



# HYDROFIRE ΕΠΕ

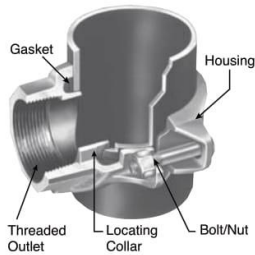
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## Hole Cut Piping System



11.01



### 1.0 PRODUCT DESCRIPTION

The bolted mechanical branch connection concept was developed by Victaulic to provide a fast, easy mid-pipe outlet without welding. A hole is first cut or drilled in the pipe to receive the outlet. Positioning in the hole is enhanced with either a locating collar (Styles 920, 920N and 929) or a toe and heel (Styles 923 and 924) and provides a smooth outlet area for maximum flow characteristics.

The gasket is molded to conform to the pipe O.D. and is of pressure-responsive design. Gasket seal is further enhanced by pressure or vacuum in the line.

Styles 920, 920N and 929 are ideal for a variety of branch connections. Styles 923 and 924 provide a weldless connection for a variety of gauges, drains and thermometers.

Victaulic hole cut products must be installed on the true centerline of the pipe. Vic Hole Cutting Tools are recommended for preparing pipe to receive all Victaulic hole cut products.



Styles 920 and 920N



Style 920 Cross



Style 920 Threaded Outlet

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	





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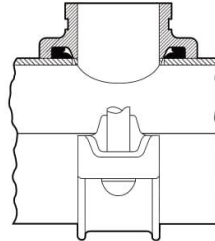


[victaulic.com](http://victaulic.com)

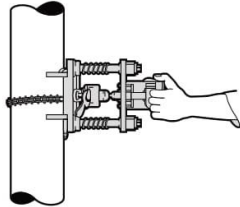
## 1.0 PRODUCT DESCRIPTION (Continued)



Provides a bolted branch connection



Locating collar assures permanent connection



Fast, easy preparation

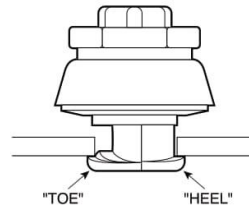


Combines for crosstype connection

## Vic-Let™ Style 923 and Vic-O-Well™ Style 924



Weldless connection for gauges, drains, thermometers



Toe and heel engage inside of pipe



Easy one nut assembly



No welding – no special assembly tools

## 2.0 CERTIFICATION/LISTINGS



### NOTE

- Refer to [submittal 10.01](#): Victaulic Fire Protection Approval Reference Guide for more details.



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## 3.0 PERFORMANCE

### Flow Data

Flow test data has shown that the total head loss between point (1) and (2) for the Style 920, 920N and 929 Mechanical-T® fittings can best be expressed in terms of the pressure difference across the inlet and branch. The pressure difference can be obtained from the relationship below.

### C<sub>v</sub> and K<sub>v</sub> Values

Values for flow of water at +60°F/+16°C are shown in the table below.

### Formulas for C<sub>v</sub>/K<sub>v</sub> Values:

$$\Delta P = \frac{Q^2}{C_v^2}$$

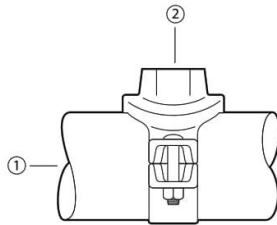
$$Q = C_v \times \sqrt{\Delta P}$$

**Where:**  
 Q = Flow (GPM)  
 ΔP = Pressure Drop (psi)  
 C<sub>v</sub> = Flow Coefficient

$$\Delta P = \frac{Q^2}{K_v^2}$$

$$Q = K_v \times \sqrt{\Delta P}$$

**Where:**  
 Q = Flow (m<sup>3</sup>/hr)  
 ΔP = Pressure Drop (Bar)  
 K<sub>v</sub> = Flow Coefficient



Exaggerated for clarity

Outlet Size		Equivalent Length of Outlet Size Schedule 40 Carbon Steel Pipe (per UL 213, Sec. 16) (C = 120) <sup>1</sup> ft		C <sub>v</sub> /K <sub>v</sub> Values	
Nominal Size	Actual Outside Diameter	Grooved	Threaded	Grooved	Threaded
inches	inches				
DN	mm				
½	0.840	–	2	–	11.0
DN15	21.3	–	–	–	9.4
¾	1.050	–	4	–	16.0
DN20	26.9	–	–	–	13.7
1	1.315	–	8	–	21.0
DN25	33.7	–	–	–	18.0
1¼	1.660	5½	6	50.0	48.0
DN32	42.4	–	–	42.9	41.1
1½	1.900	11	11	53.6	53.0
DN40	48.3	–	–	45.4	45.4
2	2.375	9	10½	112.0	104.0
DN50	60.3	–	–	96.0	89.1
2½	2.875	20	12½	119.0	150.0
	73.0	–	–	102.0	128.5
	3.000	16 <sup>2</sup>	–	161.0	–
DN65	76.1	–	–	138.1	–
3	6.500	14	15½	249.0	237.0
DN80	88.9	–	–	213.4	203.1
4	4.500	20	22	421.0	401.0
DN100	114.3	–	–	360.8	343.6

<sup>1</sup> Hazen-Williams coefficient of friction is 120.

<sup>2</sup> Pipe with a wall thickness of 0.165 in/4.2 mm.