

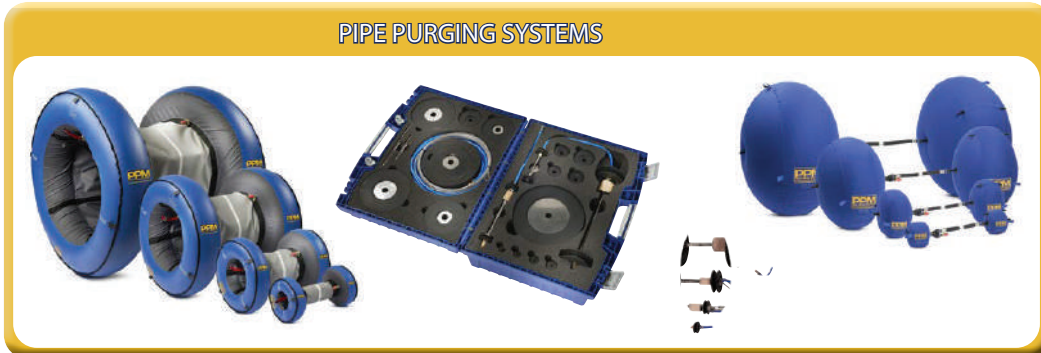
PPM

PIPE PURGE MASTERS

MARCH 2022

COMPLETE BROCHURE

PIPE PURGING SYSTEMS



PURGE OXYGEN MONITOR



PIPE STOPPERS



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SPECIALIZED FABRICATION EQUIPMENT GROUP

Introduction to S.F.E. Group

S.F.E. Group was founded in 2019 after the merger of three world leading OEM's in the field of pipe fabrication tooling and machinery: B&B Pipe and Industrial Tools LLC (USA), Mathey Dearman Inc. (USA) and TAG Pipe Equipment Specialists (UK). Most recently the S.F.E Group has completed the acquisition of the Axxair Group (France).

S.F.E. Group offers a wide range of products and is continuously exploring new product design and development, as well as add-on acquisitions to enhance its portfolio and to fulfil increasing industries' demands.

With offices and warehousing on 4 continents, 120 employees and more than 250 partnerships and distributors worldwide, S.F.E. Group prides itself in consistently offering the highest standard of both product quality and service to all its customers.

S.F.E. Group looks forward to welcoming you into its global network as a partner, distributor or end user customer and remains at your disposal at any time.



UNITED STATES HEAD OFFICE - HOUSTON



INTERNATIONAL HEAD OFFICE - FRANCE

OUR BRANDS

| | | | | | |
|---|---|---|--|---|--|
| MATHEY DEARMAN Where There's Pipe, There's Mathey! PIPE FLAME CUTTING AND BEVELLING PIPE ALIGNMENT AND REFORMING CLAMPS PIPE RIGGING EQUIPMENT www.MATHEY.COM | B&B Pipe & Industrial Tools The Pipe Fabricators Source PIPE JACK AND STANDS MEGA ROLLERS AND STANDS MATERIAL HANDLING EQUIPMENT www.BBPIPETOOLS.COM | TAG PIPE EQUIPMENT SPECIALISTS World Leading Manufacturer of Pipe Beveling and Cutting Machines PIPE BEVELLING MACHINES PIPE COLD CUTTING MACHINES www.TAG-PIPE.COM | AXXAIR Innovative Orbital Solutions ORBITAL CUTTING / BEVELLING AND FINING ORBITAL WELDING www.AXXAIR.COM | PPM PIPE PURGE MASTERS Purging Solutions for the perfect pipe weld! PIPE BURNING CASSETS CROSS-CUTTING MACHINES PIPE CLEANERS www.PURGEMASTERS.COM | FIT-UP PRO By Mathey Dearman The Pipe Fitters Companion FIT-UP AND ALIGNMENT TOOLS LAYOUT AND MARKING TOOLS www.FIT-UP-PRO.COM |
|---|---|---|--|---|--|



Introduction to Pipe Purge Masters (PPM)

With the merger in 2019 of B&B Pipe and Industrial Tools LLC (USA), Mathey Dearman Inc. (USA) and TAG Pipe Equipment Specialists (UK) and the recent addition in 2022 of Axxair (France) into Specialized Fabrication Equipment (S.F.E.) Group, the various product groups offered by the original manufacturers have been re-aligned and integrated into the overall S.F.E. Group product range whilst keeping their own brand identity.

Backed by nearly 25 years of development, S.F.E. Group is proud to present its brand dedicated to pipe purging products, applications and solutions: **Pipe Purge Masters (PPM)**. With the PPM brand, S.F.E. Group not only wishes to highlight the focus on pipe purging products, but also supply the growing demand and diverse applications on-site, of pipe purging equipment in the industries that it already serves and intertwine with other product applications within S.F.E. Group, such as the orbital welding offered under the Axxair brand.

As an OEM, S.F.E. Group prides itself being renowned for its innovations, ground-breaking developments and creative designs within the Pipe Purge Masters' product range. With its engineering capabilities, customer-oriented focus and flexibility, the PPM brand provides the possibility to design out-of-the-box pipe purging solutions to fulfil customers' projects' specific needs in particular and to cater for an ever-evolving industry in general.

The PPM brand portfolio consists of a comprehensive range of pipe purging equipment: **inflatable pipe purge bag systems**, formed **double seal purge systems**, **purge oxygen monitors**, inflatable as well as mechanical **pipe stoppers** and accessories.

Pipe Purge Masters' products are available from the international S.F.E. Group branches on 4 continents, as well as from S.F.E. Group's extensive and continuously expanding global network of partners and distributors.

Get in touch for any pipe purging application.



PIPE PURGING SYSTEMS



PPM's range of purge systems greatly reduces the purging time and gives significant gas savings while producing a top quality weld.

PURGE OXYGEN MONITOR



PPM also offers a full range of weld purge monitoring systems to accurately measure the level of oxygen inside the weld chamber to obtain high quality purity welding.

PIPE STOPPERS



In addition to the purging systems and purge monitors, PPM also offers an extensive range of pipe stoppers: inflatable stoppers available in all shapes, sizes and materials, as well as expanding stoppers available in nylon, steel and aluminium. PPM also provides tailor made pipe stopper solutions.

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SPECIALIZED FABRICATION EQUIPMENT
GROUP

*Our group policy is one of continuous improvements and acquisitions.
Products and data tables are subject to change or vary from those illustrated.*

OUR BRANDS





PIPE PURGING SYSTEMS



When welding stainless steel, titanium and other corrosion resistant materials, the perfect environment for welding is paramount to maintaining the corrosion resistant properties.

During the welding process, the weld seam is subjected to heat and air, which can cause oxidation, if the correct processes are not adhered to.

For the best results, oxidation must be prevented.

The quality of the exotic corrosion resistant material welding is dependent on the correct purging methods to minimize or eliminate oxidation.

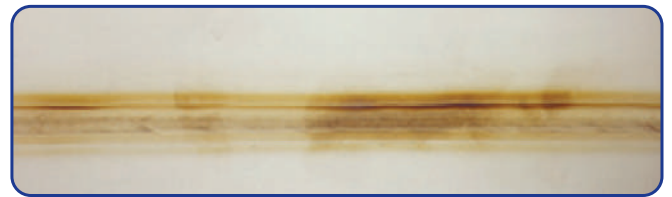
All PPM (Pipe Purge Masters) purging systems are designed to efficiently remove oxygen as fast as possible.

This can be achieved by isolating the smallest area of pipe, resulting in the fastest purge times, while also minimising the amount of purge gas used.

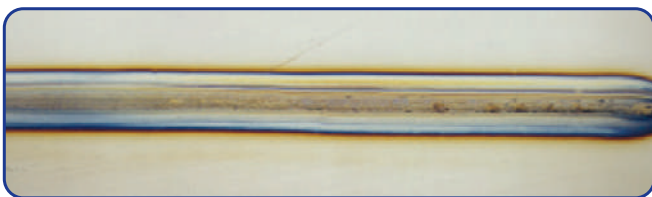
The pictures below show the different levels of weld quality depending on oxidation present at the point of welding.



Argon purge 12 ppm
Vol. O₂ content



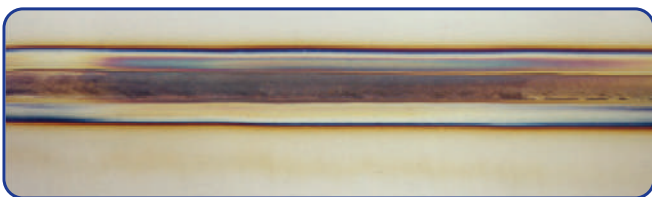
Argon purge 60 ppm
Vol. O₂ content



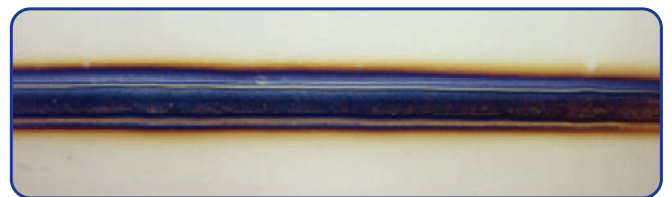
Argon purge 70 ppm
Vol. O₂ content



Argon purge 200 ppm
Vol. O₂ content



Argon purge 250 ppm
Vol. O₂ content



Argon purge 500 ppm
Vol. O₂ content

The effective welding of stainless steel, titanium and other exotic materials for the nuclear, petrochemical, pharmaceutical, semi-conductor, aerospace and food industries requires the proper tools to create a perfect weld environment.

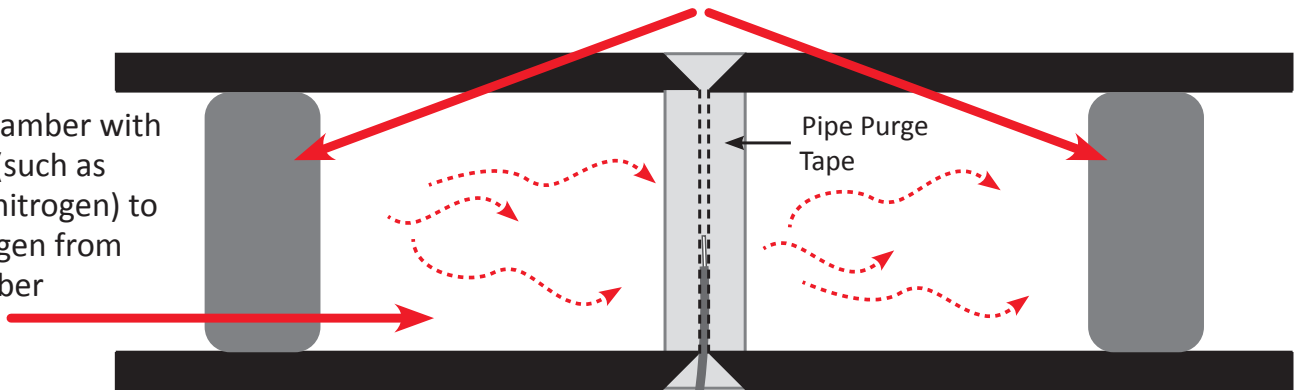
Purging equipment and its use have a major impact on preventing oxidation and improving final weld quality. The basic principles of purging can be seen below.

PPM supplies a comprehensive range of systems to create the correct welding environment, whatever the application.

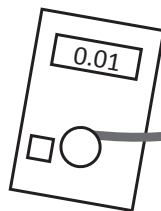
PRINCIPLES OF PURGING

1. Create a seal (dam) either side of the weld and close off the weld gap with purge tape to create the weld chamber

2. Fill the chamber with inert gas (such as argon or nitrogen) to expel oxygen from the chamber



3. Use a weld purge monitor to recognize when the required level of oxygen has been met



4. Welding can then be carried out, guaranteeing no oxidation or discoloration of the weld

Double inflatable pipe weld purging systems

Used for 90% of the traditional pipe weld purging applications to provide bright, shiny, oxide free weld roots. The PPM Purge Bag system is quick and easy to use, providing a very rapid weld purge. High quality materials are used in the production of these systems, guaranteeing perfect oxide-free weld roots in very little time.

4" Purge Bag system



Due to the design of this system, the volume of gas used to purge is minimized, resulting in significant reduction of both time and inert gas consumption. Return on investment can be achieved in as little as just one or two welds. These robust systems can be used over and over again paying for themselves in very little time.

Features and advantages

- PPM's Purge Bag system dramatically reduces purging times, leading to significant savings
- **Typical purge times for 4" pipe = 1½ mins; 8" pipe = 4 mins; 12" pipe = 8 mins**
- Ready to use, connects to a dedicated and regulated gas supply. Choose any flow rate up to 20l a min.
- Gas pressure control ensures an even positive root bead with no notching
- Quick and easy to install, simplifying the process of inert gas purging
- Heat resistant up to 70°C continuously
- Use less inert gas. The volume of purge gas used is less than 2% of a conventional purge

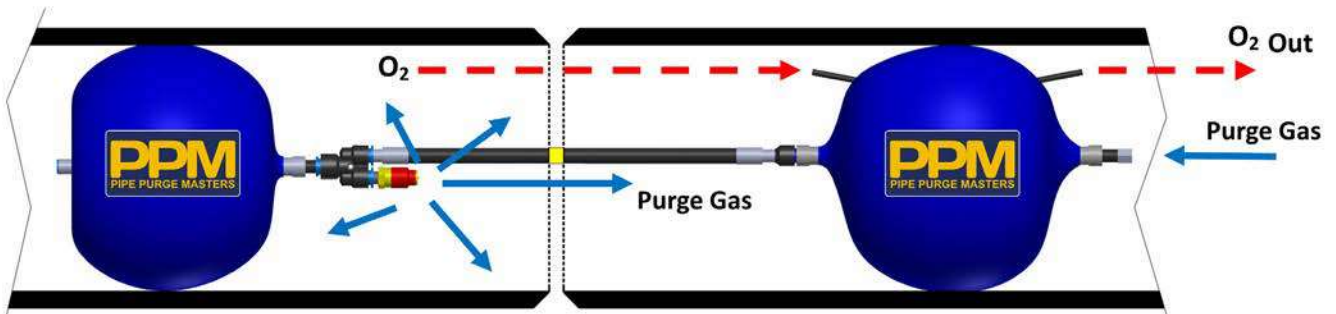


How it works

The Purge Bag system is designed around the principle of using 2 dams, that are connected by an armoured spinal tube, to create a seal either side of the weld. These dams are just far enough away from the weld not to be affected by heat, but close enough to the joint to provide the fastest weld purge time.

Once ready to start purging, the system is inserted into the bore of the pipe using the luminous strip to centre the system to the weld gap.

When the gas flow is started, the dams inflate and upon reaching the pre-set pressure, the valve releases the gas gently into the weld chamber, to purge the interspace without turbulence. The oxygen is removed from the weld chamber by the inert gas through the integral exhaust tubes in the bags, enabling the welder to produce an even oxidation free penetration weld bead. Used in conjunction with PPM's oxygen monitors, indicating when the required low level of oxygen has been reached, welding can then commence. Afterwards, the dams are deflated simply by disconnecting the purge gas feed and the system easily withdrawn. The design of this system requires only one gas connection for both dam inflation and weld purging.



Sizing and specification

| PART NO | DESCRIPTION | NOMINAL PIPE SIZE | | INTERNAL DIAMETER RANGE (I/D) | | WEIGHT (LBS. / KG) | |
|---|----------------------|-------------------|-----|-------------------------------|--------------|--------------------|---------|
| PB02 | 2" Purge Bag system | 50 mm | 2" | 1.49" - 2.37" | 38 - 60 mm | 1 lbs. | 0.34 kg |
| PB03 | 3" Purge Bag system | 75 mm | 3" | 2.17" - 3.53" | 55 - 90 mm | 1 lbs. | 0.34 kg |
| PB04 | 4" Purge Bag system | 100 mm | 4" | 3.51" - 4.51" | 89 - 115 mm | 1 lbs. | 0.34 kg |
| PB05 | 5" Purge Bag system | 125 mm | 5" | 4.14" - 5.50" | 105 - 140 mm | 1 lbs. | 0.38 kg |
| PB06 | 6" Purge Bag system | 150 mm | 6" | 5.32" - 6.68" | 135 - 170 mm | 1 lbs. | 0.38 kg |
| PB07 | 7" Purge Bag system | 175 mm | 7" | 6.30" - 7.66" | 160 - 195 mm | 2 lbs. | 0.70 kg |
| PB08 | 8" Purge Bag system | 200 mm | 8" | 7.09" - 8.45" | 180 - 215 mm | 2 lbs. | 0.90 kg |
| PB09 | 9" Purge Bag system | 225 mm | 9" | 8.08" - 9.43" | 205 - 240 mm | 2 lbs. | 0.95 kg |
| PB10 | 10" Purge Bag system | 250 mm | 10" | 9.26" - 10.61" | 235 - 270 mm | 2 lbs. | 1.00 kg |
| PB11 | 11" Purge Bag system | 275 mm | 11" | 10.03" - 11.41" | 255 - 290 mm | 2 lbs. | 1.05 kg |
| PB12 | 12" Purge Bag system | 300 mm | 12" | 11.03" - 12.39" | 280 - 315 mm | 2 lbs. | 1.10 kg |
| We strongly recommended using our Rapid Purge™ system over 12" | | | | | | | |
| PB13 | 13" Purge Bag system | 325 mm | 13" | 11.41" - 12.79" | 290 - 325 mm | 2 lbs. | 1.20 kg |
| PB14 | 14" Purge Bag system | 350 mm | 14" | 12.41" - 13.76" | 315 - 350 mm | 3 lbs. | 1.30 kg |
| PB15 | 15" Purge Bag system | 375 mm | 15" | 13.38" - 14.76" | 340 - 375 mm | 3 lbs. | 1.50 kg |
| PB16 | 16" Purge Bag system | 400 mm | 16" | 14.38" - 15.73" | 365 - 400 mm | 3 lbs. | 1.70 kg |
| PB17 | 17" Purge Bag system | 425 mm | 17" | 15.35" - 16.73" | 390 - 425 mm | 4 lbs. | 1.75 kg |
| PB18 | 18" Purge Bag system | 450 mm | 18" | 16.34" - 17.70" | 415 - 450 mm | 4 lbs. | 1.80 kg |
| PB19 | 19" Purge Bag system | 475 mm | 19" | 17.32" - 18.70" | 440 - 475 mm | 4 lbs. | 1.85 kg |
| PB20 | 20" Purge Bag system | 500 mm | 20" | 18.31" - 19.67" | 465 - 500 mm | 4 lbs. | 1.90 kg |
| PB22 | 22" Purge Bag system | 550 mm | 22" | 19.69" - 21.05" | 500 - 535 mm | 5 lbs. | 2.20 kg |
| PB24 | 24" Purge Bag system | 600 mm | 24" | 22.45" - 23.80" | 570 - 605 mm | 6 lbs. | 2.50 kg |

(Larger sizes and specials available upon request with 35 mm / 1.37" expansion range)



RAPID PURGE™ SYSTEM

Sizes: 8 - 80" (190 - 2,044 mm)



Purge larger diameter pipes faster than ever!

Used for stainless, duplex, chrome steels, titanium, nickel and other alloy materials, the PPM Rapid Purge™ system enables high speed welding of larger diameter pipe joints that need to be purged.

The system is designed to enable the user to produce high quality, reliable and repeatable welding of stainless steel tube and pipe joints free from oxidation and discolouration.

A 36" diameter pipe will purge to below 0.1% oxygen in less than 10 minutes and all smaller pipes correspondingly faster. Due to the quality of the materials used, the Rapid Purge™ system can be used over and over again, reducing manufacturing costs.

The Rapid Purge™ system has been developed specifically to enable high speed purging for any pipe welding application.

Features and advantages

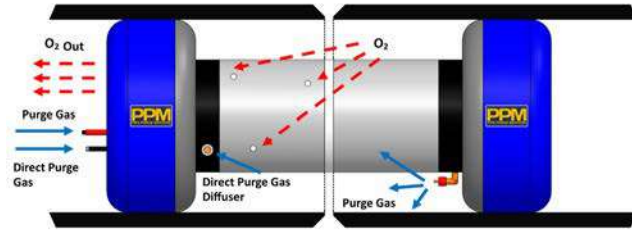
- Dramatic savings of time, gas and money can be made by using these systems.
- **Typical purge times of less than 10 minutes!**
- The unique thru-bore design of the central sleeve minimizes the area to be purged, dramatically reducing the gas consumption
- Friction free coatings allow easy movement through pipes from one joint to another, even around bends and elbows
- Ready to use, connects to a dedicated and regulated gas supply. Choose any flow rate up to 80 l/min through the twin pre-set purge valve
- A central luminous strip allows fast and accurate alignment of the system to the center-point of the weld area
- The inflatable dams and umbilical hose are covered with a heat resistant material and insulated accordingly for use at temperatures up to 250°C



How it works

The Rapid Purge™ system for pipe and vessel purging comprises a tandem inflatable dam system connected by an umbilical hose and collar to reduce the volume being purged. A gas exhaust valve is installed between the primary and secondary dam, along with an auxiliary argon purge line. This Rapid Purge™ system valve is pre-set, making it ready to use 'straight out of the box'. Each Rapid Purge™ system is covered with heat protective material, so that the higher temperatures closer to the weld do not damage the system.

The robust design of the Rapid Purge™ system allows for many years of repeatable trouble free use.



Sizing and specification

| PART NO | DESCRIPTION | NOMINAL PIPE SIZE | | INTERNAL DIAMETER RANGE (I/D) | | WEIGHT (LBS. / KG) | |
|---------|------------------------|-------------------|-----|-------------------------------|------------------|--------------------|----------|
| RP08 | 8" Rapid Purge system | 200 mm | 8" | 7.09" - 8.45" | 180 - 215 mm | 3 lbs. | 1.40 kg |
| RP10 | 10" Rapid Purge system | 250 mm | 10" | 9.26" - 10.61" | 235 - 270 mm | 3 lbs. | 1.70 kg |
| RP12 | 12" Rapid Purge system | 300 mm | 12" | 11.03" - 12.39" | 280 - 315 mm | 4 lbs. | 2.10 kg |
| RP14 | 14" Rapid Purge system | 350 mm | 14" | 12.41" - 13.76" | 315 - 350 mm | 5 lbs. | 2.50 kg |
| RP16 | 16" Rapid Purge system | 400 mm | 16" | 14.38" - 15.73" | 365 - 400 mm | 5 lbs. | 2.70 kg |
| RP18 | 18" Rapid Purge system | 450 mm | 18" | 16.34" - 17.70" | 415 - 450 mm | 6 lbs. | 3.00 kg |
| RP20 | 20" Rapid Purge system | 500 mm | 20" | 18.31" - 19.67" | 465 - 500 mm | 7 lbs. | 3.40 kg |
| RP22 | 22" Rapid Purge system | 550 mm | 22" | 19.69" - 21.05" | 500 - 535 mm | 7 lbs. | 3.60 kg |
| RP24 | 24" Rapid Purge system | 600 mm | 24" | 22.45" - 23.80" | 570 - 605 mm | 8 lbs. | 3.80 kg |
| RP26 | 26" Rapid Purge system | 650 mm | 26" | 24.41" - 25.77" | 620 - 655 mm | 9 lbs. | 4.50 kg |
| RP28 | 28" Rapid Purge system | 700 mm | 28" | 26.38" - 27.74" | 670 - 705 mm | 12 lbs. | 5.50 kg |
| RP30 | 30" Rapid Purge system | 750 mm | 30" | 28.35" - 29.71" | 720 - 755 mm | 13 lbs. | 6.00 kg |
| RP32 | 32" Rapid Purge system | 800 mm | 32" | 30.32" - 31.68" | 770 - 805 mm | 18 lbs. | 8.00 kg |
| RP34 | 34" Rapid Purge system | 850 mm | 34" | 32.48" - 33.86" | 825 - 860 mm | 19 lbs. | 8.50 kg |
| RP36 | 36" Rapid Purge system | 900 mm | 36" | 34.45" - 35.81" | 875 - 910 mm | 20 lbs. | 9.10 kg |
| RP38 | 38" Rapid Purge system | 950 mm | 38" | 36.61" - 37.99" | 930 - 965 mm | 21 lbs. | 9.50 kg |
| RP40 | 40" Rapid Purge system | 1,000 mm | 40" | 38.98" - 39.95" | 990 - 1015 mm | 22 lbs. | 9.90 kg |
| RP42 | 42" Rapid Purge system | 1,050 mm | 42" | 40.56" - 41.91" | 1,030 - 1,065 mm | 29 lbs. | 13.20 kg |
| RP44 | 44" Rapid Purge system | 1,100 mm | 44" | 42.52" - 43.90" | 1,080 - 1,115 mm | 30 lbs. | 13.70 kg |
| RP46 | 46" Rapid Purge system | 1,150 mm | 46" | 44.29" - 45.67" | 1,125 - 1,160 mm | 32 lbs. | 14.50 kg |
| RP48 | 48" Rapid Purge system | 1,200 mm | 48" | 46.46" - 47.82" | 1,180 - 1,215 mm | 33 lbs. | 15.00 kg |
| RP50 | 50" Rapid Purge system | 1,250 mm | 50" | 48.42" - 49.80" | 1,230 - 1,265 mm | 35 lbs. | 16.00 kg |
| RP52 | 52" Rapid Purge system | 1,300 mm | 52" | 50.59" - 51.97" | 1,285 - 1,320 mm | 37 lbs. | 17.00 kg |
| RP54 | 54" Rapid Purge system | 1,350 mm | 54" | 52.36" - 53.74" | 1,330 - 1,365 mm | 39 lbs. | 18.00 kg |
| RP60 | 60" Rapid Purge system | 1,500 mm | 60" | 58.46" - 59.84" | 1,485 - 1,520 mm | 44 lbs. | 20.00 kg |
| RP66 | 66" Rapid Purge system | 1,650 mm | 66" | 64.38" - 65.73" | 1,635 - 1,670 mm | 55 lbs. | 25.00 kg |
| RP72 | 72" Rapid Purge system | 1,800 mm | 72" | 70.27" - 71.65" | 1,785 - 1,820 mm | 62 lbs. | 28.00 kg |
| RP80 | 80" Rapid Purge system | 2,000 mm | 80" | 78.35" - 79.72" | 1,990 - 2,025 mm | 66 lbs. | 30.00 kg |

(Larger sizes and specials available upon request with 35 mm / 1.37" expansion range)

Systems for the fast purging of high temperature pipework

The PPM Purge Bag and Rapid Purge™ systems are both available in heat resistant version. They are designed to use when high temperatures will be encountered during the process of pipe welding; such as pre-heated pipework, and pipes where very high temperatures are required for welding.

These versions of the inflatable pipe purging systems are heat resistant up to 350°C (662°F) for up to 24 hours, or up to 500°C (932°F) for short periods of time. The heat resistant systems are available for all pipe diameters from 3" - 80" (63 - 2,035 mm).

Mirroring the features of the standard range of inflatable purging systems, the heat resistant range comes with a central luminous band for rapid centering of the system to the weld root.

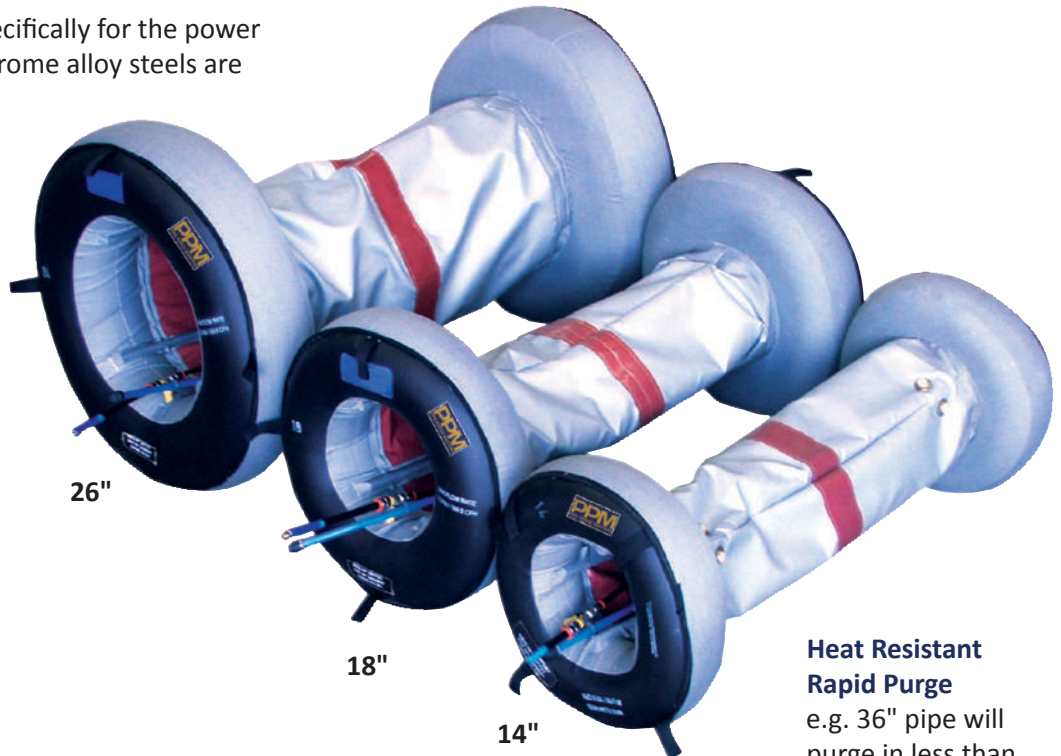
The welder can position these systems prior to pre-heating and leave them in place throughout the pre-heating, welding and post-heat treatment cycles, allowing the weld to be purged continuously for up to 24 hours if necessary.



e.g. 6" pipe will purge in less than 4 minutes!

Features and advantages

- Heat resistant up to 350°C (662°F) for up to 24 hours, or up to 500°C (932°F) for short periods
- Available for all pipe diameters from 3" to 80" (63 to 2,044 mm)
- Designed to be flexible, for ease of insertion, use and withdrawal from pipes, bends, elbows etc.
- Suitable for 24 hour cycles including pre-heat, welding and post-weld heat treatment
- A central luminous strip allows fast and accurate alignment of the system to the center-point of the weld area
- Manufactured to nuclear quality standards with nuclear approved materials, these systems guarantee bright, shiny, coke and oxide-free welds
- Designed and manufactured specifically for the power industry where high strength chrome alloy steels are more frequently used
- Ready to use, connects to a dedicated and regulated gas supply.
Choose any flow rate (purge bags - up to 20l/min/Rapid Purge™ up to 80l/min) through the twin pre-set purge valve

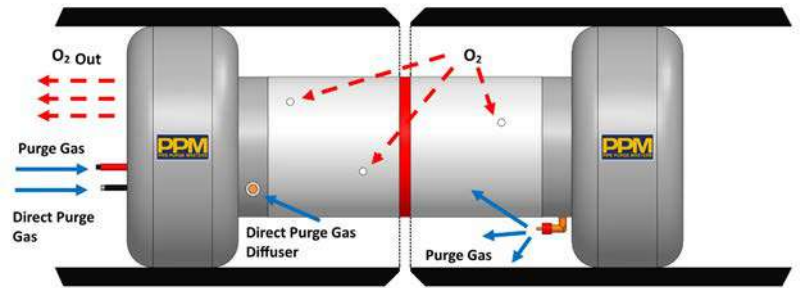


Heat Resistant Rapid Purge
e.g. 36" pipe will purge in less than 10 minutes!



How it works

Both the heat resistant Purge Bag system and the heat resistant Rapid Purge™ system work identically to the standard systems, but are made of a purposely designed Nomex and Kevlar mix material to withstand the temperatures typically encountered when welding exotic materials.



Purge Bag Heat Resistant sizing and specification

| PART NO | DESCRIPTION | NOMINAL PIPE SIZE | | INTERNAL DIAMETER RANGE (I/D) | | WEIGHT (LBS. / KG) | |
|---------|--|-------------------|----|-------------------------------|--------------|--------------------|---------|
| PB02/HR | 2" Purge Bag - Heat Resistant to 500 degrees | 50 mm | 2" | 1.49" - 2.37" | 38 - 60 mm | 1 lbs. | 0.40 kg |
| PB03/HR | 3" Purge Bag - Heat Resistant to 500 degrees | 75 mm | 3" | 2.17" - 3.53" | 55 - 90 mm | 1 lbs. | 0.50 kg |
| PB04/HR | 4" Purge Bag - Heat Resistant to 500 degrees | 100 mm | 4" | 3.51" - 4.51" | 89 - 115 mm | 1 lbs. | 0.60 kg |
| PB05/HR | 5" Purge Bag - Heat Resistant to 500 degrees | 125 mm | 5" | 4.14" - 5.50" | 105 - 140 mm | 1 lbs. | 0.70 kg |
| PB06/HR | 6" Purge Bag - Heat Resistant to 500 degrees | 150 mm | 6" | 5.32" - 6.68" | 135 - 170 mm | 2 lbs. | 0.90 kg |
| PB07/HR | 7" Purge Bag - Heat Resistant to 500 degrees | 175 mm | 7" | 6.30" - 7.66" | 160 - 195 mm | 2 lbs. | 1.20 kg |

(Larger sizes and specials available upon request with 35 mm / 1.37" expansion range)

Rapid Purge™ Heat Resistant sizing and specification

| PART NO | DESCRIPTION | NOMINAL PIPE SIZE | | INTERNAL DIAMETER RANGE (I/D) | | WEIGHT (LBS. / KG) | |
|---------|--|-------------------|-----|-------------------------------|------------------|--------------------|----------|
| RP08/HR | 8" Rapid Purge - Heat Resistant up to 500 degrees | 200 mm | 8" | 7.09" - 8.45" | 180 - 215 mm | 3 lbs. | 1.40 kg |
| RP10/HR | 10" Rapid Purge - Heat Resistant up to 500 degrees | 250 mm | 10" | 9.26" - 10.61" | 235 - 270 mm | 3 lbs. | 1.70 kg |
| RP12/HR | 12" Rapid Purge - Heat Resistant up to 500 degrees | 300 mm | 12" | 11.03" - 12.39" | 280 - 315 mm | 4 lbs. | 2.10 kg |
| RP14/HR | 14" Rapid Purge - Heat Resistant up to 500 degrees | 350 mm | 14" | 12.41" - 13.76" | 315 - 350 mm | 5 lbs. | 2.50 kg |
| RP16/HR | 16" Rapid Purge - Heat Resistant up to 500 degrees | 400 mm | 16" | 14.38" - 15.73" | 365 - 400 mm | 5 lbs. | 2.70 kg |
| RP18/HR | 18" Rapid Purge - Heat Resistant up to 500 degrees | 450 mm | 18" | 16.34" - 17.70" | 415 - 450 mm | 6 lbs. | 3.00 kg |
| RP20/HR | 20" Rapid Purge - Heat Resistant up to 500 degrees | 500 mm | 20" | 18.31" - 19.67" | 465 - 500 mm | 7 lbs. | 3.40 kg |
| RP22/HR | 22" Rapid Purge - Heat Resistant up to 500 degrees | 550 mm | 22" | 19.69" - 21.05" | 500 - 535 mm | 7 lbs. | 3.60 kg |
| RP24/HR | 24" Rapid Purge - Heat Resistant up to 500 degrees | 600 mm | 24" | 22.45" - 23.80" | 570 - 605 mm | 8 lbs. | 3.80 kg |
| RP26/HR | 26" Rapid Purge - Heat Resistant up to 500 degrees | 650 mm | 26" | 24.41" - 25.77" | 620 - 655 mm | 9 lbs. | 4.50 kg |
| RP28/HR | 28" Rapid Purge - Heat Resistant up to 500 degrees | 700 mm | 28" | 26.38" - 27.74" | 670 - 705 mm | 12 lbs. | 5.50 kg |
| RP30/HR | 30" Rapid Purge - Heat Resistant up to 500 degrees | 750 mm | 30" | 28.35" - 29.71" | 720 - 755 mm | 13 lbs. | 6.00 kg |
| RP32/HR | 32" Rapid Purge - Heat Resistant up to 500 degrees | 800 mm | 32" | 30.32" - 31.68" | 770 - 805 mm | 18 lbs. | 8.00 kg |
| RP34/HR | 34" Rapid Purge - Heat Resistant up to 500 degrees | 850 mm | 34" | 32.48" - 33.86" | 825 - 860 mm | 19 lbs. | 8.50 kg |
| RP36/HR | 36" Rapid Purge - Heat Resistant up to 500 degrees | 900 mm | 36" | 34.45" - 35.81" | 875 - 910 mm | 20 lbs. | 9.10 kg |
| RP38/HR | 38" Rapid Purge - Heat Resistant up to 500 degrees | 950 mm | 38" | 36.61" - 37.99" | 930 - 965 mm | 21 lbs. | 9.50 kg |
| RP40/HR | 40" Rapid Purge - Heat Resistant up to 500 degrees | 1,000 mm | 40" | 38.98" - 39.95" | 990 - 1015 mm | 22 lbs. | 9.90 kg |
| RP42/HR | 42" Rapid Purge - Heat Resistant up to 500 degrees | 1,050 mm | 42" | 40.56" - 41.91" | 1,030 - 1,065 mm | 29 lbs. | 13.20 kg |
| RP44/HR | 44" Rapid Purge - Heat Resistant up to 500 degrees | 1,100 mm | 44" | 42.52" - 43.90" | 1,080 - 1,115 mm | 30 lbs. | 13.70 kg |
| RP46/HR | 46" Rapid Purge - Heat Resistant up to 500 degrees | 1,150 mm | 46" | 44.29" - 45.67" | 1,125 - 1,160 mm | 32 lbs. | 14.50 kg |
| RP48/HR | 48" Rapid Purge - Heat Resistant up to 500 degrees | 1,200 mm | 48" | 46.46" - 47.82" | 1,180 - 1,215 mm | 33 lbs. | 15.00 kg |
| RP50/HR | 50" Rapid Purge - Heat Resistant up to 500 degrees | 1,250 mm | 50" | 48.42" - 49.80" | 1,230 - 1,265 mm | 35 lbs. | 16.00 kg |
| RP52/HR | 52" Rapid Purge - Heat Resistant up to 500 degrees | 1,300 mm | 52" | 50.59" - 51.97" | 1,285 - 1,320 mm | 37 lbs. | 17.00 kg |
| RP54/HR | 54" Rapid Purge - Heat Resistant up to 500 degrees | 1,350 mm | 54" | 52.36" - 53.74" | 1,330 - 1,365 mm | 39 lbs. | 18.00 kg |
| RP60/HR | 60" Rapid Purge - Heat Resistant up to 500 degrees | 1,500 mm | 60" | 58.46" - 59.84" | 1,485 - 1,520 mm | 44 lbs. | 20.00 kg |
| RP72/HR | 72" Rapid Purge - Heat Resistant up to 500 degrees | 1,800 mm | 72" | 70.27" - 71.65" | 1,785 - 1,820 mm | 62 lbs. | 28.00 kg |
| RP80/HR | 80" Rapid Purge - Heat Resistant up to 500 degrees | 2,000 mm | 80" | 78.35" - 79.72" | 1,990 - 2,025 mm | 66 lbs. | 30.00 kg |

(Larger sizes and specials available upon request with 35 mm / 1.37" expansion range)



Purge pipes fast with minimal gas usage

PPM also manufactures the silicone Double Seal purging system that has been designed to further reduce both inert gas use and purging time. This system uses silicon discs to form an airtight seal, reducing purge times and gas usage for maximum efficiency.

There are 2 styles of silicon Double Seal systems available:

- the Gas Finger system is designed for small pipes and tubes from 16 - 38 mm i/d
- the Double Seal system is made for pipes from ¾ - 12" (16 - 320 mm)

Features and advantages

- Extremely short purge times resulting in valuable cost savings
- Typical purge times of less than 2 minutes (e.g. an 8" pipe will purge to below 0.01% oxygen in less than 2 minutes)
- High quality silicon sealing disks that prevent them tilting or falling over inside the pipe
- Guaranteed gas tight seal
- UV and temperature resistant up to 330°C continuously or 450°C for short periods
- Suitable for purging pipes, elbows and fittings
- The silicon seal units can be separated and used as a gas finger and pipe stopper respectively
- Fully interchangeable and individually exchangeable system, reducing cost of ownership



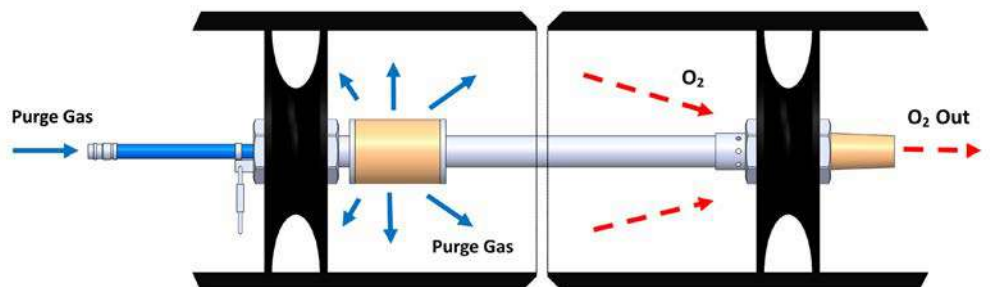
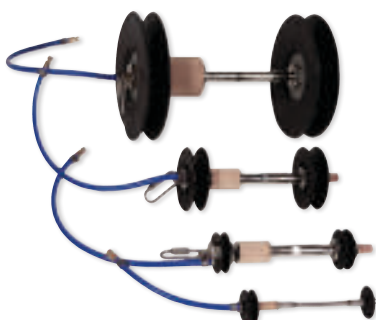
Available as a kit in 3 sizes:
 DSK16-165 (16 - 165 mm i/d)
 DSK16-220 (16 - 220 mm i/d)
 DSK16-320 (16 - 320 mm i/d)

How it works

The gas inlet and outlet are provided with twin sealing discs separated by a flexible, rigid or a spring-type tube. The design guarantees that at least one disc will always remain tight to the pipe wall creating a 100% seal. The discs are UV and temperature-resistant up to 330°C (626°F) continuously or up to 450°C (824°F) for short periods. The gas is diffused into the chamber via the built-in sintered diffuser and exits through the exhaust holes in the secondary twin disc unit.

This extremely short process of gas diffusion provides an equal gas flow and prevents any gas turbulence behind the weld, thereby minimising the risk of oxygen re-entering the welding chamber.

Besides the very short purging time, the double seal system also offers the possibility to cover various nominal pipe diameters by one pair of seals enabling highly economic use of the device. The double seal system can be purchased individually or in kit form for a range of pipe diameters.



Double Seal kits sizing and specification - **RECOMMENDED**

| PART NO | DESCRIPTION | PIPE I/D RANGE | | WEIGHT (LBS. / KG) | | CONNECTOR LENGTH |
|-----------|--|----------------|-------------|--------------------|----------|---------------------------|
| | | | | | | |
| DSK16-165 | Double Seal Kit - complete kit 16 - 165 mm i/d | 0.62" - 6.49" | 16 - 165 mm | 24 lbs. | 11.00 kg | Variable - check kit list |
| DSK16-220 | Double Seal Kit - complete kit 16 - 220 mm i/d | 0.62" - 8.66" | 16 - 220 mm | 33 lbs. | 15.00 kg | Variable - check kit list |
| DSK16-320 | Double Seal Kit - complete kit 16 - 320 mm i/d | 0.62" - 12.59" | 16 - 320 mm | 42 lbs. | 19.00 kg | Variable - check kit list |

Double Seal Gas Fingers

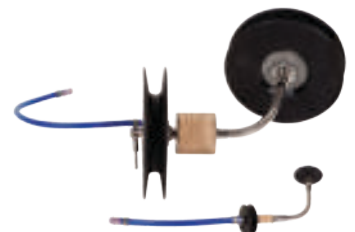
| PART NO | DESCRIPTION | PIPE I/D RANGE | | WEIGHT (LBS. / KG) | | CONNECTOR LENGTH |
|----------|---------------------------------------|----------------|------------|--------------------|---------|------------------|
| | | | | | | |
| DSF16-19 | Double Seal Gas Finger 16 - 19 mm i/d | 0.62" - 0.74" | 16 - 19 mm | 0.5 lbs. | 0.20 kg | n/a |
| DSF19-24 | Double Seal Gas Finger 19 - 24 mm i/d | 0.74" - 0.94" | 19 - 24 mm | 0.5 lbs. | 0.20 kg | n/a |
| DSF24-29 | Double Seal Gas Finger 24 - 29 mm i/d | 0.94" - 1.14" | 24 - 29 mm | 0.5 lbs. | 0.20 kg | n/a |
| DSF29-34 | Double Seal Gas Finger 29 - 34 mm i/d | 1.14" - 1.33" | 29 - 34 mm | 0.6 lbs. | 0.30 kg | n/a |
| DSF34-38 | Double Seal Gas Finger 34 - 38 mm i/d | 1.33" - 1.49" | 34 - 38 mm | 0.6 lbs. | 0.30 kg | n/a |

Sizing and specification

| PART NO. | DESCRIPTION | PIPE I/D RANGE | | WEIGHT (LBS. / KG) | | CONNECTOR LENGTH |
|--|--|-----------------|--------------|--------------------|---------|------------------|
| | | | | | | |
| DS16-19 | Double Seal purge system - Flexible 16 - 19 mm i/d | 0.62" - 0.74" | 16 - 19 mm | 1.5 lbs. | 0.65 kg | 3.94" / 100 mm |
| DS19-24 | Double Seal purge system - Flexible 19 - 24 mm i/d | 0.74" - 0.94" | 19 - 24 mm | 1.5 lbs. | 0.70 kg | 3.94" / 100 mm |
| DS24-29 | Double Seal purge system - Flexible 24 - 29 mm i/d | 0.94" - 1.14" | 24 - 29 mm | 1.5 lbs. | 0.75 kg | 3.94" / 100 mm |
| DS29-34 | Double Seal purge system - Flexible 29 - 34 mm i/d | 1.14" - 1.33" | 29 - 34 mm | 1.5 lbs. | 0.75 kg | 3.94" / 100 mm |
| DS34-38 | Double Seal purge system - Flexible 34 - 38 mm i/d | 1.33" - 1.49" | 34 - 38 mm | 1.5 lbs. | 0.80 kg | 3.94" / 100 mm |
| DS38-43 to DS290-320 are supplied with rigid connector as standard, flexible on request | | | | | | |
| DS38-43 | Double Seal purge system - Rigid 38 - 43 mm i/d | 1.49" - 1.69" | 38 - 43 mm | 1.5 lbs. | 0.85 kg | 3.94" / 100 mm |
| DS43-48 | Double Seal purge system - Rigid 43 - 48 mm i/d | 1.69" - 1.88" | 43 - 48 mm | 2 lbs. | 0.90 kg | 3.94" / 100 mm |
| DS47-53 | Double Seal purge system - Rigid 47 - 53 mm i/d | 1.85" - 2.08" | 47 - 53 mm | 2 lbs. | 0.95 kg | 3.94" / 100 mm |
| DS52-58 | Double Seal purge system - Rigid 52 - 58 mm i/d | 2.04" - 2.28" | 52 - 58 mm | 2 lbs. | 1.00 kg | 3.94" / 100 mm |
| DS64-72 | Double Seal purge system - Rigid 64 - 72 mm i/d | 2.51" - 2.83" | 64 - 72 mm | 2 lbs. | 1.10 kg | 3.94" / 100 mm |
| DS78-86 | Double Seal purge system - Rigid 78 - 86 mm i/d | 3.07" - 3.38" | 78 - 86 mm | 3 lbs. | 1.20 kg | 3.94" / 100 mm |
| DS90-101 | Double Seal purge system - Rigid 90 - 101 mm i/d | 3.54" - 3.97" | 90 - 101 mm | 3 lbs. | 1.30 kg | 3.94" / 100 mm |
| DS100-112 | Double Seal purge system - Rigid 100 - 112 mm i/d | 3.93" - 4.40" | 100 - 112 mm | 3 lbs. | 1.40 kg | 3.94" / 100 mm |
| DS120-130 | Double Seal purge system - Rigid 120 - 130 mm i/d | 4.72" - 5.11" | 120 - 130 mm | 3 lbs. | 1.50 kg | 3.94" / 100 mm |
| DS124-138 | Double Seal purge system - Rigid 124 - 138 mm i/d | 4.88" - 5.43" | 124 - 138 mm | 3 lbs. | 1.60 kg | 3.94" / 100 mm |
| DS144-155 | Double Seal purge system - Rigid 144 - 155 mm i/d | 5.66" - 6.10" | 144 - 155 mm | 4 lbs. | 1.70 kg | 3.94" / 100 mm |
| DS150-165 | Double Seal purge system - Rigid 150 - 165 mm i/d | 5.90" - 6.49" | 150 - 165 mm | 4 lbs. | 1.80 kg | 7.08" / 180 mm |
| DS197-206 | Double Seal purge system - Rigid 197 - 206 mm i/d | 7.75" - 8.11" | 197 - 206 mm | 4 lbs. | 2.00 kg | 7.08" / 180 mm |
| DS209-220 | Double Seal purge system - Rigid 209 - 220 mm i/d | 8.22" - 8.66" | 209 - 220 mm | 5 lbs. | 2.20 kg | 7.08" / 180 mm |
| DS246-257 | Double Seal purge system - Rigid 246 - 257 mm i/d | 9.68" - 10.11" | 246 - 257 mm | 5 lbs. | 2.40 kg | 7.08" / 180 mm |
| DS260-280 | Double Seal purge system - Rigid 260 - 280 mm i/d | 10.23" - 11.02" | 260 - 280 mm | 5 lbs. | 2.60 kg | 7.08" / 180 mm |
| DS290-320 | Double Seal purge system - Rigid 290 - 320 mm i/d | 11.41" - 12.59" | 290 - 320 mm | 6 lbs. | 3.00 kg | 7.08" / 180 mm |



Single Gas Finger for smaller pipe and tubes



Shown with flexible hose connection for purging elbows and fittings.

PPM

PIPE PURGE MASTERS

PURGE OXYGEN MONITOR





HANDY PURGE 100 SELF CALIBRATING WELD PURGE MONITOR

Measures oxygen levels down to 0.01% (100ppm)

SELF CALIBRATING

The entry level, welders' toolbox monitor

Inert gas welding requires the exclusion of oxygen from the weld zone during the welding process. Prior to the welding process, the residual oxygen concentration must be reduced to a required minimum. The Handy Purge 100 is specifically designed to indicate oxygen concentration up to 0.01% and to exactly measure oxygen concentration up to 0.1%. Within this range, it is absolutely safe to weld and produce an oxygen-free weld seam (exceptions include special metals such as titanium, zirconium, etc.).

The Handy Purge 100 can be used both for continuous monitoring during the welding process and for taking samples. Routine inspections for quality control are extremely simplified using this device. The analyser works with all purge systems and argon welding systems. It is small, easy to handle and has a rugged enclosure.

Features and advantages

- Self calibrating
- Minimum waiting time. The device indicates exactly when the residual oxygen concentration of a purge gas is low enough to start welding.
- Reduced purge gas consumption. Exact monitoring of the residual oxygen avoids unnecessary purge gas consumption and allows producing oxygen-free weld seams
- Top-quality weld seams
- Top quality is guaranteed, as too early welding and hence porous, coloured or even charred weld seams can be avoided
- Duplex / stainless steel. The Handy Purge 100 can be used for all stainless steel, duplex and certain titanium welding applications
- Eliminates guess work



NEW AND IMPROVED



Plastic carry case box (HP100SCP7)



Replacement sensor (HP100SCS)

The kit consists of:

- Handy Purge 100 Monitor
- 1 m hose with flow adapter
- Stainless steel probe
- Vacuum hand pump
- Plastic carry case
- Instructions
- Calibration certificate

Technical specification

| DESCRIPTION | MEASUREMENTS |
|---------------------------------|--|
| Part Number | HP100SC |
| Measuring range | 0.01 % - 20.9 % Oxygen (O ₂) (10ppm - 209,000ppm) |
| Accuracy | at 20% ± 0.2% at 2% ± 0.02% |
| Dimensions | 6" x 3" x 1" / 155 x 81 x 38 mm |
| Power source | Battery type PP3 9V |
| Display | LCD (Liquid Crystal Display) |
| Weight | 0.5 lbs. / 0.20 kg |
| SHIPPING WEIGHTS AND DIMENSIONS | |
| Dimensions | 9.05" x 7.48" x 1.96" / 230 x 190 x 50 mm |
| Weight | 1.5 lbs. / 0.60 kg |



PIPE STOPPERS



Expandable test plugs for purging and general pipe blocking

Pipe stoppers (or drain plugs) are used to temporarily seal the end of a pipe or opening for many different testing applications. Pipe stoppers are mainly used to seal off from water, gases and foreign objects in newly laid pipes, or pipework systems that are under repair.

PPM's range of pipe stoppers is available in a number of different styles to suit many applications for pipe sizes from 1½" - 72" (38 mm - 1,829 mm). Special pipe stoppers are also available for pressure testing.

How it works

The pipe stopper consists of a central spindle/shaft on which two plates are fitted with a natural rubber tyre (ring) between them. A wing nut on the shaft moves the two plates together, compressing the tyre and making the seal in the pipe. These stoppers can also be supplied with a hollow shaft version for screwing on standard hose connections or for using fixed or free nipple caps.

Expandable pipe stoppers are available in three different types.

Nylon plugs - 1½" - 6" (38 mm - 150 mm)

Nylon plugs are the standard drain plugs for testing leak tightness of foul water lines at the time of installation. Furthermore, the range of sizes make these plugs ideal for a number of other applications in the water and gas industries as well as applications in all other industries where pipes are used or where there are holes to be blocked.



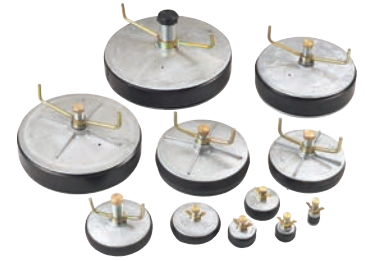
Nylon expanding pipe stopper specification

| PART NO. | PIPE SIZE INTERNAL NOMINAL DIAMETER | | WILL FIT PIPES WITH INTERNAL DIAMETER | | MINIMUM INSERTION INTO PIPE | OVERALL LENGTH | DIAMETER OF WATERWAY | MAXIMUM ALLOWABLE BACK PRESSURE | WEIGHT (LBS. / KG) | |
|----------|-------------------------------------|--------|---------------------------------------|----------------|-----------------------------|----------------|----------------------|---------------------------------|--------------------|---------|
| | Inches | mm | Range (Inches) | Range (mm) | | | | | Lbs. | Kg |
| NES38 | 1½" | 38 mm | 1.49 - 1.65" | 38 - 42 mm | 36 mm | 58 mm | n/a solid | 15 psi | 1 lbs. | 0.05 kg |
| NES50 | 2" | 50 mm | 1.90 - 2.44" | 48.5 - 62.2 mm | 36 mm | 110 mm | 0.5" bsp | 15 psi | 1 lbs. | 0.05 kg |
| NES63 | 2½" | 63 mm | 2.55 - 3.03" | 65 - 77 mm | 36 mm | 110 mm | 0.5" bsp | 10 psi | 1 lbs. | 0.10 kg |
| NES75 | 3" | 75 mm | 2.91 - 3.38" | 74 - 86 mm | 36 mm | 110 mm | 0.5" bsp | 10 psi | 1 lbs. | 0.10 kg |
| NES88 | 3½" | 88 mm | 3.22 - 3.77" | 82 - 96 mm | 36 mm | 110 mm | 0.5" bsp | 10 psi | 1 lbs. | 0.10 kg |
| NES100 | 4" | 100 mm | 3.74 - 4.13" | 95 - 105 mm | 36 mm | 110 mm | 0.5" bsp | 5 psi | 1 lbs. | 0.15 kg |
| NES115 | 4½" | 115 mm | 4.48 - 4.88" | 114 - 124 mm | 36 mm | 110 mm | 0.5" bsp | 5 psi | 1 lbs. | 0.20 kg |
| NES125 | 5" | 125 mm | 4.60 - 5.00" | 117 - 127 mm | 40 mm | 110 mm | 0.5" bsp | 5 psi | 1 lbs. | 0.20 kg |
| NES150 | 6" | 150 mm | 5.74 - 6.10" | 146 - 155 mm | 42 mm | 110 mm | 0.5" bsp | 5 psi | 1 lbs. | 0.25 kg |

All plugs conform to British Standards BS8005 for low pressure testing and sealing of pipes.

Aluminium plugs - 1½ - 24" (40 mm - 600 mm)

To complement the range of nylon expanding plugs, we offer all sizes of aluminium plugs. These are provided in sizes from 1½" (40 mm) upwards and are suitable for more heavy duty applications, heat resistant up to 90°. These plugs are typically used for general sealing of pipes and purging.



Aluminium expanding pipe stopper specification

| PART NO. | PIPE SIZE INTERNAL NOMINAL DIAMETER | | WILL FIT PIPES WITH INTERNAL DIAMETER | | MINIMUM INSERTION INTO PIPE | OVERALL LENGTH | DIAMETER OF WATERWAY | MAXIMUM ALLOWABLE BACK PRESSURE | WEIGHT (LBS. / KG) | |
|----------|-------------------------------------|--------|---------------------------------------|----------------|-----------------------------|----------------|----------------------|---------------------------------|--------------------|----------|
| | Inch | mm | Min - Max (Inch) | Min - Max (mm) | | | | | Lbs. | Kg |
| AES1.5 | 1½" | 40 mm | 1.49 - 1.96" | 38 - 50 mm | 45 mm | 94 mm | ½" | 30 psi | 1 lbs. | 0.17 kg |
| AES2 | 2" | 50 mm | 1.92 - 2.44" | 49 - 62 mm | 43 mm | 90 mm | ½" | 30 psi | 1 lbs. | 0.22 kg |
| AES2.5 | 2½" | 65 mm | 2.44 - 3.03" | 62 - 77 mm | 43 mm | 92 mm | ½" | 30 psi | 1 lbs. | 0.27 kg |
| AES3 | 3" | 75 mm | 2.87 - 3.50" | 73 - 89 mm | 43 mm | 94 mm | ½" | 20 psi | 1 lbs. | 0.31 kg |
| AES3.5 | 3½" | 90 mm | 3.30 - 4.05" | 84 - 103 mm | 53 mm | 96 mm | ½" | 15 psi | 1 lbs. | 0.36 kg |
| AES4 | 4" | 100 mm | 3.70 - 4.33" | 94 - 110 mm | 47 mm | 94 mm | ½" | 10 psi | 1 lbs. | 0.36 kg |
| AES4.5 | 4½" | 114 mm | 4.40 - 5.11" | 112 - 130 mm | 56 mm | 140 mm | ½" | 10 psi | 1 lbs. | 0.47 kg |
| AES5 | 5" | 125 mm | 4.92 - 5.59" | 125 - 142 mm | 60 mm | 95 mm | ½" | 10 psi | 1 lbs. | 0.79 kg |
| AES6 | 6" | 150 mm | 5.74 - 6.61" | 146 - 168 mm | 48 mm | 96 mm | ½" | 10 psi | 1 lbs. | 0.70 kg |
| AES7 | 7" | 175 mm | 6.88 - 7.87" | 175 - 200 mm | 64 mm | 100 mm | 1" | 7 psi | 4 lbs. | 1.92 kg |
| AES8 | 8" | 200 mm | 7.59 - 8.66" | 193 - 220 mm | 64 mm | 100 mm | 1" | 7 psi | 3 lbs. | 1.59 kg |
| AES9 | 9" | 225 mm | 8.66 - 9.44" | 220 - 240 mm | 64 mm | 170 mm | 1" | 7 psi | 4 lbs. | 2.06 kg |
| AES10 | 10" | 250 mm | 9.64 - 10.62" | 245 - 270 mm | 73 mm | 178 mm | 1" | 7 psi | 5 lbs. | 2.52 kg |
| AES11 | 11" | 275 mm | 10.78 - 12.91" | 274 - 328 mm | 100 mm | 200 mm | 1" | 7 psi | 7 lbs. | 3.45 kg |
| AES12 | 12" | 300 mm | 11.61 - 12.79" | 295 - 325 mm | 77 mm | 200 mm | 1" | 7 psi | 7 lbs. | 3.42 kg |
| AES13 | 13" | 325 mm | 12.79 - 14.17" | 325 - 360 mm | 120 mm | 230 mm | 1" | 5 psi | 10 lbs. | 4.75 kg |
| AES14 | 14" | 350 mm | 13.77 - 15.15" | 350 - 385 mm | 110 mm | 215 mm | 1" | 5 psi | 15 lbs. | 6.95 kg |
| AES15 | 15" | 375 mm | 14.56 - 16.14" | 370 - 410 mm | 110 mm | 225 mm | 1" | 5 psi | 11 lbs. | 5.35 kg |
| AES16 | 16" | 400 mm | 15.35 - 17.12" | 390 - 435 mm | 110 mm | 225 mm | 1" | 5 psi | 13 lbs. | 5.90 kg |
| AES18 | 18" | 450 mm | 17.51 - 19.48" | 445 - 495 mm | 110 mm | 225 mm | 2" | 5 psi | 19 lbs. | 8.75 kg |
| AES20 | 20" | 500 mm | 19.48 - 21.65" | 495 - 550 mm | 145 mm | 255 mm | 2" | 5 psi | 24 lbs. | 11.3 kg |
| AES21 | 21" | 525 mm | 19.48 - 21.65" | 495 - 550 mm | 145 mm | 255 mm | 2" | 3 psi | 24 lbs. | 11.3 kg |
| AES24 | 24" | 600 mm | 21.65 - 25.59" | 595 - 650 mm | 145 mm | 255 mm | 2" | 3 psi | 34 lbs. | 15.85 kg |

All plugs conform to British Standards BS8005 for low pressure testing and sealing of pipes.

Steel plugs - 1½ - 36" (40 mm - 900 mm)

(Larger sizes available upon request)

PPM also manufactures a range of steel plugs from 1½" (40 mm) upwards in diameter. These plugs are typically suitable for more heavy duty applications, heat resistant up to 90°. These plugs are typically used for general sealing of pipes and purging.



**Steel
multi-lock
stopper**

Steel expanding pipe stopper specification

| PART NO. | PIPE SIZE INTERNAL NOMINAL DIAMETER | | WILL FIT PIPES WITH INTERNAL DIAMETER | | MINIMUM INSERTION INTO PIPE | OVERALL LENGTH | DIAMETER OF WATERWAY | MAXIMUM ALLOWABLE BACK PRESSURE | WEIGHT (LBS. / KG) | |
|----------|--|--------|--|--------------|-----------------------------------|-------------------|-------------------------|---------------------------------------|-----------------------|---------|
| | | | | | | | | | | |
| SES1.5 | 1½" | 40 mm | 1.45 - 1.96" | 37 - 50 mm | 31 mm | 81.5 mm | ½" | 30 psi | 1 lbs. | 0.16 kg |
| SES2 | 2" | 50 mm | 1.96 - 2.40" | 50 - 61 mm | 32.7 mm | 82.8 mm | ½" | 30 psi | 1 lbs. | 0.18 kg |
| SES2.5 | 2½" | 65 mm | 2.40 - 2.95" | 61 - 75 mm | 33.2 mm | 80.5 mm | ½" | 30 psi | 1 lbs. | 0.26 kg |
| SES3 | 3" | 75 mm | 2.87 - 3.34" | 73 - 85 mm | 34 mm | 80.5 mm | ½" | 20 psi | 1 lbs. | 0.28 kg |
| SES3.5 | 3½" | 89 mm | 3.30 - 3.93" | 84 - 100 mm | 41 mm | 81 mm | ½" | 15 psi | 1 lbs. | 0.36 kg |
| SES4 | 4" | 100 mm | 3.70 - 4.25" | 94 - 108 mm | 37.5 mm | 83.3 mm | ½" | 10 psi | 1 lbs. | 0.41 kg |
| SES4.5 | 4½" | 114 mm | 4.33 - 4.92" | 110 - 125 mm | 40 mm | 83.3 mm | ½" | 10 psi | 1 lbs. | 0.58 kg |
| SES5 | 5" | 125 mm | 4.88 - 5.47" | 124 - 139 mm | 37 mm | 83.3 mm | ½" | 10 psi | 1 lbs. | 0.60 kg |
| SES6 | 6" | 150 mm | 5.90 - 6.29" | 150 - 160 mm | 39.7 mm | 83.3 mm | ½" | 10 psi | 2 lbs. | 0.75 kg |
| SES7 | 7" | 175 mm | 6.88 - 7.87" | 175 - 200 mm | 46 mm | 130 mm | 1" | 7 psi | 3 lbs. | 1.56 kg |
| SES8 | 8" | 200 mm | 7.67 - 8.46" | 195 - 215 mm | 37 mm | 130 mm | 1" | 7 psi | 3 lbs. | 1.47 kg |
| SES9 | 9" | 225 mm | 8.26 - 9.05" | 210 - 230 mm | 58 mm | 150 mm | 1" | 7 psi | 4 lbs. | 1.93 kg |
| SES10 | 10" | 250 mm | 9.64 - 10.23" | 245 - 260 mm | 55 mm | 150 mm | 1" | 7 psi | 6 lbs. | 2.55 kg |
| SES12 | 12" | 300 mm | 11.65 - 12.59" | 296 - 320 mm | 85 mm | 150 mm | 1" | 7 psi | 8 lbs. | 3.72 kg |
| SES14 | 14" | 350 mm | 13.38 - 15.15" | 340 - 385 mm | 85 mm | 210 mm | 1" | 5 psi | 14 lbs. | 6.54 kg |
| SES15 | 15" | 375 mm | 14.56 - 16.33" | 370 - 415 mm | 100 mm | 210 mm | 1" | 5 psi | 15 lbs. | 7.00 kg |
| SES16 | 16" | 400 mm | 15.35 - 16.92" | 390 - 430 mm | 95 mm | 210 mm | 1" | 5 psi | 19 lbs. | 8.45 kg |
| SES18 | 18" | 450 mm | 17.63 - 19.48" | 448 - 495 mm | 100 mm | 220 mm | 1" | 5 psi | 23 lbs. | 10.6 kg |

BELOW STOPPERS ARE MULTI-LOCK

| | | | | | | | | | | |
|-------|-----|--------|----------------|--------------|-------|--------|----|-------|---------|----------|
| SES20 | 20" | 500 mm | 19.29 - 20.86" | 490 - 530 mm | 95 mm | 126 mm | 2" | 5 psi | 23 lbs. | 10.38 kg |
| SES21 | 21" | 525 mm | 20.27 - 21.85" | 515 - 555 mm | 95 mm | 126 mm | 2" | 3 psi | 25 lbs. | 11.28 kg |
| SES24 | 24" | 600 mm | 23.22 - 24.80" | 590 - 630 mm | 95 mm | 126 mm | 2" | 3 psi | 34 lbs. | 15.57 kg |
| SES28 | 28" | 700 mm | 27.16 - 28.74" | 690 - 730 mm | 95 mm | 126 mm | 2" | 3 psi | 44 lbs. | 19.90 kg |
| SES30 | 30" | 750 mm | 29.13 - 30.70" | 740 - 780 mm | 95 mm | 126 mm | 2" | 3 psi | 55 lbs. | 25.09 kg |
| SES32 | 32" | 800 mm | 31.10 - 32.67" | 790 - 830 mm | 95 mm | 125 mm | 2" | 3 psi | 64 lbs. | 28.90 kg |
| SES36 | 36" | 900 mm | 35.03 - 36.61" | 890 - 930 mm | 95 mm | 126 mm | 2" | 3 psi | 77 lbs. | 35.08 kg |

(Larger sizes available upon request)

All plugs conform to British Standards BS8005 for low pressure testing and sealing of pipes.

Single inflatable dams for blocking and testing

PPM offers a range of inflatable stoppers in various shapes and sizes, suitable for many applications. Made from a natural rubber bladder covered in waterproof polyurethane coated nylon to prevent friction and static electricity build up.

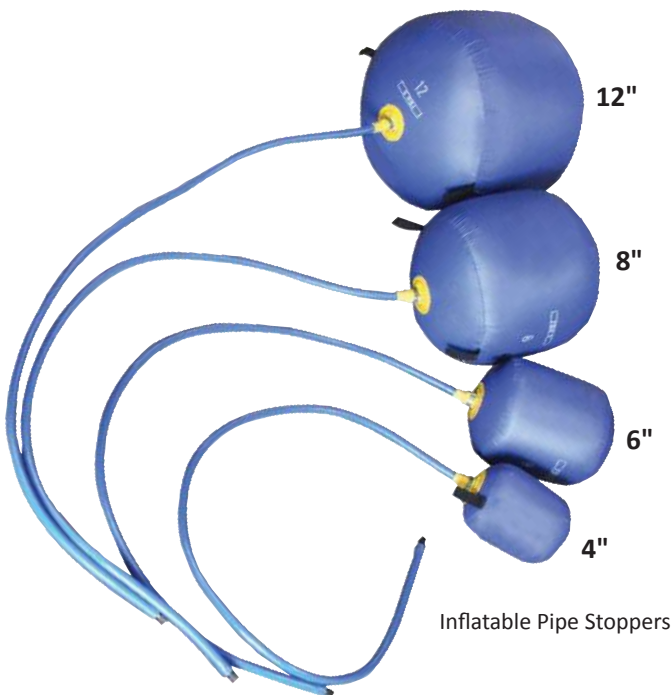
There are six different types available:

- **Cylindrical** - this stopper is generally used for blocking pipes where access is restricted
- **Spherical** - this stopper has less contact area than cylindrical stoppers, and is most suited to applications where access is further limited. Due to its shape the spherical inflatable stopper can be used at any angle
- **Square / Rectangular** - this stopper has a variety of applications, including in air conditioning ducting and venting
- **Doughnut** - this stopper requires minimal space and is perfectly suited to larger diameter pipes as there is less inflation required
- **Sausage** - this stopper has more contact area between the stopper and the pipe wall enabling it to hold back more pressure
- **Heat Resistant** - this stopper is made of a specially designed Kevlar and Nomex mix material to withstand temperatures up to 500°C (932°F) for applications involving higher temperatures such as pre heating



Holdback pressure - unsupported back pressure is 20% of the inflation pressure

Each inflatable stopper comes with an inflation hose fitted with a Schrader valve enabling inflation with a standard airline, bicycle or foot pump.



PPM's inflatable stoppers are supplied as standard with no through tube. Through tubes can be supplied on request at extra cost when the stoppers are required for weld purging applications. When deflated, the inflatable stoppers can be inserted and withdrawn with ease when access is restricted.

Sizing and specification

| PART NO | DESCRIPTION | NOMINAL PIPE SIZE | | INTERNAL DIAMETER RANGE (I/D) | | WEIGHT (LBS. / KG) | | INFLATION PRESSURE |
|---------|-----------------------------|-------------------|----------|-------------------------------|---------------------|--------------------|----------|--------------------|
| | | | | | | | | |
| IPS2 | 2" Inflatable Pipe Stopper | 2" | 50 mm | 1.77" - 2.16" | 45 mm - 55 mm | 0.74 lbs. | 0.34 kg | 10 psi |
| IPS3 | 3" Inflatable Pipe Stopper | 3" | 75 mm | 2.75" - 3.14" | 70 mm - 80 mm | 0.74 lbs. | 0.34 kg | 10 psi |
| IPS4 | 4" Inflatable Pipe Stopper | 4" | 100 mm | 3.74" - 4.13" | 95 mm - 105 mm | 0.74 lbs. | 0.34 kg | 10 psi |
| IPS5 | 5" Inflatable Pipe Stopper | 5" | 125 mm | 4.72" - 5.11" | 120 mm - 130 mm | 0.83 lbs. | 0.38 kg | 10 psi |
| IPS6 | 6" Inflatable Pipe Stopper | 6" | 150 mm | 5.70" - 6.10" | 145 mm - 155 mm | 0.83 lbs. | 0.38 kg | 6 psi |
| IPS7 | 7" Inflatable Pipe Stopper | 7" | 175 mm | 6.69" - 7.08" | 170 mm - 180 mm | 1.54 lbs. | 0.70 kg | 6 psi |
| IPS8 | 8" Inflatable Pipe Stopper | 8" | 200 mm | 7.67" - 8.07" | 195 mm - 205 mm | 2 lbs. | 0.90 kg | 6 psi |
| IPS9 | 9" Inflatable Pipe Stopper | 9" | 225 mm | 8.66" - 9.05" | 220 mm - 230 mm | 2 lbs. | 0.95 kg | 4 psi |
| IPS10 | 10" Inflatable Pipe Stopper | 10" | 250 mm | 9.64" - 10.03" | 245 mm - 255 mm | 2 lbs. | 1.00 kg | 4 psi |
| IPS11 | 11" Inflatable Pipe Stopper | 11" | 275 mm | 10.62" - 11.02" | 270 mm - 280 mm | 2 lbs. | 1.05 kg | 4 psi |
| IPS12 | 12" Inflatable Pipe Stopper | 12" | 300 mm | 11.61" - 12.00" | 295 mm - 305 mm | 2 lbs. | 1.10 kg | 3 psi |
| IPS13 | 13" Inflatable Pipe Stopper | 13" | 325 mm | 12.59" - 12.99" | 320 mm - 330 mm | 3 lbs. | 1.20 kg | 3 psi |
| IPS14 | 14" Inflatable Pipe Stopper | 14" | 350 mm | 13.58" - 13.97" | 345 mm - 355 mm | 3 lbs. | 1.30 kg | 3 psi |
| IPS15 | 15" Inflatable Pipe Stopper | 15" | 375 mm | 14.56" - 14.96" | 370 mm - 380 mm | 3 lbs. | 1.50 kg | 3 psi |
| IPS16 | 16" Inflatable Pipe Stopper | 16" | 400 mm | 15.55" - 15.94" | 395 mm - 405 mm | 4 lbs. | 1.70 kg | 3 psi |
| IPS17 | 17" Inflatable Pipe Stopper | 17" | 425 mm | 16.53" - 16.92" | 420 mm - 430 mm | 4 lbs. | 1.75 kg | 3 psi |
| IPS18 | 18" Inflatable Pipe Stopper | 18" | 450 mm | 17.51" - 17.91" | 445 mm - 455 mm | 4 lbs. | 1.80 kg | 2 psi |
| IPS19 | 19" Inflatable Pipe Stopper | 19" | 475 mm | 18.50" - 18.89" | 470 mm - 480 mm | 4 lbs. | 1.85 kg | 2 psi |
| IPS20 | 20" Inflatable Pipe Stopper | 20" | 500 mm | 19.48" - 19.88" | 495 mm - 505 mm | 4 lbs. | 1.90 kg | 2 psi |
| IPS21 | 21" Inflatable Pipe Stopper | 21" | 525 mm | 20.47" - 20.86" | 520 mm - 530 mm | 5 lbs. | 2.20 kg | 2 psi |
| IPS22 | 22" Inflatable Pipe Stopper | 22" | 550 mm | 21.45" - 21.85" | 545 mm - 555 mm | 5 lbs. | 2.40 kg | 2 psi |
| IPS24 | 24" Inflatable Pipe Stopper | 24" | 600 mm | 23.42" - 23.81" | 595 mm - 605 mm | 5 lbs. | 2.50 kg | 2 psi |
| IPS28 | 28" Inflatable Pipe Stopper | 28" | 700 mm | 27.36" - 27.75" | 695 mm - 705 mm | 5 lbs. | 2.70 kg | 2 psi |
| IPS30 | 30" Inflatable Pipe Stopper | 30" | 750 mm | 29.33" - 29.72" | 745 mm - 755 mm | 6 lbs. | 3.00 kg | 2 psi |
| IPS32 | 32" Inflatable Pipe Stopper | 32" | 800 mm | 31.29" - 31.69" | 795 mm - 805 mm | 7 lbs. | 3.40 kg | 1.5 psi |
| IPS34 | 34" Inflatable Pipe Stopper | 34" | 850 mm | 33.26" - 33.66" | 845 mm - 855 mm | 7 lbs. | 3.60 kg | 1.5 psi |
| IPS36 | 36" Inflatable Pipe Stopper | 36" | 900 mm | 35.23" - 35.62" | 895 mm - 905 mm | 8 lbs. | 3.80 kg | 1 psi |
| IPS42 | 42" Inflatable Pipe Stopper | 42" | 1,050 mm | 41.34" - 41.73" | 1,050 mm - 1,060 mm | 11 lbs. | 5.00 kg | 0.5 psi |
| IPS44 | 44" Inflatable Pipe Stopper | 44" | 1,100 mm | 43.11" - 43.50" | 1,095 mm - 1,105 mm | 12 lbs. | 5.50 kg | 0.5 psi |
| IPS48 | 48" Inflatable Pipe Stopper | 48" | 1,200 mm | 47.04" - 47.44" | 1,195 mm - 1,205 mm | 13 lbs. | 6.00 kg | 0.5 psi |
| IPS54 | 54" Inflatable Pipe Stopper | 54" | 1,350 mm | 53.35" - 53.74" | 1,355 mm - 1,365 mm | 17 lbs. | 7.50 kg | 0.5 psi |
| IPS60 | 60" Inflatable Pipe Stopper | 60" | 1,500 mm | 58.85" - 59.25" | 1,495 mm - 1,505 mm | 19 lbs. | 8.50 kg | 0.5 psi |
| IPS72 | 72" Inflatable Pipe Stopper | 72" | 1,800 mm | 71.45" - 71.85" | 1,815 mm - 1,825 mm | 24 lbs. | 11.00 kg | 0.5 psi |

Pipe stoppers are supplied with Schrader valve

(Larger sizes available upon request with 10 mm / 0.39" expansion range)



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OUR BRANDS

