

## INNOVATIONS

ing with reliability of no moving parts; resistance to coating, scaling. Available with simultaneous transistor, 4- or 20-mA switching; field-selectable for NO, NC operation. Polypropylene or PFA construction offered for maximum chemical resistance. Impervious to variations in temperature, pressure, light, particulates; mountable in any position.

**Omega Engineering, Inc.** 465



### Digital pressure transducer

Heise ATS2000 pressure transducer offers  $\pm 0.02\%$  FS accuracy — including effects of nonlinearity, hysteresis, and nonrepeatability — over 17 standard pressure ranges from 0 to 5 through 0 to 10,000 psi. Available in gage, absolute, and vacuum types. Each contains microprocessor, A/D converter, and user-friendly operating system. Sensing technique uses photo-optic technology. NEMA-4X stainless steel housing.

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**Dresser Industries, Inc.** 466

### Automatic drain valve



Non-electric Tonair AD-24 drain valve purges water, oil, scale, rust, other contaminants — up to 600  $\mu\text{m}$  — from pneumatic systems automatically. Installs off-line — as far as 150 ft away. Air pressure supports internal piston to block discharge port until condensate raises float to height that opens inlet port, equalizing pressure. Spring then forces piston down to open discharge.

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**Pneumatic Solutions** 467



### Filter magnet

Halex Coil bonds powerful neodymium/iron/boron rare-earth magnet onto spiral coil of spring steel that wraps around exterior of canister-type hydraulic filter to trap and hold ferrous particles against inside wall of canister. Retains par-

ticles  $< 20 \mu\text{m}$  in size. When canister is replaced, particles stay with old unit; coil then can be slipped off easily and re-installed on replacement canister.

**Halex Development** 468

### Electric motors



Tough, reliable Model SXT AC motors are available in single-phase to 1 hp, 3-phase from  $\frac{1}{4}$  to 2 hp. Cast-iron end shields, 416 stainless steel shafts increase strength, resist corrosion. Standard features: dynamically balanced cast aluminum rotor; stator that uses class F, H wire; non-hygroscopic double-dipped, baked Centriseal insulation. (Phase insulation included for inverter duty.)

**Reliance Electric** 469

### Digital-valve controllers



Micro-Drive line of controllers (suitable for new systems or retrofit) operates digital valves and stepping motors. Software options can control flow, pressure, temperature, or handle variable-speed applications. Choices include: open- or closed-loop velocity or position; point-to-point position indexing; move profiling with velocity and position control; stand-alone operation.

**Olsen Controls, Inc.** 470

### Cartridge valves

For industry-standard -10 sized cavities with 2, 3, or 4 ports, 400 Series solenoid cartridge valves are offered in three 2-position configurations: 3-way (8 gpm, 5000 psi); 4-way (8 gpm, 5000 psi); and 2-way (15 gpm, 3500 psi). Coil options: 12- or 24-V DC, 115- or



230-V AC. Wire terminations: DIN standard, double spade, conduit, or pigtails.

**Danfoss Fluid Power** 471

### Axial-piston pumps



Five models in PV Series of open-loop, variable displacement, axial-piston pumps with pressure compensation cover flow range (at 1800 rpm) from 6.8 through 29.5 gpm. Pressure rating is 3500 psi (3000 psi for largest model); speeds to 3000 rpm. Displacements: 0.88 to 3.78 cir. Options: ventable compensator, load sensing, and power limiting.

**Denison Hydraulics** 472

### Soft-start air valves



Soft-start valve family provides slow, controlled pressure build-up in pneumatic systems, preventing high-pressure surges, reducing chance of mechanical cylinder shock. Adjustable metering screw allows start-up air flow to be varied relative to downstream volume. Available in pneumatically and solenoid-actuated versions, and three sizes:  $\frac{1}{4}$ -,  $\frac{3}{8}$ -,  $\frac{1}{2}$ -in. BSP. Pressures from 30 to 150 psi; flow rates of 31.8, 77, and 105.9 scfm.

**Festo Corp.** 473