

Technical News Bulletin

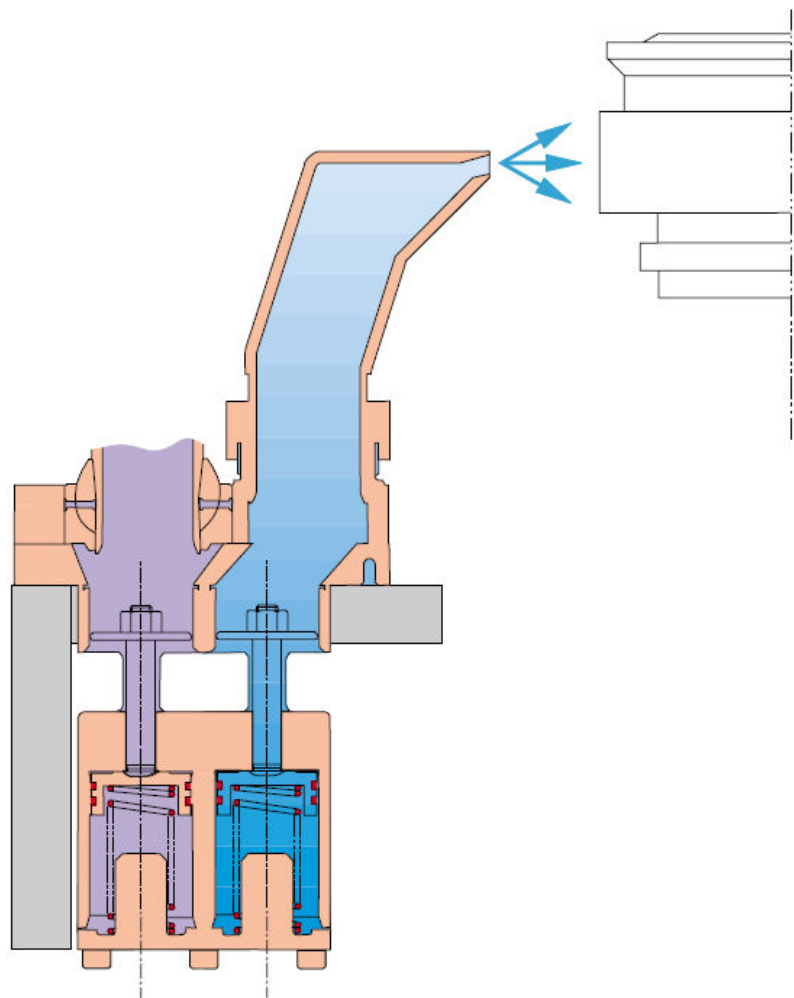
April 1994

INDEPENDENT NECK RING COOLING FOR BLANK SIDE VERTI-FLOW

1. Introduction

Following Emhart's successful introduction of blank and blow side Verti-Flow and the attendant increase in production speed, it became apparent that neck ring temperature was in some ways an inhibiting factor for additional speed increases in Narrow Neck Press and Blow as well as Wide-mouth Press and Blow.

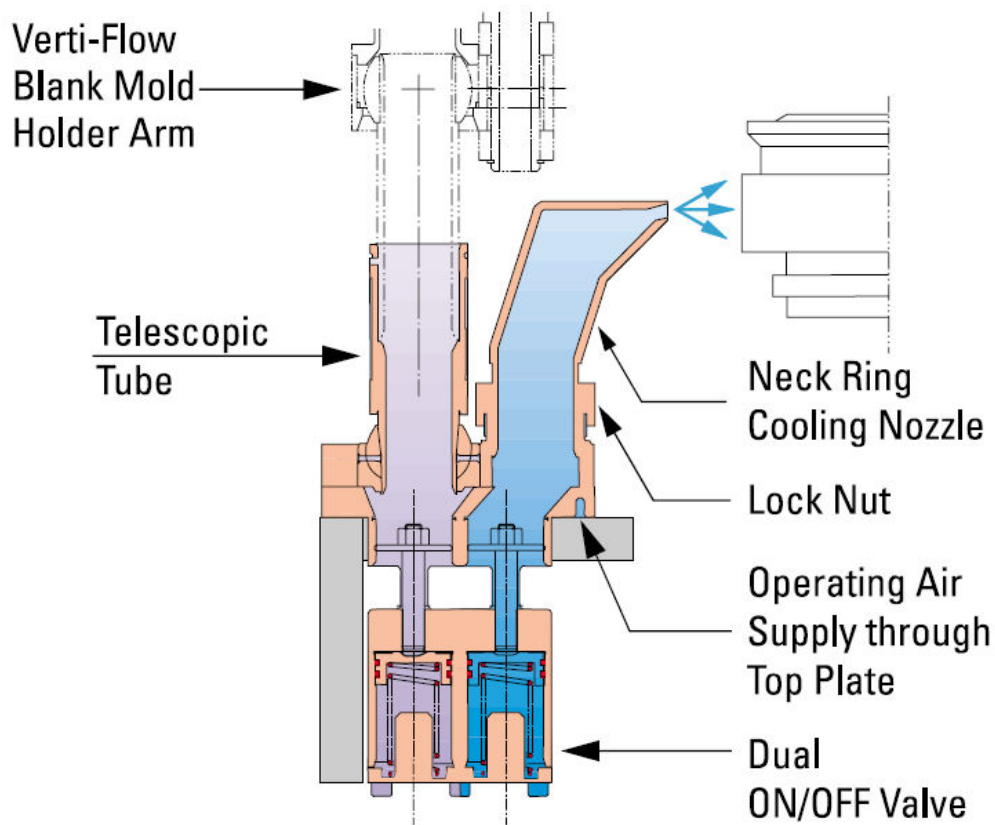
To overcome this problem, we developed an independent neck ring cooling system to operate together with the blank side Verti-Flow.



2. Description

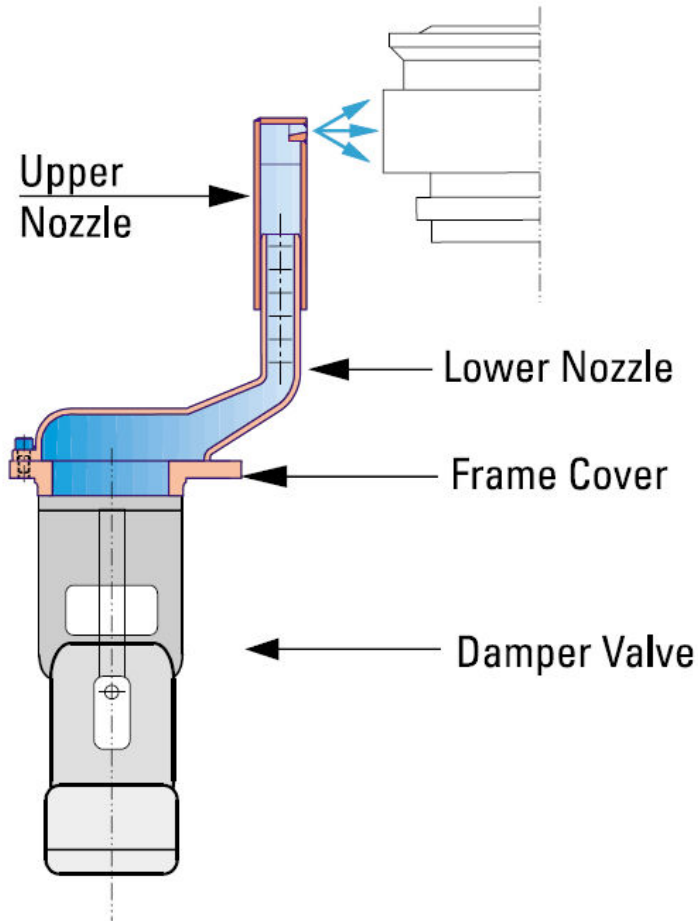
The current blank side Verti-Flow system uses two single ON/OFF valve assemblies, mounted on the left and right-hand sides of the section frame top plate, to control the cooling air flow to the plenum chambers. These single valves are now replaced with dual valve assemblies. The outer of each dual valve is connected to the Verti-Flow blank mold holder arm by means of a telescopic tube. The inner valve is connected to a nozzle which is vertically adjustable to precisely direct cooling air onto the neck rings. Neck ring cooling and blank mold cooling are independently timed and therefore require an additional timing event. The valve cylinders are pneumatically operated for cooling air ON and spring-actuated for cooling air OFF.

The air volume to the blank cooling plenum chamber has not been affected by using the dual valve assembly, which is slightly smaller due to limited space.



IS Section
Frame
Assembly

On the AIS machine (see drawing below), only a single valve assembly is required since the blank mold cooling air is supplied to the plenum chambers through the blank support mechanism.



3. Installation

An additional air supply is required since the damper valve for neck ring cooling is independently timed from the blank mold cooling. The operating air can be ducted to each of the cover plates through additional bores in the frame top plate or connected directly to the damper valve cylinders by means of flexible hoses. The air supply can be routed from the electro-pneumatic valve block or, if no spare line is available, from an external 3/2-way valve on the blank side manifold.

4. Specifications

Refer to the following table of drawings for upgrade specifications regarding neck ring cooling for blank side Verti-Flow:

Section Type	Operation	VERTIFLOW WITH NECK RING COOLING Assembly No.
E & EF	DG 4 ¼	200-283
E & EF	DG 5	200-284
EF	TG 85	200-420
F & EF	DG 5 ½	210-256
F	DG 6 ¼	210-258
F	TG 4 ¼	210-257
AIS	DG 6 ¼ + TG 4 ¼	210-402 & 210-403

5. Availability

The full range of neck ring cooling systems will be available by the end of the 4th quarter 1994.

6. Features and Benefits

There are several advantages in having separate blank mold and neck ring cooling on the blank side Verti-Flow mechanism.

Features

- Increased and controllable neck ring cooling
- Independent timing of neck ring and blank mold cooling

Benefits

- Uniform and consistent cooling conditions for all machine sections and from one production run to another
- Fewer finish defects
- Increased production speed
- Lower neck ring costs through elimination of the need for expensive materials
- Optimization of neck ring and blank mold cooling requirements