

Pump protection

It is recognised that centrifugal process pumps do not perform well at flows away from their best efficiency point. They begin to show signs of distress as soon as 20 to 35% of their best efficiency flow point are reached. This leads to problems ranging from operational difficulties with unusual noise and vibration, to frequent repair outages, to total wrecks.

When pumping fluids near their boiling point, the situation gets worse. The minimum continuous safe flow is a problem, as is the 'gassing up' of the pumps due to insufficient venting. The result is dry running, which in turn can lead to wreckage and considerable other plant damage. These problems occur mainly during start-up and pump restart, and are well known to operating personnel of liquid petroleum gas plants and tankage pump stations. Schroeder Valves, a specialist in protecting pump fittings, has developed a valve that puts an end to gassing up. The SMV multifunctional valve has a gas outlet

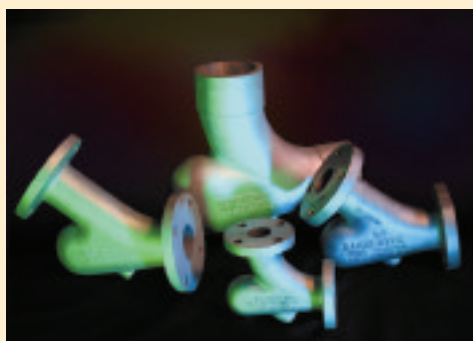
pipe for media with a low boiling point. It ensures automatic gas venting when the pumps are not in operation. In addition, the drive and motor capacity can be significantly lower, which in turn has a positive effect on energy consumption and system costs.

Automatic venting makes a meaningful contribution to pump protection in addition to minimum volume control and the return function in the main pumping volume. The SMV multifunctional valve is well suited to systems that pump liquids at a temperature close to their boiling point, for pumping two-phase mixtures, for pumping gaseous media and for pumps equipped with gas injection with the aid of modern sealing systems or similar devices. Canned motor pumps and magnetic pumps protect the multifunctional valve against running dry.

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Elbow with deflection zone

HammerTek Corporation's Smart Elbow® for pneumatic and slurry conveying systems is designed to virtually eliminate elbow wear, product degradation, plugging, surging, cross-contamination, noise and turbulence.



▲ Smart Elbows from HammerTek Corporation

The Smart Elbow is claimed to be the only elbow on the market to convey by creating a true deflection zone.

Other elbows on the market are impact elbows. An impact elbow causes material to change direction in one of two ways: either by filling a 'pocket' or area so that conveyed material impacts the filled pocket, or the conveyed material impacts the elbow and pipe walls. As well

as causing elbow wear, this impact results in friction, which is responsible for product degradation such as streamers, angel hair and fines.

Due to its design, the Smart Elbow changes direction by forming a slowly rotating, self-renewing ball of material and air that creates a gentle deflection zone, eliminating the impact zone, and thereby eliminating elbow wear, friction, and product degradation. An online video library, case studies, and dimensions are available on HammerTek's website.

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Flanges in stainless and carbon steel

Schwer Fittings produces a wide range of SAE flange combinations in various sizes. All items are available in standard series 3000 PSI / ISO 6162-1 (SAE J518 Code 61) and in the Heavy series 6000 PSI / ISO 6162-2 (SAE J518 Code 62).

Schwer Fittings stocks the flanges in two grades: stainless steel AISI 316TI and carbon steel zinc plated chrome VI free. As standard, the flanges are supplied with FKM seals 85/90 shore for stainless steel and NBR seals 90 shore for steel.

Counter flanges are standard without O-Ring and with female threads. The flanges are forged and of high tensile strength. SAE flanges are used in areas where strong vibration, high-pressure peaks and mechanical stress are found, in industries such as offshore, shipbuilding, hydraulic, petrochemical and paper machines. SAE flanges with welding ends are offered as butt-weld or socket weld.

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Fittings for polyethylene pipe

Redman Fittings Ltd has developed a range of fittings for a variety of standard and specialist polyethylene pipes in the 63 to 250mm outside diameter range.

Based on a concept originating from UMIST, the company developed a patented high-integrity and easily fitted jointing system, initially targeted at polyethylene service pipes for water and gas. During development, the fittings were approved to WIS 4-24-01 as a type 1 load resistant joint for use with PE 80 & 100 SDR 11 & 17 pipes. Approval also included barrier pipes in the 63 to 180mm outside diameter range.

The wider use of barrier polyethylene pipes for brown field water applications provides a natural application for the