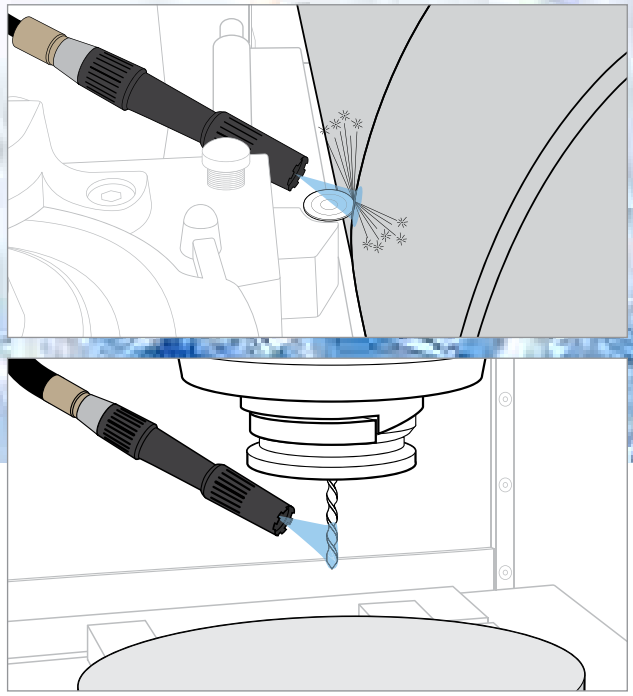
Quick cooling of parts and equipment using SILVENT F 1

Examples of problem solved with SILVENT F 1:

WHEN COOLING:

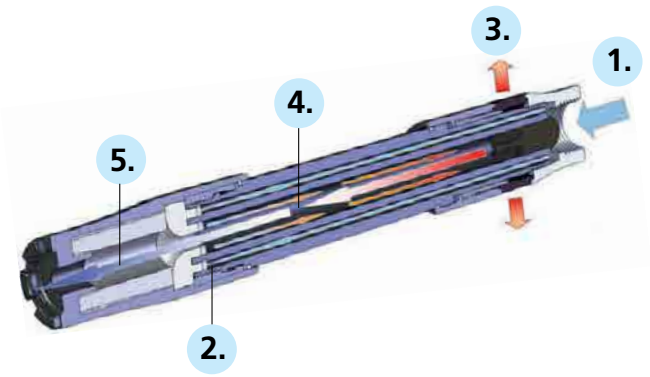
- cutting tools to increase lifetime
- parts quickly to be handled manually by operator
- bearings to minimize friction and increase lifetime
- electrical cabinets
- during plastic welding
- when welding close to electronic parts
- the needle in sewing machines
- small blades (when cutting etc)



SILVENT F1 is used for cooling of cutting tools when turning or drilling.

The technology behind FRIGUS

The FRIGUS vortex generator contains eight separate Laval shaped paths. By rotating the FRIGUS nozzle, the area of these engineered paths changes, making it possible to control air consumption without affecting the RPMs of the air. Now, thanks to FRIGUS technology, it is possible to control the consumption of air relative to the degree of cooling you require without negatively affecting efficiency.



1. **Air supply**
   Regular compressed air is supplied axially.

2. **Laval paths**
   Air flow is rotating more than 1 000 000 rpm.

3. **Exhaustion**
   Warm air exhaust.

4. **Energy transformation**
   Heat energy is removed from the inner air swirl.

5. **Laminar cold air flow**
   Cold air is discharged from the front at a low noise level.

SILVENT F 1

TECHNICAL DATA

Refrigeration (kcal/h)	110
Air consumption (Nm³/h)	17
Temperature reduction (°C)	38
Sound level (dB(A))	76
Material (nozzle)	ZYTEL
Connection	G 1/4"
Weight (g)	85
Max temp (°C)	120
Max op. pressure (MPa)	1.0

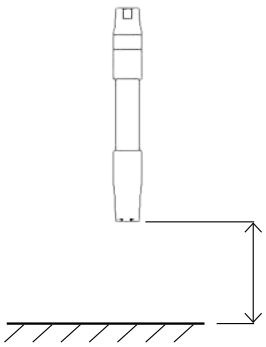
Feed pressure = 500 (kPa)
Material specification: Zytel HTN54G3 5HSLR BK031, NBR, EN 1.4305, Cu, Sn, Elastollan c80a HPM, Polyster, Elastollan C60A HPM, Makrolon 8035

- **Cooling nozzle for spot cooling**

SILVENT F 1 is a cooling nozzle with FRIGUS technology that is especially designed for spot cooling where unwanted heat occurs, due to material milling, drilling, grinding, turning, etc. Maintaining a reduced temperature during machining operations facilitates the process and extends tool life. F 1 generates a low noise level. Its revolutionary design is compact and the unit is simple to install. It is easy to replace your standard nozzle with a FRIGUS cooling nozzle. F 1 cools the target while blowing away chips and enhancing quality. FRIGUS technology provides the possibility to quickly and easily adjust both the air consumption and cold fraction you need. This simple, unique control design allows you to set air consumption in relation to your refrigeration requirements.

**For further information, see page 166 or visit silvent.com.*

To obtain best cooling effect from the cooling nozzle, use as short blowing distance as possible from the nozzle to the object. Recommended max blowing distance = 30 mm (1.18").



ALTERNATIVES

F 1-M2

SILVENT F 1-M2 - F 1-M4: nozzle mounted on a bendable 1/4" FlexBlow hose that maintains the desired position for quick and easy adjustment. Available in 3 different lengths and supplied with a magnetic base.

ACCESSORIES

FlexBlow Hose
FB14-300. Robust flexblow hose in stainless steel, with 1/4" thread at both ends.
For more information see page 159.