a brass cable protector on the end of the cable.
- b. Pour the appropriate amount of the lubricant into the duct.
- c. Manually insert the cable into the duct for several meters.
- d. Install the duct and the cable in the blowing machine.
- e. After starting the feeder (without the air attached) push the cable into the duct as far as possible, at a speed of up to 60 m / min.
- f. When the speed starts to drop significantly, compressed air must be slowly fed to the head at a pressure of 1-2 bar.
- g. As the resistance increases and the velocity decreases, the pressure of the blowing air should be increased smoothly by 1 bar.

- h. Repeat the process until you reach the appropriate distance.
- i. If the desired length is not achieved, stop blowing, bleed the pipe and try again after a few minutes, starting with the minimum pressure on the head.
- j. The operation can be repeated several times.

Blowing machine	Cable diameter	Microducts diameter	Max blowing distance
BDJ Budget	0.5-8 mm	5-16 mm	700 mm
BDJ Mini	4-10 mm	4-16 mm	5-16 mm
BDJ Standard	2.5-12 mm	2-16 mm	5-20 mm
BDJ Smart+Brain	2.5-10 mm	2-16 mm	5-20 mm
BDJ Max	6-15 mm	6-50 mm	6-20 mm
BDJ Hydro	6-15 mm	32, 40, 50 mm	2050 mm
BDJ Hydro Chain	6-20 mm	32, 40, 50 mm	4-50 mm
BDJ Multi Tube		5-16 mm (packs)	1500 m