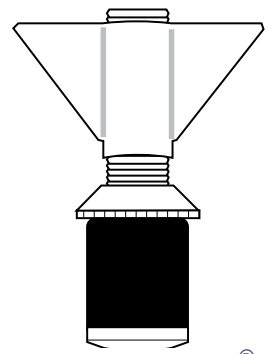


HFT PIPESTOPPERS®

Short Form Catalogue

HFT Pipestoppers® Product Lines

Introduction



HFT PIPESTOPPERS®

HFT® purchased a company called Hiltlake in 1999. As they were supplying our Nylon Purging Plugs, when they came up for sale, we decided to purchase the whole company and the manufacturing plant.

With the purchase, came considerable expertise in the manufacture and sale of other pipe plugs for non welding applications.

Taking over the complete order book was quite a challenge, but we were very soon increasing sales by adding parts of our Inflatable Weld Purging Systems as Inflatable Pipestoppers.

The manufacturing of Aluminium Plugs grew and grew to such an extent that we have a full time production line now manufacturing all sizes for stock, to put on our shelves next to the inflatable stoppers and the Nylon Plugs.

The Mechanical Plugs ranges have now been added to with the introduction of Steel plugs and the lightweight Inflatable Stopper range has been joined by our Inflatable Pneumatic Rubber Plugs.

Completing our total range are our two Freeze Plug products. The Qwik-Freezer™ that uses liquid CO₂ to freeze liquid in pipes and the Accu-Freeze™ that uses liquid nitrogen.

We can freeze any liquid in pipe sizes up to 12" with solid leak tight, pressure resistant Ice Plugs, so that pipe lines can be repaired without having to shut down a plant and drain the liquid, which probably costs significant sums.

The Accu-Freeze™ in addition can be operated remotely, making it an ideal product for Nuclear plant activities where repairs need to be carried out with the minimum of personnel exposure time.

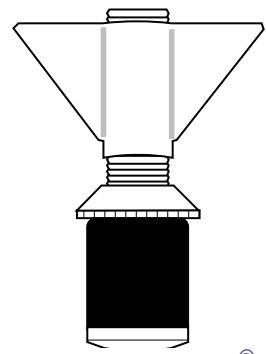
The following catalogue provides full details of our ranges to date.



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HFT PIPESTOPPERS®

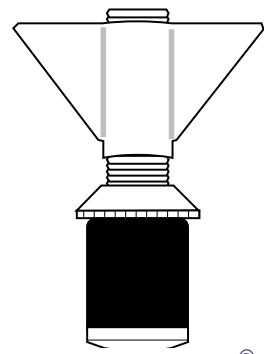
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Nylon Plugs



HFT PIPESTOPPERS®



HFT Pipestoppers® **Nylon Pipe Plugs** are suitable for a myriad of applications. They are mostly used for weld testing, leak testing of pipework fabrications, weld purging or simply stopping to prevent the ingress of dirt, rodents and other unwanted material. However there are over 100 different applications for these plugs.

These plugs are constructed from injection moulded nylon components and rubber rings. They have the advantages of being light, non rusting easy to expand and can be dismantled for cleaning purposes.

The grade of nylon chosen is pure nylon 6 which has considerable wear characteristics and makes them stronger and more robust than other plastic plugs.

These plugs will provide airtight seals and in tests with plastic pipes they are capable of sealing against pressures from 60 Psi - 4 bar, to over 100 Psi - 7 bar.

Effective sealing is simple, insert the plug into a pipe opening and tighten the wing nut clockwise. The rubber ring will expand and provide a positive seal. To remove simply reverse the process.

APPLICATIONS

They are in normal usage for plumbing operations in a wide variety of industries, including domestic and industrial water and drainage systems.

Also for ducting and conduit, plastic pipe bending, swimming pools, masking in painting and casting industries and many others.

SOLID SHAFT PLUGS

Sizes available are for pipe bore sizes

Nominal	I.D. Range	Psi	Bar
½"	12 - 16 mm	100-150*	7-10*
¾"	18 - 24 mm	150*	10*
1"	23 - 32 mm	130*	9*
1¼"	31 - 42 mm	70*	5*
1½"	37 - 54 mm	60*	4*

HOLLOW SHAFT PLUGS

With 10mm BSP threaded waterway:

Nominal	I.D. Range	Psi	Bar
½"	12 - 16 mm	100-150*	7-10*
¾"	18 - 24 mm	150*	10*
1"	23 - 32 mm	130*	9*
1¼"	31 - 42 mm	70*	5*
1½"	37 - 54 mm	60*	4*

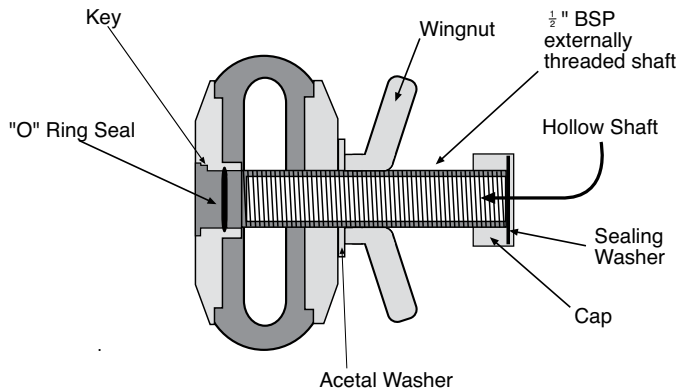
With ½" BSP threaded waterway:

Nominal	I.D. Range	Psi	Bar
2"	48 - 65 mm	18 - 50*	1.2 -3.4*
2 ½"	60 - 77 mm	34.5*	2.3*
3"	70 - 87 mm	15*	1.0*
3.5"	83 - 97 mm	-	-
4"	95 - 110 mm	15*	1.0*
4.5"	114 - 130 mm	-	-
5"	121 - 142 mm	12*	0.8*
6"	148 - 162 mm	10*	0.6*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material.
* Pressure tests were carried out at 18°C (64.4°F). As working temperature is increased, it can be expected that pressure ratings must be reduced.

HFT PIPESTOPPERS®

TECHNICAL INFORMATION



As can be seen from the sectioned view, the unique assembly of the central waterway into the base plate via a snap taper fit and "O" ring seal provides a positive water and air tight joint. The provision of a friction reducing acetal copolymer thrust washer inserted between the wing nut and top plate facilitates easy expansion and release.

Sizes available are for pipe bore sizes.

These plugs conform to ISO Standards for low pressure testing and sealing of pipes.

NOTES:

- They are slightly less efficient at the extreme higher limits of expansion than in the middle and lower ranges
- Pressure testing depends upon the cleanliness and condition of the pipe bore
- Nitrile, silicone and viton rubber seals to resist different chemicals and higher temperatures are available from stock as accessories
- Operators using air or other gases to make leak tests must take the appropriate precautions



ALUMINIUM EXPANDING PLUGS

To complete the HFT Pipestoppers® range of **Nylon Expanding Plugs** we offer all sizes of **Aluminium Plugs**.

These are provided in sizes from 3" (75 mm), for more arduous duties such as long immersion in water and higher temperature and are manufactured with 1/2", 1", 2" (12 mm, 25 mm, 50 mm) outlets.

The standard seals are made from natural rubber and special rubber seals are available for chemical applications where greater resistance is required.



INFLATABLE STOPPERS

Available as **Cylindrical**, **Spherical** or **Special Stoppers** for use when breaking into existing lines for repairs, maintenance and new sections.

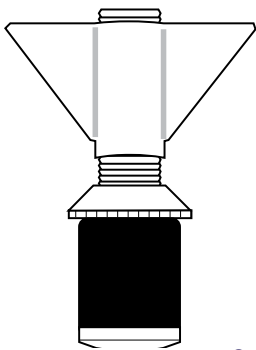
These are especially useful where entrance and exit apertures are difficult to access with solid plugs.

Each stopper is available in 1" (25 mm) sizes from 2" (50 mm) up to 82" (2 m) as standard and larger to special order.



Nylon Plugs

Test Plug Kits



HFT PIPESTOPPERS®

Automotive Test Plug Kit



The Pipestoppers® division of Huntingdon Fusion Techniques HFT® manufactures plugs and kits of plugs for leak testing a variety of heat exchangers, particularly radiators and inter-coolers for cars and trucks.

For leak testing automotive car radiators, ready made kits of plugs to make the sealing of all holes easy and fast for reliable leak testing.

The plugs are made from nylon and natural rubber, so they will not corrode and seize up. They can also be totally dismantled for cleaning and part replacement

The Automotive Test Plug Kit contains:

- | | |
|---------------------------|----------------------------|
| 2 x ½" Solid Shaft Plugs | 2 x ½" Hollow Stem Plugs |
| 2 x ¾" Solid Shaft Plugs | 2 x ¾" Hollow Stem Plugs |
| 2 x 1" Solid Shaft Plugs | 2 x 1" Hollow Stem Plugs |
| 2 x 1¼" Solid Shaft Plugs | 2 x 1¼" Hollow Stem Plugs |
| 2 x 1½" Solid Shaft Plugs | 2 x 1½" Hollow Shaft Plugs |
| 2 x 2" Solid Shaft Plugs | 2 x 2" Hollow Shaft Plugs |

Also included are 4 x 0.5" BSP nipple caps and 4 x 0.5" BSP swivel nuts and hose tails. Plus the rigid ABS plastic storage case with special cut to size foam.

Size	QTY	Range (mm)	Pressure	
Solid shaft			Psi	Bar
0.5"	2	12 - 16	100 - 150*	7 - 10*
0.75"	2	18 - 24	150*	10*
1.0"	2	23 - 32	130*	9*
1.25"	2	31 - 42	70*	5*
1.5"	2	37 - 54	60*	4*
Hollow shaft				
0.5"	2	12 - 16	100 - 150*	7 - 10*
0.75"	2	18 - 24	150*	10*
1.0"	2	23 - 32	130*	9*
1.25"	2	31 - 42	70*	5*
1.5"	2	37 - 54	44*	3*
2"	2	48 - 65	18 - 50*	1.2 - 3.4*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material.

For larger diameters see the details of the commerical vehicle leak test plug kit. All plugs are available as individual items for replacement purposes.

Sizes from 1.5" (38 mm) and above have an ½" BSP threaded hollow shaft for connecting air lines to pressurise the items under test.

See next page for Commerical Vehicle Radiator and Inter-cooler test plug kit.

HFT PIPESTOPPERS®

Commercial Test Plug Kit



For leak testing the commercial vehicle components with the large ports, a separate HFT Pipestoppers® kit is available with large size plugs.

The Commercial Test Plug Kit contains:

2 x 2½" Hollow Shaft Plugs 2 x 5" Hollow Shaft Plugs
 2 x 3" Hollow Shaft Plugs 2 x 6" Hollow Shaft Plugs
 2 x 4" Hollow Shaft Plugs 4 x ½" BSP Nipple Caps
 4 x ½" BSP Swivel Nut & Hose Tail

Also included are 4 x 0.5" BSP nipple caps and 4 x 0.5" BSP swivel nuts and hose tail. Plus the rigid ABS plastic storage case with special cut to size foam

These plugs all have hollow shafts with 0.5" BSP threads for the connection of an air hose.

Size	QTY	Range (mm)	Pressure	
Hollow shaft			Psi	Bar
2.5	2	60 - 77	34.5*	2.3*
3.0	2	70 - 87	15*	1.0*
4.0	2	95 - 110	15*	1.0*
5.0	2	121 - 142	12*	0.8*
6.0	2	148 - 162	10*	0.6*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material.

Cast Aluminium Expanding Drain and Pipe Plugs

To complete the range of **Expanding Plugs** we offer an extensive range of Cast aluminium plugs. These are provided firstly in sizes up to 6" for more arduous duty such as long immersion in water and higher temperature applications are secondly in sizes up to 36" (600) diameter where it would be uneconomical to manufacture **Nylon Plugs**.

They are manufactured with ½", 1" and 2" outlets (13, 25 and 50 mm).

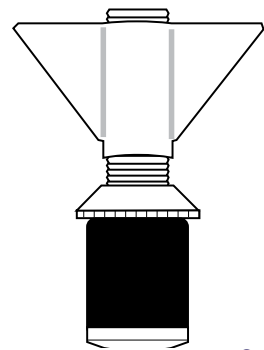


Hollow shaft plugs being prepared for testing an intercooler



Nylon Plugs

Test Plug Kits



HFT PIPESTOPPERS®

Pool and Spa Test Plug Kit



For leak testing the typical pipework found in swimming pool and spa installations, the HFT Pipestoppers® division of Huntingdon Fusion Techniques HFT® manufactures ready made kits of plugs to make the sealing of all holes easy and fast for reliable leak testing.

The plugs are made from nylon and natural rubber, so they will not corrode and seize up. They can also be totally dismantled for cleaning and part replacement.

Each kit comprises:

- 1 off 4" U-gauge, bulb, Y union and hoses
- 2 off 1.5" Nylon Plugs
- 2 off 2" Nylon Plugs
- 2 off 3" Nylon Plugs
- 2 off 4" Nylon Plugs
- 1 off Blue ABS carry case with cut foam liner
- 1 off 0.5" BSP Nipple caps
- 1 off 0.5" Swivel nut with free tail piece

For larger diameters see the details of the Drain Test Plug Kit. All plugs are available as individual items for replacement purposes.

Plug sizes from 1.5 inch and above have an ½" BSP threaded hollow shaft for connecting air lines to pressurise the items under test.

Plugs size 1.5" are available with a narrow bore threaded stem or are available as a solid stem.

Effective sealing is simple, insert the plug into a pipe opening and tighten the wing nut clockwise. The rubber ring will expand and provide a positive seal. To remove simply reverse the process.



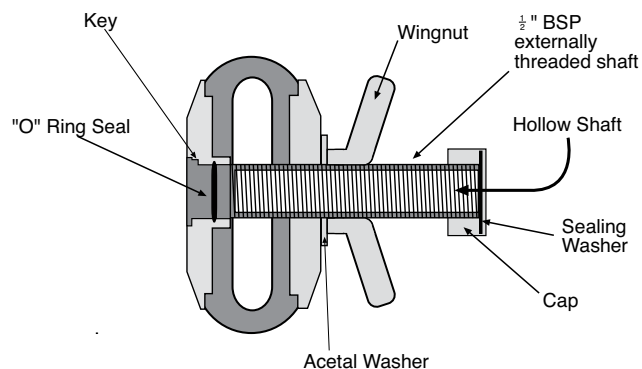
The manometer is used to measure pressure drop in a pipework system and thereby establish where there are leaks.

The plugs will seal the open pipes. An air hose with a ½" BSP threaded female end can be screwed straight onto the plugs with the ½" BSP hollow shaft (larger diameter plugs).

Alternatively, one of the nipple caps provided in the kit can be used. The nipple cap is screwed onto the shaft and a hose can be connected to the nipple and sealed with a worm drive clip (jubilee clip). Hoses can be pushed straight onto the shaft of the smaller plugs and sealed with a clip, or they can be screwed on with a 10 mm threaded connector.

HFT PIPESTOPPERS®

TECHNICAL INFORMATION



As can be seen from the sectioned view, the unique assembly of the central waterway into the base plate via a snap taper fit and "O" ring seal provides a positive water and air tight joint. The provision of a friction reducing acetal copolymer thrust washer inserted between the wing nut and top plate facilitates easy expansion and release.

Sizes available are for pipe bore sizes.

These plugs conform to ISO Standards for low pressure testing and sealing of pipes.

Notes:

- 1) They are slightly less efficient at the extreme higher limits of expansion than in the middle and lower ranges.
- 2) Pressure testing depends upon the cleanliness and condition of the pipe bore.
- 3) Nitrile, silicone and viton rubber seals to resist different chemicals and higher temperatures are available from stock as accessories.
- 4) Operators using air or other gases to make leak tests must take the appropriate precautions.

HFT Pipestoppers® Nylon Plug Range						
Size		Weight	Outside measurement			
In	mm	gms	Unexpanded		Max. expansion	
			In	mm	In	mm
0.5	12.7	10	0.47	12	0.62	16
0.75	19.0	15	0.70	18	0.94	24
1.0	25.4	20	0.90	23	1.25	32
1.25	31.8	35	1.22	31	1.65	42
1.5	38.1	45	1.45	37	1.69	54
2.0	50.8	80	1.88	48	2.55	65
2.5	63.5	130	2.36	60	3.03	77
3.0	76.2	140	2.75	70	3.42	87
3.5	88.9	148	3.26	83	3.81	97
4.0	101.6	160	3.74	95	4.33	110
4.5	114.3	216	4.48	114	5.11	130
5.0	127.0	280	4.76	121	5.59	142
6.0	152.4	390	5.82	148	6.37	162

HFT Pipestoppers® Nylon Expanding Plugs

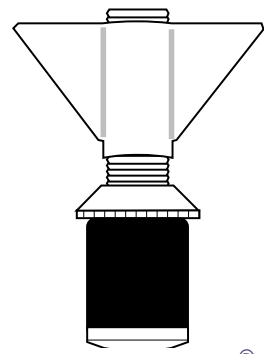
HFT Pipestoppers® nylon plugs are light, non rusting easy to expand and can be dismantled for cleaning purposes and part replacement if required.

All plugs have hollow shafts for gas or liquid testing or draining and are supplied with a sealing cap.



© HFT®

Aluminium Pipe Plugs



HFT PIPESTOPPERS®

Leak Test and Isolation Plugs



Huntingdon Fusion Techniques HFT® manufacture a large range of **Aluminium Plugs** to compliment the range of small diameter **Nylon Plugs**.

They are manufactured for pipe diameters of 1.5" to 36", with ½", 1" and 2" BSP outlets / vents / waterways / bypass as shown in the chart overleaf.

The plugs have high strength, tough, cast aluminium plates. They are simple to install with their friction free washers enabling easy turning for the center wing nuts. They do not rust or seize up.

The plugs are also used for total sealing of apertures in large tanks or vessels being transported, either to prevent the tank internals being subjected to contamination by corrosive gases and liquids, or to prevent the escape of pressurised inert gas that is used to protect the internals during transportation.

The standard seals are made from natural rubber and special rubber seals are available for applications where greater resistance to chemicals and / or temperatures is required.

- HFT® **Aluminium Plugs** conform to British Standard BS 8005 for low pressure testing and sealing of pipes.
- Typical applications for aluminium plugs include plumbing operations, domestic and industrial water drainage systems as well for offshore operations. They are negatively buoyant for sub-sea work.
- For ducting and conduit, swimming pools, masking in painting and casting industries.
- Suitable for arduous duties such as immersion in chemicals and / or higher temperatures.
- Used in all kinds of pipes and materials for leak testing, isolation, sealing, stopping and weld purging.

HFT PIPESTOPPERS®

Technical Information Aluminium Pipe Plugs

Diameter		Range	Pressure	Weight
Inches	Outlet	(mm)	Bar	(kg)
1.5	½"	36 - 48	3	0.1
2	½"	49 - 60	1 - 3	0.25
2.5	½"	62 - 75	2.0	0.3
3	½"	73 - 85	1	0.3
3.5	½"	84 - 95	1	0.3
4	½"	94 - 110	1	0.3
4.5	½"	108 - 120	1	0.5
5	½"	121 - 135	1	0.7
6	1"	148 - 164	0.6	0.6
7	1"	178 - 185	0.3	1
8	1"	175 - 205	0.3	1.4
9	1"	213 - 230	0.3	2
10	1"	240 - 255	0.3	2.2
12	1"	298 - 315	0.3	3.5
14	1"	340 - 375	0.3	4.3
15	1"	365 - 400	0.3	4.5
16	1"	390 - 425	0.3	6
18	1	440 - 475	0.3	7.4
20	2"	495 - 520	0.3	14
21	2"	520 - 555	0.3	16
24	2"	590 - 630	0.3	20
26	2"	640 - 675	0.13	26
27	2"	660 - 690	0.13	26
28	2"	680 - 705	0.13	27
30	2"	735 - 760	0.13	28
32	2"	790 - 825	0.13	30
34	2"	840 - 880	0.13	35
36	2"	890 - 925	0.13	36



HFT Pipestoppers® Nylon Plugs

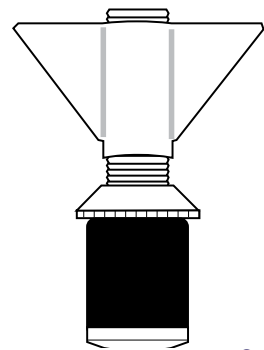


This long established range of **Nylon Pipe Plugs** are manufactured from injection moulded components and rubber expansion rings.

The sizes available are as follows:

Diameter	
Solid shaft inches	Range (mm)
½	12 - 16
¾	18 - 24
1	23 - 32
1 ¼	31 - 42
1 ½	37 - 43
Small hollow shaft	Range (mm)
½	12 - 16
¾	18 - 24
1	23 - 32
1 ¼	31 - 42
1/2" BSP Threaded Hollow shaft	Range (mm)
1 ½	37 - 54
2.0	48 - 65
2 ½	60 - 77
3.0	70 - 87
3 ½	83 - 97
4.0	95 - 110
4 ½	114 - 130
5	121 - 142
6	148 - 162

Steel Expanding Plugs - Single



HFT PIPESTOPPERS®



© HFT®

For pressure testing and stopping all pipework from 1.5 inch (38 mm) upwards.

To complete the HFT **Pipestoppers®** range of **Nylon** and **Aluminium Expanding Plugs** we offer all sizes of **Steel Expanding Plugs**.

These are provided in sizes from 1.5", for more arduous duties such as long immersion in water and higher temperature.

The plugs are merely inserted into the pipe and the wings tightened to force the top and bottom plates together, thereby expanding the rubber ring to seal tightly in the pipe.

They are manufactured with ½", 1" and 2" outlets as shown in the chart overleaf.

The standard seals are made from natural rubber and special rubber seals are available for chemical applications where greater resistance is required.

All plugs conform to British Standards BS 8005 for low pressure testing and sealing of pipes.

HFT PIPESTOPPERS®

TECHNICAL INFORMATION STEEL EXPANDING PLUGS

Diameter			Pressure	Weight
Inches	Outlet	Range (mm)	Bar	KG
1.5	½"	38.1 - 49	1 - 3	0.25
2	½"	49 - 60	1 - 3	0.25
2.5	½"	61 - 75	2.0	0.3
3	½"	73 - 85	1.0	0.3
3.5	½"	84 - 95	1.0	0.3
4	½"	94 - 110	1.0	0.3
6	½"	146 - 163	0.6	0.6
7	1"	170 - 195	0.3	1
8	1"	191 - 211	0.3	1.4
9	1"	216 - 235	0.3	2
10	1"	244 - 260	0.3	2.2
12	1"	275 - 305	0.3	3.5
14	1"	340 - 375	0.3	4.3
15	1"	365 - 400	0.3	4.5
16	1"	390 - 425	0.3	6
18	1"	440 - 475	0.3	7.4

ALUMINIUM EXPANDING PLUGS

In addition to **Steel Plugs** our product range includes **Aluminium Plugs**.

These are provided in sizes from 3" (75 mm), for where steel may not be the preferred material of manufacture.

The standard seals are made from natural rubber and special rubber seals are available for chemical applications where greater resistance is required.



NYLON EXPANDING PLUGS



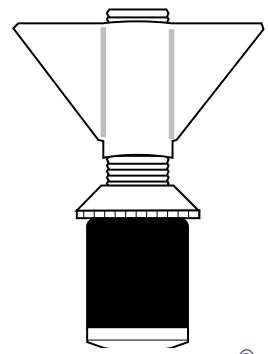
This long established range of **Nylon Expanding Pipe Plugs** are manufactured from injection moulded components and rubber expansion rings.

The sizes available are as follows: -

Diameter			
Inches	Range (mm)	Psi	Bar
Solid shaft			
½	12 - 16	100 - 150	7 - 10
¾	18 - 24	150*	10*
1	23 - 32	130*	9*
1¼	31 - 42	70*	9*
1½	37 - 54	60*	9*
Small hollow shaft			
½	12 - 16	100 - 150*	7 - 10*
¾	18 - 24	150*	10*
1	23 - 32	130*	9*
1¼	37 - 54	70*	5*
Hollow shaft			
1½	37 - 54	44*	3*
2	48 - 65	18 - 50*	1.2 - 3.4*
2½	60 - 77	34.5*	2.3*
3	70 - 87	15*	1.0*
4	95 - 110	15*	1.0*
5	121 - 142	12*	0.8*
6	148 - 162	10*	0.6*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material.

Steel Expanding Plugs - Double



HFT PIPESTOPPERS®



© HFT®

For pressure testing and stopping all pipework from 1.5 inch (38 mm) upwards.

To complete the Pipestoppers® Range of **Nylon Expanding Plugs**, **Aluminium Plugs**, **Steel Drain Plugs** and **Inflatable Stoppers**, we offer **Double Steel Plugs** for increased stability and higher pressure duties.

The test pressure capability of the single stoppers is limited and the double versions increase that capability, while offering a greater stability in the pipe.

As **Single Plugs** approach their pressure limits, they can tend to tip over like a butterfly valve. The **Double Plugs** will prevent the tipping and guarantee the seal.

They are manufactured with ½", 1" and 2" outlets as shown in the chart overleaf.

The standard seals are made from natural rubber although special rubber seals are available for improved chemical resistance and higher temperature applications.

All plugs conform to British Standards BS 8005 for low pressure testing and sealing of pipes.

TECHNICAL INFORMATION FOR DOUBLE STEEL EXPANDING PLUGS

Diameter		Range	Pressure	Weight
Inches	Outlet	(mm)	Psi	(kg)
1.5	½"	36 - 48	7	0.25
2	½"	49 - 60	7	0.25
2.5	½"	61 - 75	7	0.27
3	½"	73 - 85	7	0.30
3.5	½"	84 - 95	7	0.30
4	½"	94 - 110	7	0.30
4.5	½"	108 - 120	7	0.45
5	½"	121 - 138	7	0.50
5.5	½"	138 - 148	7	0.55
6	½"	146 - 163	7	0.60
7	1"	170 - 195	7	0.90
8	1"	191 - 211	7	1.40
9	1"	216 - 235	7	1.70
10	1"	244 - 260	7	2.20
11	1"	275 - 305	7	2.75
12	1"	296 - 314	7	3.50
14	1"	340 - 375	5	4.00
15	1"	365 - 400	5	5.00
16	1"	390 - 425	5	6.00

INFLATABLE STOPPERS



Available as **Cylindrical**, **Spherical** or **Special Stoppers** for use when breaking into existing lines for repairs, maintenance and new sections.

These are especially useful where entrance and exit apertures are difficult to access with solid plugs.

Each bag is available in 1" (25 mm) sizes from 2" (50 mm) up to 82" (2 m) as standard and larger to special order.

These stoppers are ideal for debris stopping and to prevent the ingress of foreign bodies.

NYLON EXPANDING PLUGS



This long established range of **Nylon Expanding Pipe Plugs** are manufactured from injection moulded components and rubber expansion rings.

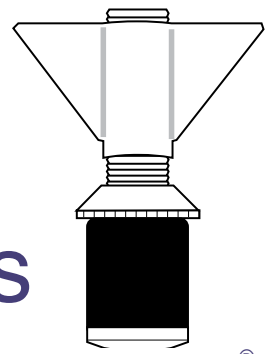
The sizes available are as follows:

Diameter			
Inches	Range (mm)	Psi	Bar
Solid shaft			
½	12 - 16	100 - 150*	7 - 10*
¾	18 - 24	150*	10*
1	23 - 32	130*	9*
1 ¼	31 - 42	70*	5*
1 ½	37 - 43	60*	4*
Small hollow shaft			
½	12 - 16	100 - 150*	7 - 10*
¾	18 - 24	150*	10*
1	23 - 32	130*	9*
1 ¼	31 - 42	70*	5*
Hollow shaft			
1 ½	37 - 54	44*	3*
2.0	48 - 65	18 - 50*	1.2 - 3.4*
2 ½	60 - 77	34.5*	2.3*
3.0	70 - 87	15*	1.0*
4.0	95 - 110	15*	1.0*
5.0	121 - 142	12*	0.8*
6.0	148 - 162	10*	0.6*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material. All nylon hollow shaft plugs come with a ½" outlet.

PlugFast™

Peripheral Sealing Plugs



HFT PIPESTOPPERS®



© HFT®

Peripheral Sealing Steel Plugs are manufactured in a number of different diameters, including sizes not covered by Aluminium plugs from 17 - 95" (432 - 2400 mm)Ø. These are manufactured both as a single port series and a double port option.

Peripheral sealing allows the plates to be closed evenly with ease and even seal in pipes with slight out of roundness or ovality. Special diameters can be produced on request.

The centre Stem is 2" (50 mm diameter) and is threaded to accept a 2" bsp screw cap.

TWIN PORT PERIPHERAL SEALING STEEL PLUGS

The second port is normally fitted with a 4" (100 mm) plain bore and supplied complete with a 4" (100 mm) steel drain test plug.

This port is normally offset to the outer edge of the test plug allowing the water to be easily drained from the pipeline after testing, without having to remove the testplug. Alternative ports are available to order.

HFT PIPESTOPPERS®



METHOD OF USE:

- Select the correct size of plug to suit the internal diameter of the pipe.
- Remove any grease or foreign material from installation point.
- Ensure plug is inserted square to pipe wall.
- Tighten peripheral nuts progressively in diametrically opposite order. They must be tightened equally. Over-tightening of nuts may result in distortion of the clamp ring.
- Ensure sealing cap is tight. If the plug has a second outlet ensure that this is also tightly sealed.
- For safety: these plugs must be supported by an engineered brace to withstand the calculated back pressure. They must NOT be used without such a brace.

SIZE INFORMATION

Nominal pipe size metric / mm	Min/Max operating range inches	Nominal pipe size imperial	Min/Max operating range inches
432	419 - 445	17"	16.5 - 17.5"
450	437 - 463	18"	17.5 - 18.5"
475	462 - 488	19"	18.5 - 19.5"
500	487 - 513	20"	19.5 - 20.5"
525	512 - 538	21"	20.5 - 21.5"
600	587 - 613	22"	21.5 - 22.5"
675	662 - 688	23"	22.5 - 23.5"
700	687 - 713	24"	23.5 - 24.5"
750	737 - 763	26"	25.5 - 26.5"
800	787 - 813	27"	26.5 - 27.5"
825	812 - 838	28"	27.5 - 28.5"
850	837 - 863	30"	29.5 - 30.5"
900	887 - 913	31"	30.5 - 31.5"
950	937 - 963	32"	31.5 - 32.5"
975	962 - 988	33"	32.5 - 33.5"
1000	987 - 1013	34"	33.5 - 34.5"
1050	1037 - 1063	36"	35.5 - 36.5"
1125	1112 - 1138	38"	37.5 - 38.5"
1150	1137 - 1163	39"	38.5 - 39.5"
1200	1187 - 1213	40"	39.5 - 40.5"
1250	1237 - 1263	42"	41.5 - 42.5"
-	-	47"	46.5 - 47.5"
-	-	48"	47.5 - 48.5"



Cylindrical or Spherical inflatable stoppers for use when breaking into existing lines for repairs, maintenance and new sections.

These are especially useful where entrance and exit apertures are difficult to access with solid plugs.

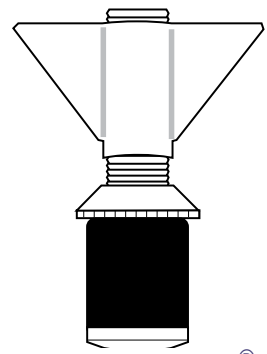
Each bag is available in 1" (25 mm) sizes from 2" (50 mm) up to 82" (2 m) as standard and larger to special order.

These stoppers are ideal for debris collection and to prevent the ingress of foreign bodies.



Both the metric and imperial sizes are with 2" BSP outlet size.

Inflatable Stoppers and Test Plugs



HFT PIPESTOPPERS®

***AN EASY WAY TO STOP THE FLOW OF GAS OR LIQUID
ALONG A PIPE OR DUCT, FOR COLLECTION OF DEBRIS AND
TO PREVENT INGRESS OF UNWANTED MATERIAL OR ANIMALS***



The HFT Pipestoppers® Division of Huntingdon Fusion Techniques HFT® manufactures a range of standard as well as non-standard Inflatable Stoppers for pipes, ducts and other shaped orifices.

The range includes **Spherical, Cylindrical, Special** like **Oil Chem** models as well as **Heat Protected** stoppers for use up to 300°C (572°F).

These versatile HFT® Inflatable Stoppers are used to service a wide variety of industrial applications including the isolation of voids in tanks to minimise volumes for weld purging applications.

All **Inflatable Stoppers** are manufactured with a strong internal inflatable bag made to the required shape and covered in waterproof sewn polyurethane coated nylon for low friction and to prevent the production of static electricity or accidental sparking.

MOST COMMONLY USED FOR

- Debris stopping during machining operations.
- Leak testing of pipework systems in commercial, domestic and industrial applications.
- Low pressure hydrostatic tests.
- On-site thermoforming of bends in ducting and conduit materials.
- Fibre-optic construction projects.
- Debris and animal barriers for overnight protection of pipelines.
- Plumbing operations.

The standard range of HFT Pipestoppers® Inflatable Stoppers are available for immediate delivery in a variety of shapes and formats with sizes ranging from 1 to 96" (25 to 2440 mm).

HFT PIPESTOPPERS®

DESCRIPTION

Standard Cylindrical Inflatable Stoppers are commonly used for stopping off pipes particularly where access is difficult. They are frequently used for testing new pipes and drains.

Spherical Inflatable Stoppers give less contact area than the Cylindrical version, but are very useful where access is limited. Since the position of the Inflatable Stopper in the pipe is not critical, it can be put at any angle. This is particularly useful when inserting into a small opening at the top of a pipe rather than at the end of the pipe.



Spherical Inflatable Stoppers

OTHER TEST PLUGS

HFT Pipestoppers® also manufacture a range of expanding pipe plugs. **Expanding Test Plugs** form a positive seal between surfaces and achieve an air and water-tight seal. Nylon, aluminium and steel plugs conform to ISO Standards and British Standard BS 8005 for low pressure testing and sealing of pipes.



SPECIFICATIONS

1" to 96" (25 to 2440 mm) Inflatable Stoppers have a 1.3 m hose length, 8 mm ID, 14 mm OD and are fitted with a standard Schrader valve.

It is generally accepted that the pressure which an Inflatable Stopper will hold back depends on five factors:

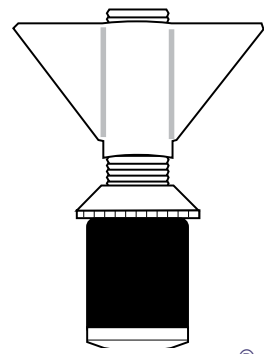
1. The surface of the pipe into which the Inflatable Stopper is to be inserted.
2. The friction resistance of the Inflatable Stopper cover material.
3. The total area of contact between the Inflatable Stopper and pipe.
4. Whether or not the Inflatable Stopper is supported.
5. The pressure inside the Inflatable Stopper itself.

A SIMPLE EXAMPLE:

A 4" nylon-covered Inflatable Stopper inflated to 10 Psi would withhold an upstream pressure, without danger of it sliding along the pipe, of 2.5 Psi in a normal cast iron pipe.

Size	Pressure Psi
1 - 6"	10
7 - 8"	8
9 - 10"	5
12 - 13"	4
18 - 30"	2
32 - 33"	1.5
36 - 42"	1
44 - 72"	0.5
80 - 96"	0.2

Inflatable Spherical Stoppers



HFT PIPESTOPPERS®

***SPHERICAL STOPPERS, WHEN DEFLATED, CAN BE PASSED THROUGH
RELATIVELY SMALL HOLES IN PIPES.***

***THIS ALLOWS THEM TO BE USED FOR MANY APPLICATIONS
WHERE ACCESS TO THE JOB SITE IS DIFFICULT.***



Since the position of the Inflatable Stopper in the pipe is not critical, it can be put at any angle.

This is particularly useful when inserting into a small opening at the top of a pipe rather than at the end of the pipe. No high pressure equipment is needed for inflation.

MOST COMMONLY USED FOR:

- Applications where only small entry ports are available.
- Isolating openings from environmental contamination
- Sealing pipes and ducts during washing of factories and larger plants or products.
- Emergency plugging or isolation of drainage points and sumps from spills.
- Sealing in pipes and ducts that are not to size.
- For difficult to access voids or spaces.
- Closing off pipes to be kept clean during maintenance.
- Weld purging of closing welds where a small retrieval port is available.

SPECIFICATIONS:

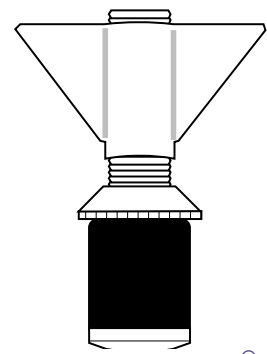
1" to 96" (25 to 2440 mm) Inflatable Stoppers have a W1.3 m hose length, 8 mm ID, 14 mm OD and are fitted with a standard Schrader valve.

It is generally accepted that the pressure which an Inflatable Stopper will hold back depends on five factors.

1. The surface of the pipe into which the Inflatable Stopper is to be inserted.
2. The friction resistance of the Inflatable Stopper cover material.
3. The total area of contact between the Inflatable Stopper and pipe.
4. Whether or not the Inflatable Stopper is supported.
5. The pressure inside the Inflatable Stopper itself.

HFT PIPESTOPPERS®

Inflatable Cylindrical Stoppers



HFT PIPESTOPPERS®

***AN EASY WAY TO STOP THE FLOW OF GAS OR LIQUID
ALONG A PIPE OR DUCT, FOR COLLECTION OF DEBRIS AND
TO PREVENT INGRESS OF UNWANTED MATERIAL OR ANIMALS***



HFT® Cylindrical Inflatable Stoppers are for line pipe applications where their great advantage of having a longer length than the diameter, prevents them from tipping over and losing the seal.

They are commonly used for stopping off pipes particularly where access is difficult. They are frequently used for testing new pipes and drains.

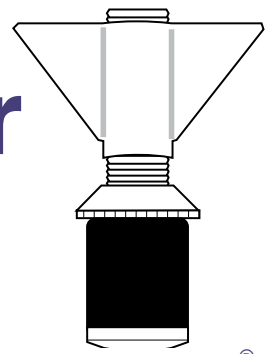
All **Inflatable Stoppers** are manufactured with a strong internal inflatable bag made to the required shape and covered in waterproof sewn polyurethane coated nylon for low friction and to prevent the production of static electricity or accidental sparking.

The standard range of Inflatable Stoppers are available for immediate delivery with sizes ranging from 1 to 96" (25 to 2440 mm) diameter.

MOST COMMONLY USED FOR

- Construction site drain testing operations.
- Debris stopping during machining operations.
- Leak testing of pipework systems in commercial, domestic and industrial applications.
- Low pressure hydrostatic tests.
- On-site thermoforming of bends in ducting and conduit materials.
- Fibre-optic construction projects.
- Debris and animal barriers for overnight protection of pipelines.
- Plumbing operations.
- Reduction of weld purging volume when welding headers onto stainless steel tanks.

Inflatable Rectangular and Square Stoppers



HFT PIPESTOPPERS®



The latest addition to the Inflatable Pipe Plugs and Stoppers Range of HFT®'s Pipestoppers® Division are the innovative Square and Rectangular Inflatable Stoppers.

Manufactured from robust material based on 40 years of experience manufacturing Inflatable Stoppers.

MOST COMMONLY USED FOR:

- Special applications such as blocking a chute so materials don't accidentally fall in.
- Protecting a square or rectangular pipe or duct from the entrance of debris, animals and other foreign objects as well as collecting machining oil or swarf when in the vertical position.

Each Stopper is fitted as standard with a Schraeder Valve for inflation and deflation, which is connected to a 1.2 metre long hose. Inflation can be carried out easily by connecting a hand or foot pump or compressor and deflation by depressing the pin inside the Valve.

The Standard Square Inflatable Stoppers are available in sizes from 5" x 5" to 80" x 80" and the Rectangular Inflatable Stoppers can be made to order.

Whatever your requirement or application, our full range of Inflatable Stoppers will ensure your pipes are blocked and free from debris.

HFT PIPESTOPPERS®



HFT Pipestoppers® division manufactures a range of expanding Aluminium pipe plugs that form a positive seal between surfaces and achieve an air and water-tight seal. **Aluminium Plugs** conform to ISO Standards and British Standard BS 8005 for low pressure testing and sealing of pipes.

OTHER HFT PIPESTOPPERS® PRODUCTS:



Nylon Expanding Plugs are light, non rusting easy to expand and can be dismantled for cleaning purposes and part replacement if required.



Inflatable Rubber Pipe Plugs are ideal for fast, reliable and safe stopping and blocking of pipes, joints, channels, inlets and a number of other uses.



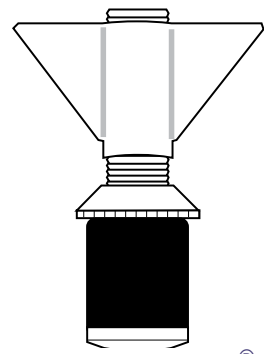
Spherical Inflatable Stoppers



Heat Resistant Covers can endure high temperatures, which protects the inflatable stoppers, preventing them being damaged or bursting.

They are reusable time and time again, without losing their heat protecting properties.

Inflatable Stoppers PetroChem™



HFT PIPESTOPPERS®

AN EASY WAY TO STOP THE FLOW OF GAS OR LIQUID ALONG A PIPE OR DUCT, FOR COLLECTION OF DEBRIS AND TO PREVENT INGRESS OF UNWANTED MATERIAL OR ANIMALS.

SUITABLE FOR USE IN PETROCHEMICAL APPLICATIONS WHERE HYDROCARBONS ARE PRESENT IN GAS OR LIQUID FORM.



The HFT Pipestoppers® Division of Huntingdon Fusion Techniques HFT® manufactures a range of standard as well as non-standard Inflatable Petrochemical Resistant Stoppers for pipes, ducts and other circular orifices.

The total range includes **Spherical and Cylindrical** versions as well as **Heat Protected** stoppers for use up to 300°C (572°F).

All **Inflatable Stoppers** are manufactured with a strong internal inflatable bag made to the required shape and covered in a petrochemical resistant inflatable membrane, which is in turn covered in waterproof sewn polyurethane coated nylon for low friction and to prevent the production of static electricity or accidental sparking.

HFT PIPESTOPPERS®

These versatile HFT® Inflatable Stoppers are used to service a wide variety of petrochemical and industrial applications such as:

- All petrochemical operations where hydrocarbons are present in liquid and gas form.
- Debris stopping during machining operations where pipes have had hydrocarbon liquids or solids inside.
- Leak testing of pipework systems where pipes have had hydrocarbon liquids or solids inside.
- Low pressure hydrostatic tests where pipes have had hydrocarbon liquids or solids inside.
- On-site thermoforming of bends in ducting and conduit materials.
- Fibre-optic construction projects.
- Debris and animal barriers for overnight protection of pipelines where pipes have had hydrocarbon liquids or solids inside.
- Plumbing operations.

The standard range of HFT Pipestoppers® Inflatable Stoppers are available for immediate delivery in a variety of shapes and formats with sizes ranging from 1 to 96" (25 to 2440 mm).

DESCRIPTION

Standard PetroChem Cylindrical Inflatable Stoppers are commonly used for stopping off pipes with hydrocarbon gases and liquids inside where the inner membrane of the stopper protects the inflatable latex bag inside that.

Spherical PetroChem Inflatable Stoppers give less contact area than the Cylindrical version, but are very useful where access is limited. Since the position of the Inflatable Stopper in the pipe is not critical, it can be put at any angle. This is particularly useful when inserting into a small opening at the top of a pipe rather than at the end of the pipe.

SPECIFICATIONS

1" to 96" (25 to 2440 mm) Inflatable Stoppers have a 1.3m hose length, 8 mm ID, 14 mm OD and are fitted with a standard Schrader valve.

It is generally accepted that the pressure which an Inflatable Stopper will hold back depends on five factors:

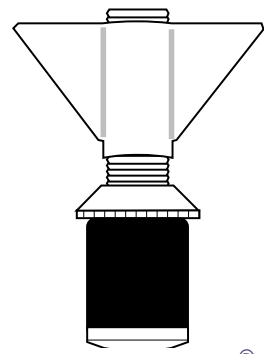
1. The surface of the pipe into which the Inflatable Stopper is to be inserted.
2. The friction resistance of the Inflatable Stopper cover material.
3. The total area of contact between the Inflatable Stopper and pipe.
4. Whether or not the Inflatable Stopper is supported.
5. The pressure inside the Inflatable Stopper itself.



Spherical Inflatable Petrochemical Resistant Stoppers

© HFT®

Inflatable Pneumatic Rubber Pipe Plugs



HFT PIPESTOPPERS®



© HFT®

The Pipestoppers® Division of Huntingdon Fusion Techniques HFT® has added a new range of Inflatable **Rubber Plugs** to its existing range comprising Inflatable Stoppers, Aluminium, Nylon and Steel Plugs and Freeze Plug Equipment.

These new Inflatable Rubber Plugs cover a range from 35 to 2,000 mm (1.5 - 78"), each having a wide degree of flexibility in diameter (see chart overleaf). These Rubber Plugs withstand a temperature from -40 to +70°C, suitable for use in petrochemical applications, as well as many others, some of which are shown in the next column.

These new standard devices can be inflated quickly to sealing and working pressure and are resistant to most hydrocarbon gases and fluids.

Inflatable Rubber Plugs are ideal for fast, reliable and safe stopping and blocking of pipes, joints, channels, inlets and a number of other uses.

SIZES AVAILABLE:

To suit 35 – 2,000 mm (1.5 to 78").

USAGE and APPLICATION:

Inflatable Rubber Pipe Plugs are used during new pipeline installation or for carrying out routine maintenance and repairs.

They seal off sections of a pipe quickly, safely and are very simple to use.

Inflation can be carried out almost instantly with a compressor and they can be inflated with hand or foot pumps too.

OTHER USES:

- Blocking pipes, tubes, dams, inlets, storage tanks, manholes and channels.
- For use in water, sewage, fluid production (milk, beer, chemicals), petrochemical, pharmaceutical, gas pipeline systems.
- Restricting, diverting and bypassing flow during pipeline maintenance or modification.
- Keeping pipeline free of dirt and contaminants by capping and blocking the ends.
- Can be floated down pipes and stopped at a desired location.

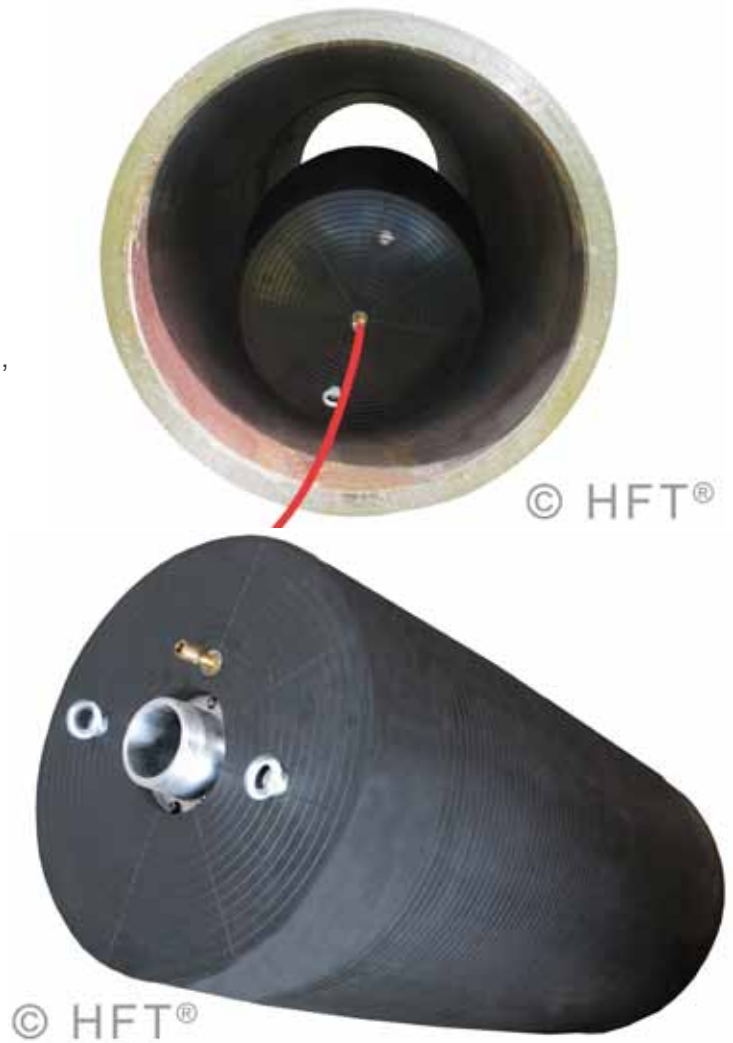
MATERIAL:

The plugs are manufactured from high quality rubber, comprising a mix of styrene, butadiene and isoprene.

HFT PIPESTOPPERS®

KEY FEATURES:

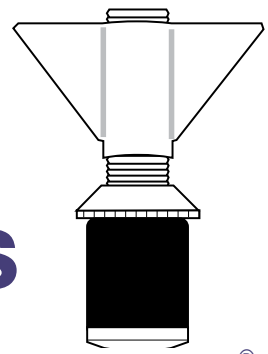
- Flexible.
- Easy installation.
- Takes only seconds to fully inflate.
- Lightweight.
- Easy removal.
- Resistant from -40 to +70°C.
- High resistance against oils, hydrocarbons, petrochemicals.
- Tough, durable and have a long-life.
- Quick disconnect fittings.
- Temporary or long term use.
- Easy to handle.
- Each plug covers a range of sizes (see chart below).
- Plugs can be manufactured with a 3 bar working pressure if required.
- Full stoppers or with by-pass facility.



Part No	Min Pipe Dia mm	Max Pipe Dia mm	Inflation (Working) Pressure bar	Back (Working) Pressure tolerance bar	Deflated Diameter mm	Length mm	Weight KG
RPP3570	35	70	2	0.5	33	210	0.3
RPP5010	45	100	1.5	0.5	47	280	0.4
RPP7015	70	150	1.5	0.5	68	375	0.6
RPP1020	100	200	1.5	0.5	91	550	1.15
RPP1530	150	300	1.5	0.5	140	550	2.1
RPP2040	200	400	1.5	0.5	187	650	3.1
RPP2050	200	500	1.5	0.5	187	800	4.5
RPP3060	300	600	1.5	0.5	286	850	9.5
RRP5010	500	1000	1.5	0.5	486	1150	26.5
RRP6012	600	1200	1.5	0.5	586	1300	35
RRP6515	650	1500	1	0.3	595	2500	70
RRP1002	1000	2000	1	0.3	860	3000	190

All plugs are tested at 3x times their working pressure for safety and durability.

Inflatable Low Profile Stoppers



HFT PIPESTOPPERS®



MAIN FEATURES:

- Single ended lightweight, **Low Profile Inflatable Stoppers** for closure welds, T piece joints and dome end connections, to prevent gas, liquid, debris etc. entering or leaving and to make leak and pressure tight seals.
- These Inflatable Stoppers provide an excellent grip in the pipe with an effective all-round seal.
- Manufactured for circular orifice diameters from 6 - 96" (150 mm - 2,440 mm).
- Each Stopper is easy to inflate with a hand pump, a foot pump or an airline.
- The Stopper is inflated and seals all around the internal circumference of the pipe.
- Each stopper is equipped with a Schrader Valve for inflation.
- The Low Profile Stoppers are heat resistant up to 90°C (194°F).

Inflatable Low Profile Stoppers are a low-cost alternative to aluminium and steel stoppers which are heavier, may be difficult to manipulate and expensive to ship.

These simple to use Inflatable Low Profile Stoppers can be purchased for any diameter within their manufacturing range and can be used in connection with other styles or sizes of stoppers elsewhere within the piping system.

Heat Protective covers are available in various grades to protect up to 760°C (1400°F).

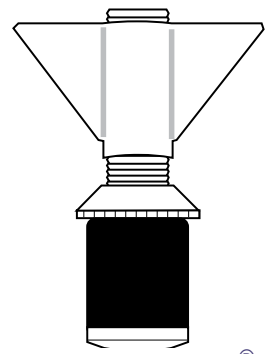
In addition the Stoppers can be protected against petrochemical products.

8", 10", 12" and 24"
Low Profile Stopper



HFT PIPESTOPPERS®

Heat Resistant Covers for Inflatable Stoppers



HFT PIPESTOPPERS®



INTRODUCTION:

Now that the popularity of the **PetroChem™** and the **Inflatable Stoppers** has been established, we have released Heat Resistant Covers as accessories, to protect the stoppers for applications where the temperature of the metal near them is likely to exceed 80°C (176°F).

HFT Pipestoppers® Heat Resistant Covers are designed to prevent damage in particular when they are exposed to temperatures of up to 300°C (572°F).

These specially designed Heat Resistant Covers can endure such high temperatures, which protects the Inflatable Stoppers, preventing them being damaged or bursting.

The Heat Resistant Covers are reusable time and time again, without losing their heat protecting properties.

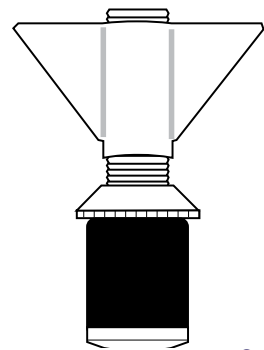
MAIN FEATURES:

- Available as an accessory for any Inflatable Stopper, whatever the type.
- For exposure to temperatures up to 300°C (572°F).
- Protects the Inflatable Stopper, preventing them being damaged or bursting.
- Reusable time and time again, without losing their heat protecting properties.
- Manufactured to fit Inflatable Stoppers in sizes 1 to 96" (25 to 2,440 mm).
- Ties on each Heat Resistant Cover ensure they are held on to each Inflatable Stopper securely.

HFT PIPESTOPPERS®

Accu-Freeze™

Automatically Controlled Liquid Nitrogen Pipe Freezing System



HFT PIPESTOPPERS®



Accu-Freeze™ The Automatically Controlled Liquid Nitrogen Pipe Freezing System

Accu-Freeze™ utilises liquid nitrogen in a controlled system to freeze stationary liquids in a selected section of pipe or tubing.

By controlling the surface temperature of the pipe, Accu-Freeze™ can accurately and safely form an in-line ice plug, capable of withstanding 138 bar (2000 Psi) in pipe up to 12 inch (300 mm) diameter.

This temporary plug isolates the section, allowing repairs or modifications to be made without shutting off or draining the entire system.

Accu-Freeze™ is the world's only patented, digitally controlled pipe freezing system thus allowing you to accurately and safely create an ice plug.

The ice plug only forms beneath the Accu-Freeze coil wrap and jacket which is used on a 6 to 12" (150 to 300 mm) pipe and does not expand outside of this point.

MAJOR ADVANTAGES OF ACCU-FREEZE™

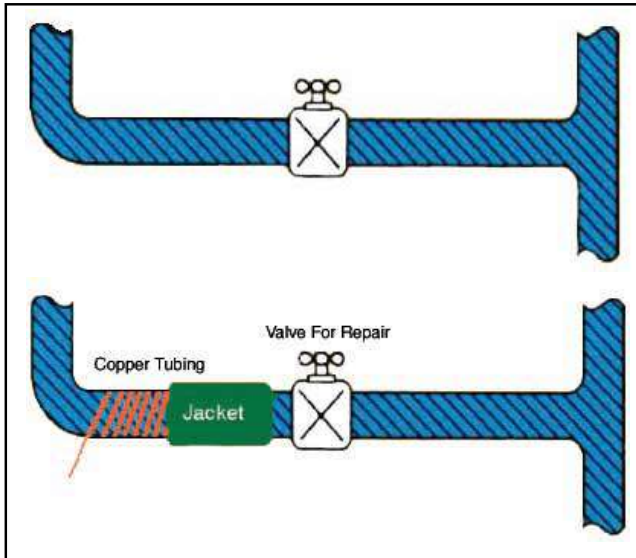
- Saves valuable time normally lost draining and refilling a system.
- Avoids complete shutdown of systems and equipment.
- Prevents waste of large amounts of water.
- Eliminates handling of contaminated water.
- Safe and cost effective.
- Standard products to suit pipe and tube sizes up to 12" (300 mm) .
- Accu-freeze is more cost effective than other refrigeration systems.
- Liquid N₂ delivery system is notably colder than other refrigerants.
- Ability to digitally set a specific freeze temperature.
- Ability to automatically control the freeze temperature.
- Able to control the system from a remote location.

HFT PIPESTOPPERS®

Accu-Freeze™ Procedure

An Accu-Freeze™ ice plug starts with wrapping copper tubing and a specially designed insulated jacket around the section of pipe to be frozen.

The nitrogen is then injected through the patented control system.



Water is brought to a static condition (no flow).

The Accu-Freeze™ wrap is placed around the pipe upstream from the section to be repaired.

Next, set the recommended surface temperature of the pipe in the digital controller.

Accu-Freeze® takes over by automatically injecting the liquid nitrogen through the system over the in-line ice plug.

Once the plug is formed, maintenance and repair can take place without draining or shutting off the entire system.

Jacket Sizes

The Accu-Freeze™ insulating jacket accommodates pipe sizes from 6" (150 mm) to 12" (305 mm).

The design of the jacket incorporates adjustable straps, this will allow the user to alter the jacket size according to the application requirements.

Factory Set Options

Each Accu-Freeze™ unit can be set to 220 V or 110 V and a working scale of °C or °F.

Optional Aluminium jackets.

The Accu-Freeze™ Kit Contains

- Carrying Case
- Control Solenoid Valve Header Complete
- Digital Controller Complete
- 10 ft. Flexible Cryogenic Hose
- Ferrules, Fittings, T- Connectors
- "T"Connector Plug (Male)
- "T" Connector Jack (Female)
- 4 ft. T/C Wire With Male End Connector
- 33 ft. T/C Wire With Male & Female Connector
- Spool
- T/C Support Strap
- 2 Channel Temperature Monitor (Battery Operated)
- Operating Instruction Manual
- Roll of Soft Copper Tubing (5/16" or 1/4")
- Insulated Gloves
- Safety Glasses
- Insulating Jacket
- 35 Psi Relief Valve
- 50 Psi Relief Valve

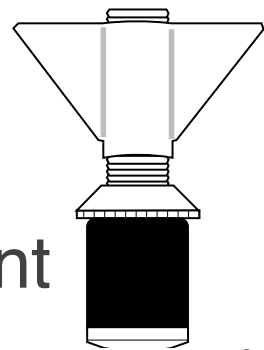


Safety Notes:

- Accu-Freeze™ utilises liquid nitrogen to create the cryogenic temperature necessary to form ice plugs.
- Safety precautions must always be taken with use of this product.
- Protective clothing i.e. gloves, goggles, etc. must be worn at all times when operating this product.
- Liquid nitrogen is heavier than air and will displace oxygen. Sufficient ventilation is required, especially when operating in confined areas.
- Accu-Freeze™ is designed to operate with liquid nitrogen tanks fitted with low pressure safety valves.
- Use with any tanks other than properly specified, will cause damage to the unit and possibly harm the operator.

Qwik-Freezer™

Portable Pipe Freezing Equipment



HFT PIPESTOPPERS®



Qwik-Freezer™ equipment utilises liquid carbon dioxide (CO₂) to freeze stationary water and other liquids in selected sections of pipe or tubing. By producing very low "dry ice" temperatures, Qwik-Freezer™ forms a secure in-line ice plug.

This temporarily isolates the liquid in the system and allows repairs or modification to be made without draining or shutting off systems.

Simplifies Pipe Repair and Modification.

The Qwik-Freezer™ kit is easy to use. A specially designed jacket is wrapped around the pipe at the point where the freeze is required. A nozzle on the jacket is then coupled to a cylinder of liquid CO₂ by means of a high pressure hose.

When liquid CO₂ is injected into the space between the jacket and the pipe, it immediately expands to form solid carbon dioxide (dry ice) at a temperature of -78°C (-108°F). This low temperature quickly freezes the contents forming a secure "ice plug" which seals the pipe.

The "ice plug" forms only in the section of pipe covered by the jacket so the resulting rise in pressure is very small, and there is no damage to the pipe. The technique can be used safely on iron, lead, stainless steel, copper, brass and plastic pipe.

MAJOR ADVANTAGES:

- Saves valuable time and cost of product normally lost draining and refilling a system.
- Avoids complete shutdown of systems and equipment (as in a sprinkler or water supply system).
- Prevents waste of large amounts of liquid.
- Eliminates handling of wasted liquid.
- Safe and cost effective.
- Standard products to suit pipe and tube sizes from 3/8" to 8" (10 mm - 200 mm) diameter.
- Liquid carbon dioxide is inexpensive!
- Other "refrigeration" systems are more expensive.
- Long freeze length provides large plug size.
- Liquid CO₂ delivery system "Dry Ice" is notably colder than other refrigerants.
- Qwik-Freezer™ Systems allow operators to source their own CO₂ (no expensive refills or replacements of refrigerant).
- No recalibration of Qwik-Freezer™ Products necessary.

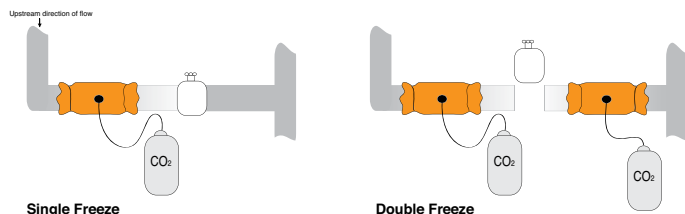
HFT PIPESTOPPERS®

A Typical Qwik-Freezer™ Application:

Replacing a defective valve.

- The liquid is brought to a static condition.
- The Qwik-Freezer® jacket (orange) is then wrapped around the pipe.
- Place Jacket 1, at a nearby upstream location.
- Inject liquid CO₂ into the jacket.

The CO₂ rapidly freezes the liquid in the pipe, permitting valve removal for servicing or replacement.



Jacket 2 shows positioning of a second Qwik-Freezer™ jacket and tank used when a double freeze is required to block flow on both sides of the valve.

Qwik-Freezer™ Pipe Freezing Kits:

Qwik-Freezer™ systems are supplied as kits containing different jackets and required hoses to connect to a CO₂ supply.

Our table confirms jackets and hoses supplied in various kits.

Model N° & Size range	QF101 Jacket 8" 200 mm long	QF102 Jacket 12" 305 mm long	QF103 Jacket 14" 356 mm long	QF104 Jacket 20" 508 mm long	QF106 Jacket 28" 711 mm long	QF108 Jacket 33" 838 mm long	QF800 Hose 10 ft.	QF800B Hose 16 ft.	QF801 Valve Adaptor
QF 1500 3/8"-1.5" (10mm-37mm) pipe	1	1	0	0	0	0	1	0	1
QF 2000 3/4"-1.5" (19mm-37mm) pipe	0	1	0	0	0	0	1	0	1
QF 2200 3/4"-1.5" (19mm-37mm) pipe	0	2	0	0	0	0	2	0	1
QF 3000 3/8"-3" (10mm-75mm) pipe	1	1	1	0	0	0	2	0	2
QF 4000 3/8"-4"	1	1	1	1	0	0	0	4	2
QF 4100 3"-4"	0	0	0	1	1	0	0	4	4
QF 6000 3/8"-6"	1	1	1	1	1	0	0	4	4
QF 6100 5"-6"	0	0	0	0	1	0	0	3	4
QF 8000 3/8"-8"	1	1	1	1	1	1	0	4	4
QF 8100 7"-8"	0	0	0	0	0	1	0	4	4

Accu-Freeze™

In addition to the Qwik-Freezer™ System, we have the **Accu-Freeze™** System, which employs liquid nitrogen as the freezing agent. With this, we can freeze liquids in pipes up to 12" (300 mm) dia and liquids with a freezing point as low as -196°C.

Qwik-Freezer™ Standard Kits Contain:

- Insulating pipe jackets.
- Reinforced high pressure hose.
- Valve Adaptor.
- T - Connector.
- Insulated work gloves.
- Rubber mallet.
- Safety glasses.
- Operating manual.
- Timing log.
- Rigid fibre carrying case.



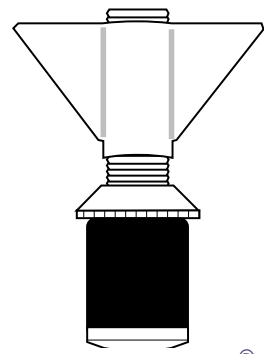
Qwik-Freezer™ Jackets:

- QF 101 for 3/8" (9.4mm) to 3/4" (18.8 mm) i.d.
- QF 102 for 3/4" (18.8mm) to 1 1/2" (38 mm) i.d.
- QF 103 for 1 1/2" (38mm) to 3" (75 mm) i.d.
- QF 104 for 3" (87.5mm) to 4" (100 mm) i.d.
- QF 106 for 5" (125mm) to 6" (150 mm) i.d.
- QF 108 for 7" (175mm) to 8" (200 mm) i.d.

Accu-Freeze™ Technique

The liquid to be frozen, is brought to a static condition (no flow). The Accu-Freeze™ wrap is placed around the pipe up stream from the section to be repaired. Next, set the recommended surface temperature of the pipe in the digital controller. Accu-Freeze takes over by automatically injecting the liquid nitrogen through the system over the in-line ice plug. Once the plug is formed, maintenance and repair can take place without draining or shutting off the entire system.

Worldwide Care and Customer Support



HFT PIPESTOPPERS®



For further information and support, please contact us at

web: www.huntingdonfusion.com
email: hft@huntingdonfusion.com
tel: +44 (0)1554 836 836



For further information and support, please contact us at

web: www.huntingdonfusion.us
email: general@cob-industries.com
tel: 1-800-431-1311 (toll free)
1-321-723-3200



Umfassende Informationen in deutscher Sprache
finden Sie bei unserem strategischen Partner Dänner
Industrie Services

web: www.formieren.com
email: info@formieren.com
tel: +49 (0) 2423 954 051



Veillez contacter notre partenaire en France
et en Afrique, France Inertage®

email: clemenceretel@huntingdonfusion.com
tel: +33 6 52 84 28 39



Para la información adicional en Español, contacta por
favor

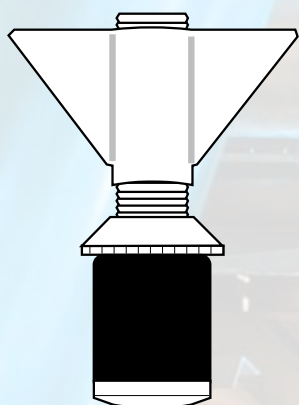
web: www.codesol.com
email: codesol@codesol.com
tel: +34 (0) 93 564 0804

Latino America

email: dayse@huntingdonfusion.com
tel: +31 6410 100 77

* World wide Offices, Partners and Distributors are listed
on our website or contact us and we will direct you to the
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HFT PIPESTOPPERS®

Las- & Gastechniek bvba
Aarschotsebaan 312 • 2590 Berlaar

T 03 482 43 65 • F 03 482 35 72
sales@lgtechniek.be

www.lgtechniek.be

