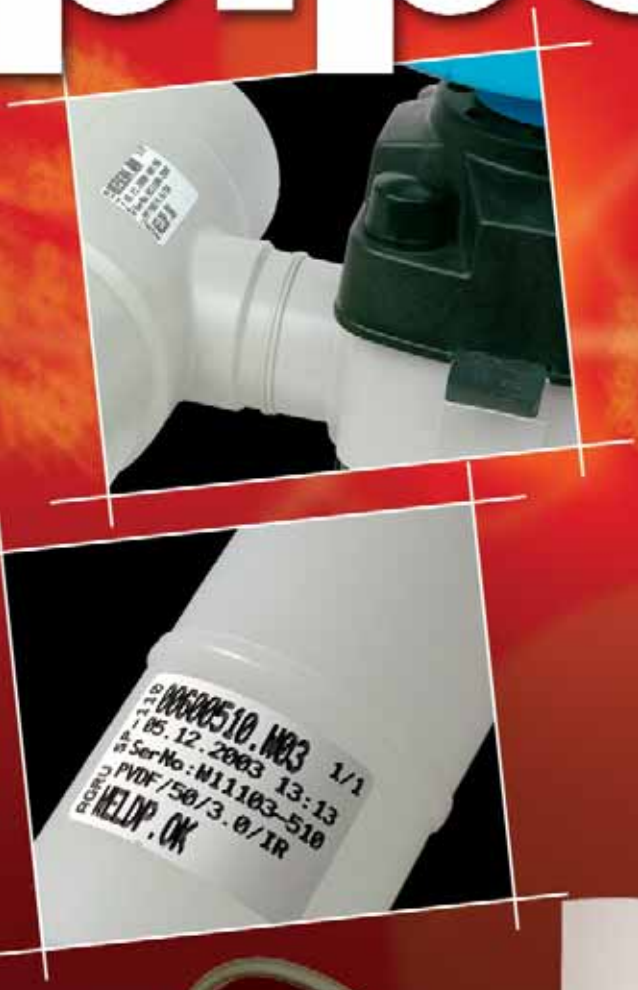
what's new in the
pipeline
Issue 24 October 2004



Infra Red (IR) Welding Improves Performance

The latest Infra Red welding techniques give guaranteed results. Material and labour costs are lower, generating cost savings compared to other methods.

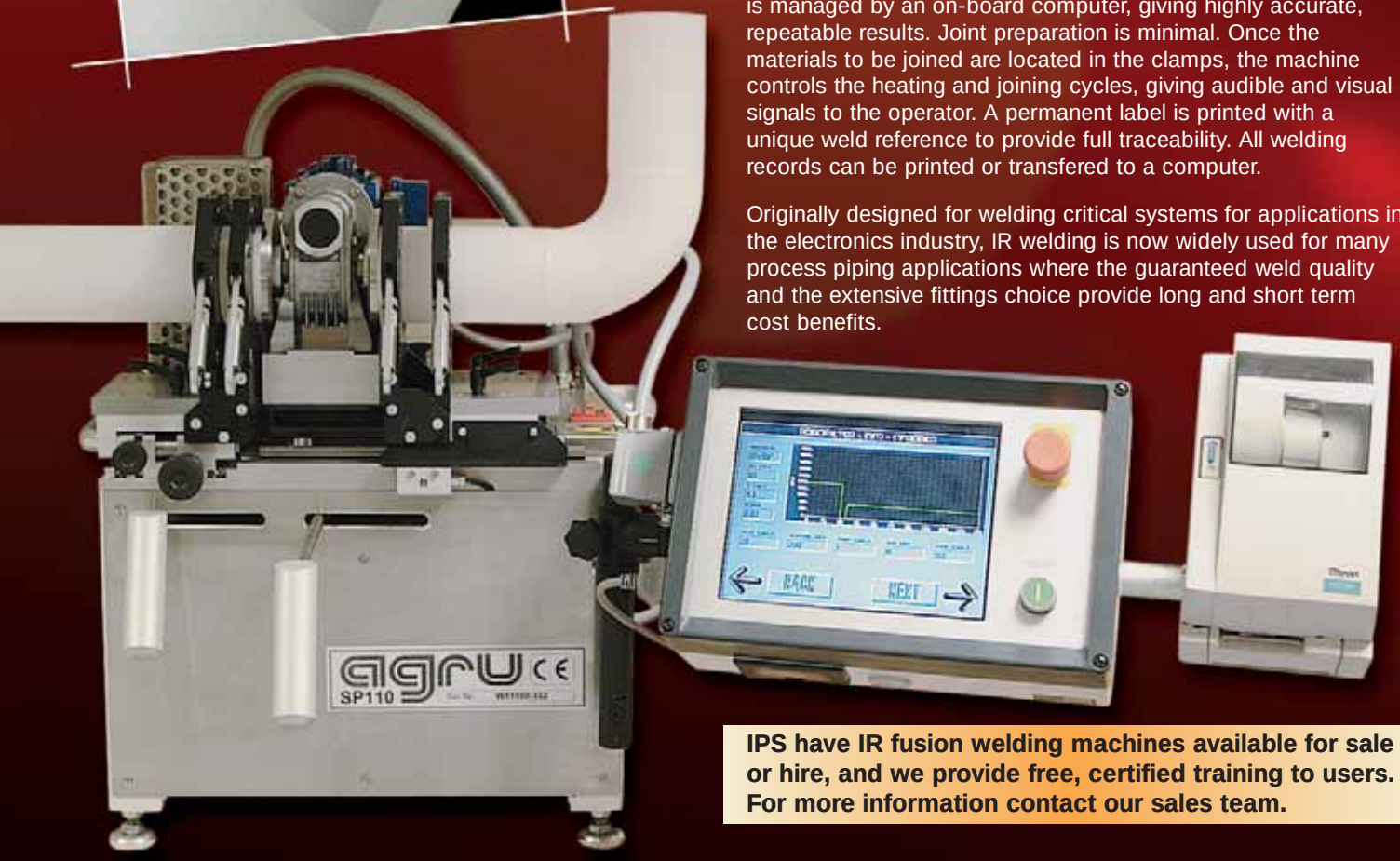
Polypropylene (PP) and PVDF piping systems have been successfully welded for many years using either socket fusion or butt fusion welding methods.

Socket fusion is commonly used for a small diameter systems. This method uses hand-held or bench mounted tools. Although assembly can be carried out relatively quickly, good alignment of the pipe and fittings is not guaranteed with hand-held equipment. In addition, the heavy wall that is required on socket fusion fittings makes them expensive when compared to the same item from the IR fusion range.

IR fusion uses the same low cost range of spigot fittings that are used for butt fusion welding. There is a greater diversity of choice when compared to the socket fusion range, often resulting in fewer fittings being required to carry out the installation.

Unlike with standard welding equipment, the IR welding process is managed by an on-board computer, giving highly accurate, repeatable results. Joint preparation is minimal. Once the materials to be joined are located in the clamps, the machine controls the heating and joining cycles, giving audible and visual signals to the operator. A permanent label is printed with a unique weld reference to provide full traceability. All welding records can be printed or transfered to a computer.

Originally designed for welding critical systems for applications in the electronics industry, IR welding is now widely used for many process piping applications where the guaranteed weld quality and the extensive fittings choice provide long and short term cost benefits.



IPS have IR fusion welding machines available for sale or hire, and we provide free, certified training to users. For more information contact our sales team.

what's new in the
pipeline

Ultra High Purity system sets new standards

An improved PVDF piping system from AGRU gives significant improvements to the surface quality of the pipes and reduced leach-out values.

As the semiconductor industry develops finer structures for microchips, the demand for yet further improvements to the quality of ultra pure water continues to grow to stringent levels. To meet with current and future requirements, AGRU has developed a new Ultra High Purity (UHP) PVDF material that offers significant benefits over standard high purity systems.

PVDF-UHP has physical, mechanical and electric properties that are as good as previous materials. Because it shares the same welding parameters, it is also fully compatible with the PVDF-HP material previously manufactured by AGRU. However, PVDF-UHP provides the following benefits.

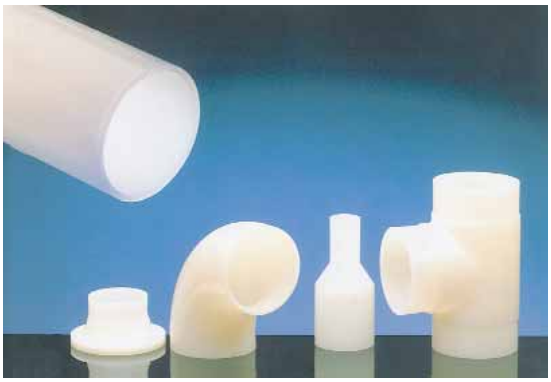
- Outstanding surface quality for pipes. The surface roughness value (Ra) according to SEMASPEC#92010952B-STD is 79.
- Significantly improved leach-out results. The table shows the 7 day test results for PVDF UHP pipe at 85ºC, in accordance with SEMI F57-0301 and SEMI F40-0699 guidelines.
- New, improved white colour.

	PVDF-UHP	SEMI Spec
Flouride	7732	60000
Chloride	78	3000
Nitrite	< 9.1	100
Bromide	< 5.5	100
Nitrate	< 18.7	100
Phosphate	74.2	300
Sulphate	11.4	300
Lithium	0.9	2
Sodium	6.8	15
Potassium	3.8	15
Magnesium	2.5	5
Calcium	19.5	30
Iron	1.1	5
Copper	0.7	15
Nickel	0.2	1
Zinc	3.1	10
Manganese	0.5	5
Aluminum	2.0	10
Barium	< 0.3	15
Boron	< 0.7	10
Chromium	<0.7	1
Lead	< 0.3	1
Strontium	< 0.3	0.5
TOC	8975	60000

IPS can assist with the selection of materials for high purity water systems in the semiconductor, pharmaceutical and process industries. Our standard stock range includes high purity and natural grades of polypropylene as well as the new PVDF-UHP system. It is the widest product range for high purity applications, supported by innovative welding systems and engineering expertise.

ECTFE piping used for contaminated effluents

A major pharmaceutical company has installed an ECTFE piping system for a highly aggressive effluent drainage system.



The project required four parallel networks for contaminated effluents and condensates discharging from different production stages: fermentation, inactivation, purification and laboratory. The piping systems transport the various liquids to the decontamination station that is located in the basement of the building. In addition to the aggressive liquids transported through the piping, hot sodium hypochlorite is used to carry out sterilisation of the system.

All piping was installed using butt fusion welded joints. Over 900 welds and 70 flange connections were made up during the installation, in pipe sizes from 50mm to 90mm diameter.

ECTFE offers excellent resistance to abrasion, harsh chemicals, and permeation. It provides a unique combination of mechanical properties, thermal and chemical resistance that sets it apart from all other extruded or injection moulded rigid thermoplastics. It is suitable for use in high purity applications as well as for handling aggressive media at temperatures up to 150ºC.

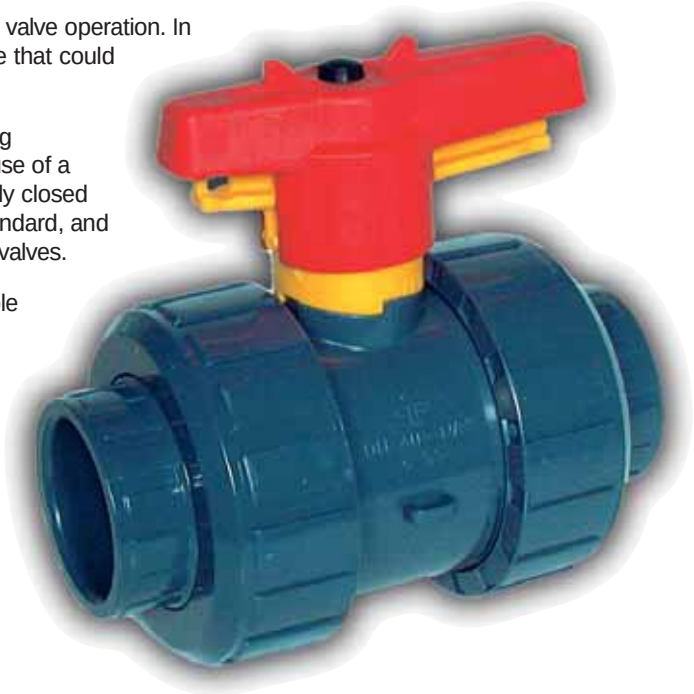
For more information about AGRU ECTFE piping, please contact our customer services team.

Ball valves have unique features

The Praher S4 ball valve includes a locking handle and tagging point as standard.

A locking valve handle avoids tampering and guards against accidental valve operation. In critical process applications this feature can prevent chemical discharge that could lead to system failure, employee injury or environmental damage.

The Praher S4 valve handle includes a ratchet-type operation preventing accidental operation even when a lock is not attached. The additional use of a padlock allows the valve to be permanently fixed in the fully open or fully closed position. The locking handle is built in to the Praher S4 ball valve as standard, and is a feature across the complete range of ball, diaphragm and butterfly valves.

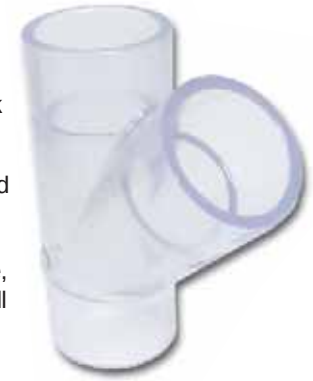


The moulded tagging point is also a useful innovation, providing a simple attachment for a valve reference tags (a service that we can provide on request). This is an integral feature on Praher valves, also including check valves and line strainers.

Praher S4 range of valves are designed for critical industrial applications and are manufactured in PVC-U, Polypropylene and PVDF. There are many options that we can provide, including special connections, silicon-free versions and electric or pneumatic actuation. For further details please contact Tony Welsh on 0191 521 9004.

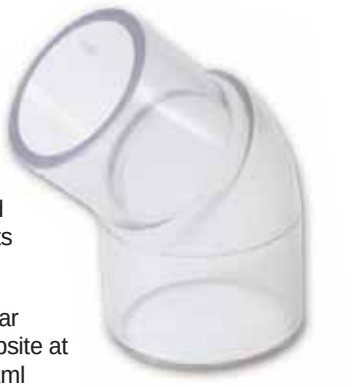
Clear PVC range continues to grow

Clear PVC piping provides visibility of the system flow and can also be used in containment systems for visual leak detection.



Harvel Clear PVC pipes are manufactured with a selection of wall thicknesses in diameters from 1/4" to 8". Late 2004 will see the introduction of 10" diameter pipe, which will be useful for fabricators as well as for piping systems.

Clear PVC fittings cover sizes up to 8" in standard configurations such as tees, elbows, couplings and threaded adaptors. To meet the needs of more complex piping systems, a number of new items have been introduced, including 45º Tees (wyes), and 45º and 90º Street Elbows. Street elbows are spigot x socket fittings that can be used to connect fittings directly together, reducing the space required and cutting down the number of joints needed.



Details on the expanded range of clear PVC fittings can be found on our website at http://www.ips-plastics.com/pvc-u.html

IPS staff achieve CSWIP welding standard

Tony Charlton and Terry Duell have passed the CSWIP plastic welder examinations operated by the Welding Institute (TWI)

IPS has a long history of providing free training in welding techniques for our plastic piping systems. It is important to share our knowledge so that installations are completed smoothly and the risk of system failure due to bad installation is minimised. Each year we train a large number of customers in a range of welding methods, including solvent cement welding, socket and butt-fusion welding, IR fusion welding and electro-fusion welding.

Tony and Terry are closely involved in the provision of welder training, both on site and at our in-house training facility. This CSWIP assessment by TWI is an important endorsement of their skills in this role.

If you would like to discuss your training requirements with us, contact Tony or Terry directly.

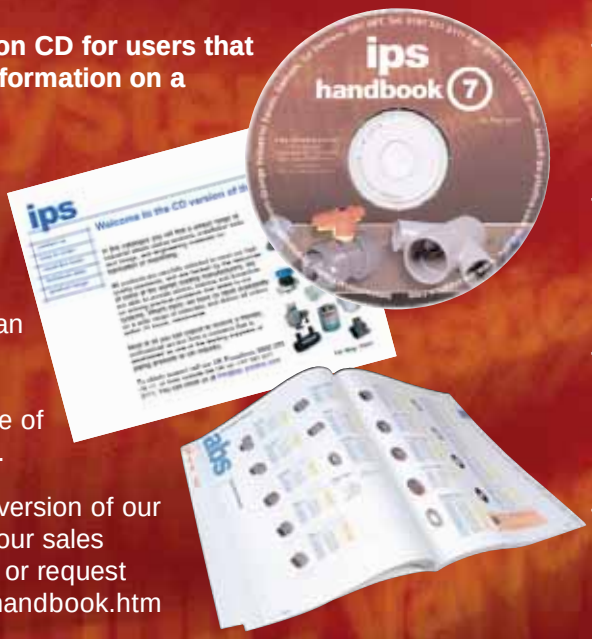
what's new in the

pipeline

CD Handbook available

The IPS Handbook is available on CD for users that prefer to search for prices or information on a desktop or laptop PC.

The Handbook contains over 450 pages of fully priced details on our range of plastic piping systems, installation tools and fixings and engineering materials for fabrication or machining. It is an invaluable guide to system designers, users and installers, bringing together the largest range of products into one reference book.



To recieve your free CD or paper version of our latest Handbook, please contact our sales team Freephone 0800 975 79 71, or request online at www.ips-plastics.com/handbook.htm

Request for information

Please send me the following:- Oct 2004

- ❑ Information on these product(s):.....
- ❑ A copy of the IPS Handbook

Name:.....

Job Title:.....

Company Name:.....

Address:.....

.....

.....

Postcode:.....

Telephone:.....

Main Business Activity:.....

Please also send information to my colleagues:-

Name:..... Job Title:.....

Name:..... Job Title:.....

Name:..... Job Title:.....

photocopy, complete and fax to 0191 521 3222


PVC-U Systems


PVC-C Systems


ABS Systems


Polypropylene Systems


Polyethylene Systems


PVDF Systems


PURAD High Purity Systems


Compressed Air Piping


Double Containment Systems


Process Measurement


Fixings & Supports


Tools & Installation Equipment


Sheet & Rod

International Plastic Systems Ltd.
Seaham Grange Ind Est. Co Durham. SR7 0PT England.
Tel: 0191 521 3111 Fax: 0191 521 3222
Web Site: www.ips-plastics.com E-mail: info@ips-plastics.com