

Modular OmniPass Adapter Deluge Nozzle Accessory

General Description

The Modular OmniPass Adapter is a fitting that, when installed directly between the system pipe and a deluge nozzle, will drastically reduce the likelihood of the nozzle clogging due to pipe debris.

Modular Omnipass Adapters are available in three overall length configurations (Ref. Figure 1). Each features a 1 Inch Female NPT x 1 Inch Male NPT base, slotted extension segments as applicable and a slotted cap. The MOD 1 is comprised of the base, one extension and cap, MOD 2 includes two extensions and MOD 3 includes three extensions.

Slots arrayed around the cap and extension segments are nominally 0.035 inches (0,9 mm) wide.

The Modular Omnipass Adapter must be field assembled via machine threaded connections between base, slotted extension segments as applicable and slotted cap. Machine thread connections shall be secured by LOCTITE 263 or equivalent.

Once assembled, the Modular OmniPass Adapter can be installed into a pipe drop with the slotted cap extending below the centerline of the pipe run. The appropriate adapter length is dependent upon the length of the pipe drop, the fitting it is being installed into and the diameter of the pipe. These adapters should be installed and inspected in conjunction with a robust service and maintenance program.

The Modular OmniPass Adapter can be installed in any deluge system where corrosion and nozzle blockages are a problem.

NOTICE

The Modular OmniPass Adapter described herein must be installed and maintained in compliance with this document, and with the applicable standards of the National Fire Protection Association, in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of this device. Modular OmniPass Adapters manufactured and supplied by Tyco Fire Protection Products under license from RigDeluge Global Limited.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

Technical Data

Approvals
None

Thread Connection
1 x 1 Inch NPT

Adapter Lengths
Refer to Figure 1

Hydraulic Data
Refer to Graph A

Discharge Coefficient Data
Refer to K-Factor Reduction

Material
Brass or APTICOTE 400N Coated Brass



Design Criteria

Hydraulic Calculations

Hydraulic calculations for deluge systems are made as part of the piping system design to verify that the minimum required flowing pressure is available at each nozzle in the system.

Note: Recalculate pressure losses when retrofitting existing systems.

The equivalent pipe length for flow across a single Modular OmniPass Adapter installed perpendicular to the flow in various pipe sizes is shown in Table A.

Additional pressure drops caused by the Modular OmniPass Adapter based on system flow rates in various pipe sizes are shown in Graph A.

K-Factor Reduction

Each deluge nozzle will have an 11% reduction in K-Factor when installed via a Modular OmniPass Adapter and in clean water.

Location Criteria

Install the Modular OmniPass Adapter in a supply pipe that has a minimum 1 inch inside diameter and a maximum 3 inch inside diameter. Only one Modular OmniPass Adapter will service a deluge nozzle.

Compatible Nozzle	Adapter Pipe Thread Connection ANSI B1.20.1 NPT Inch (DN)		Characteristics Common to All Adapter Sizes						Adapter Size	Characteristics per Adapter Size			
			Dimensions Inches (mm)							Dimensions Inches (mm)		Slotted Extension Segments	Weight lbs. (kg)
	A	B	C	D	E	F	G	H		J	L		
Type HV*	1 (DN25)	1 (DN25)	0.56 (14,3)	0.56 (14,3)	0.69 (17,5)	0.75 (19,1)	1.25 (31,8)	1.63 (41,4)	MOD 1	6.01 (152,6)	4.76 (120,9)	1	0.8 (0,36)
									MOD 2	7.70 (195,6)	6.45 (163,8)	2	0.9 (0,40)
									MOD 3	9.40 (238,7)	8.15 (207,0)	3	1.0 (0,44)

* Type HV nozzles featuring 1 Inch NPT threads only

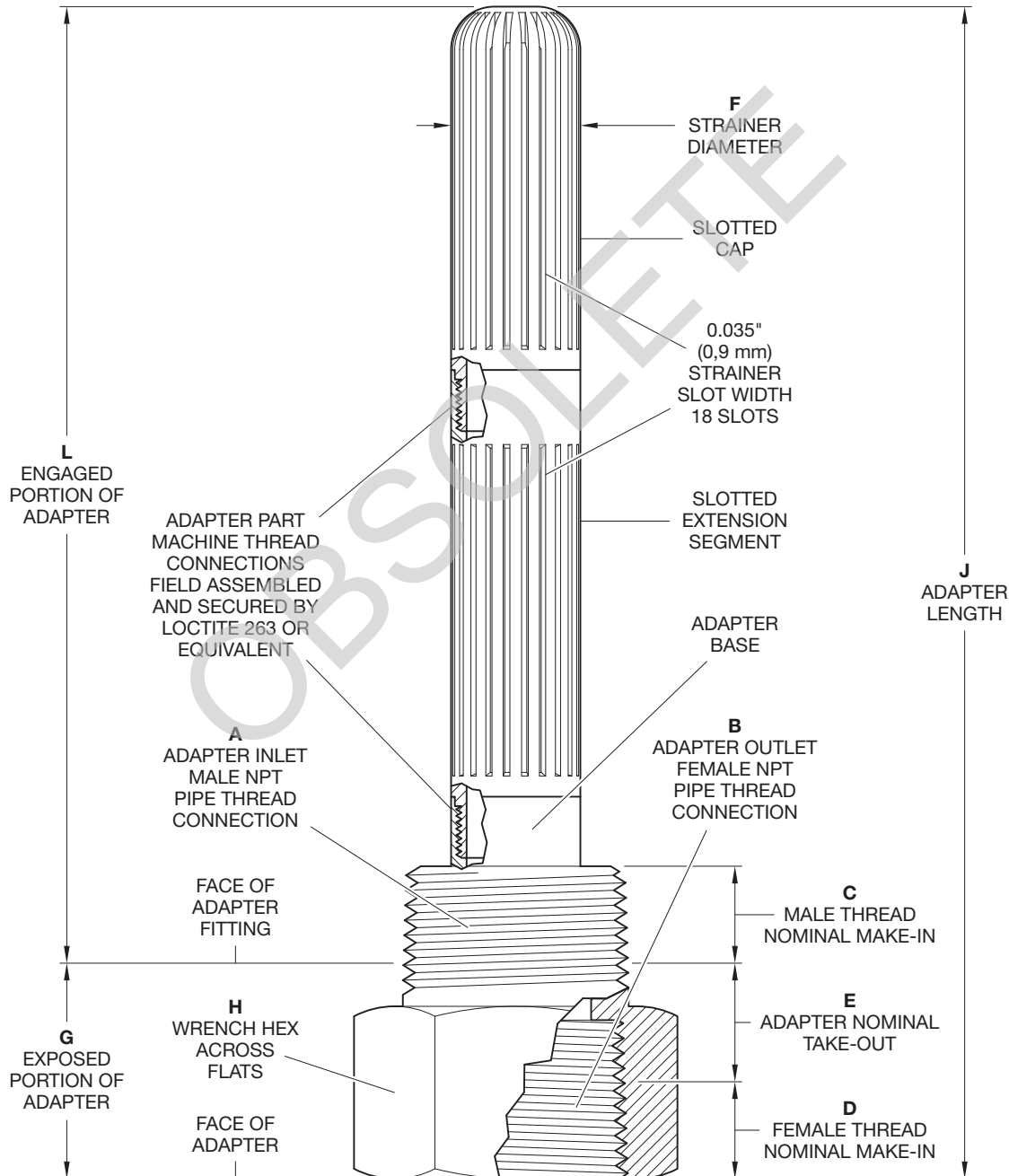
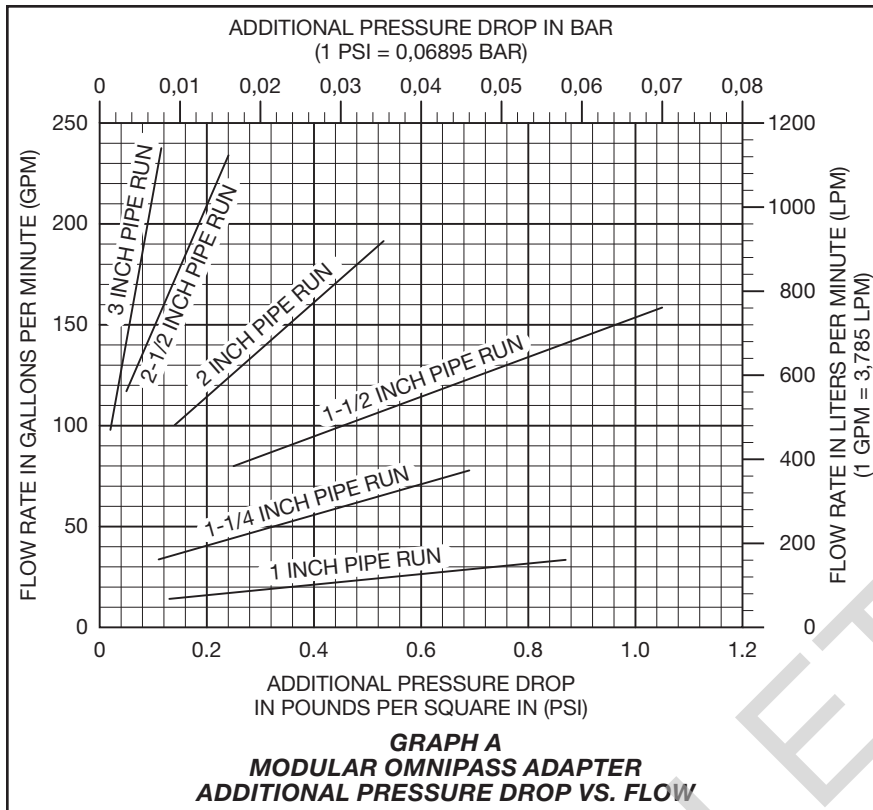


FIGURE 1
MODULAR OMNIPASS ADAPTER
ASSEMBLY AND DIMENSIONS



Tee Run Nominal Pipe Size Inch (DN)	Equivalent Length of Pipe Decimal Feet (meters)
1 (DN25)	N/A
1-1/4 (DN32)	1.70 (0,52)
1-1/2 (DN40)	1.00 (0,30)
2 (DN50)	1.50 (0,46)
2-1/2 (DN65)	1.50 (0,46)
3 (DN80)	2.90 (0,88)

TABLE A
MODULAR OMNIPASS ADAPTER
EQUIVALENT LENGTH OF PIPE
PER TEE RUN SIZE

Installation

Install Modular OmniPass Adapters in accordance with this section.

General Instructions

A leak-tight fitting joint should be obtained by applying pipe-thread sealant to the adapter male inlet threads and wrench-tightening using a wrench accommodating the adapter wrench hex (Ref. Figure 1).

Adapter Installation

Step 1. Apply LOCTITE 263 to male threads of extension and cap and assemble onto Modular OmniPass Adapter base (Ref. Figure 1)

Step 2. Apply pipe-thread sealant to adapter base male pipe threads

Step 3. Hand-tighten adapter into adapter fitting; do not apply force to adapter strainer

Step 4. Apply wrench to adapter wrench hex

Step 5. Wrench-tighten adapter to obtain leak-tight joint either 1-1/4 to 1-1/2 turns beyond hand-tightened or by applying minimum-to-maximum torque of 20 to 30 ft.-lbs. (26,8 to 40,2 Nm).

NOTICE

Higher levels of torque can distort the adapter with consequent leakage

or impairment of the adapter and the installed nozzle.

Step 6. Install Type HV nozzle in accordance with technical data sheet TFP815.

Care and Maintenance

The Modular OmniPass Adapter must be maintained and serviced in accordance with this section.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, permission to shut down the affected fire protection system must be obtained from the proper authorities and all personnel who may be affected by this action must be notified.

The Modular OmniPass Adapter must never be painted, plated, coated or altered in any way after leaving the factory; otherwise, the performance may be impaired.

Care must be exercised to avoid damage to the adapters before, during, and after installation. Adapters damaged by dropping, striking, wrench twist slippage, or the like, must be replaced.

Frequent visual inspections are recommended to be initially performed for adapters installed in potentially corro-

sive atmospheres to verify the integrity of the materials of construction as they may be affected by the corrosive conditions present for a given installation. Thereafter, annual inspections by NFPA 25 are required.

Water spray fixed systems for fire protection service require regularly scheduled care and maintenance by trained personnel. In addition to inspecting nozzles for proper spray performance during water flow trip tests of the system, it is recommended that nozzles be periodically inspected for broken or missing parts (including dust caps where applicable), loading/obstructions, or other evidence of impaired protection. The inspections should be scheduled in accordance with a robust service and maintenance program. After each discharge of the system each Modular OmniPass Adapter installed is to be removed and cleaned, and the pipe should be flushed to remove collected pipe debris in the system.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (e.g., NFPA 25), in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

It is recommended that water spray fixed systems be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number (P/N).

Modular OmniPass Adapter

Specify: Modular OmniPass Adapter, (specify material), Size (specify), P/N (specify):

Brass

MOD 156-491-0-100
MOD 256-491-0-200
MOD 356-491-0-300

APTICOTE 400N Coated Brass

MOD 156-491-0-101
MOD 256-491-0-201
MOD 356-491-0-301

OBSOLETE