Solenoid Valves

Solenoid valves are used in refrigeration and air-conditioning to stop, interrupt or divert the flow of refrigerant. They operate by opening or closing the orifice directly or by pilot (Servo) operation. An electro-magnetic coil is used to open the valve when it is energised.

Henry Technologies' new style Solenoid valves (2402 & 2403 Series) are made from brass forgings and are available with extended copper or male SAE connections. A special diaphragm material is used for an extended service life, to be compatible with most fluorinated refrigerant and oil combinations.

These new style valves are matched to a range of "click-on" style coils, which, when installed with the supplied Hirschmann plug and O-ring, offer an IP65 rating. Another feature of these is the built-in LED, indicating power supply to the coil.

Note: Solenoid Coil to be purchased separately.



Manufacturing Standards

Manufactured in accordance with AS/NZS 1677.2

Features

- Solid forged brass construction.
- Range available from 1/4" to 1-1/8" connections.
- 1/4" valve is a Direct Operating type.
- 3/8" to 1-1/8" Pilot (Servo) Operating Valves.
- Click-on style Solenoid Coils available in a range of voltages.
- Rigorously tested to 300,000 cycles.
- Available with extended copper tails and as reduced port versions.
- Built-in LED in the coil plug indicates power supply either on or off.
- Rated to IP65 when installed with supplied O-ring and plug.
- Safe Working Pressure = 3,200 kPa.
- Working Temperature Range:
 - Solenoid Valve -25°C to 100°C
 - Solenoid Coil -40°C to 80°C

Benefits

- Provides a strong stable platform when mounted in a system.
- Delivers an extensive range of capacities in Liquid, Vapour and Hot Gas applications.
- No pressure drop required to operate Direct action
- · Easy and reliable operating action.
- Quick and easy to install.
- Reliability guaranteed.
- Provide more choice to suit your application.
- Safety and assists the technician in fault finding.
- Solenoid coil offers great protection and long life span.
- Suitable for use with a large range of HCFC and HFC refrigerants.
- · Suits a wide range of applications.



| Part No. | Flare Conn. Size | Dimensio | Weight | | |
|-------------|------------------|----------|--------|-------|--|
| | (Inch) | Н | L | (kg) | |
| 2402-0404 | 1/4 | 63 | 67 | 0.125 | |
| 2402-0606 | 3/8 | 69 | 75 | 0.220 | |
| 2402-0808RP | 1/2 | 69 | 79 | 0.23 | |
| 2402-1010 | 5/8 | 78 | 107 | 0.490 | |
| 2402-1212 | 3/4 | 80 | 126 | 0.840 | |
| | | | | | |

| Flare | Flare | Liquid (kW) | | Vapour (kW) | | Hot Gas (kW) | | | Kv | Opening Diff. | Maximum Operating Pres- sure Differential (bar) | | | |
|-------------|-------|-------------|-------|-------------|------|--------------|-------|------|-------|------------------|--|-------------------|---------|---------|
| Part No. | Conn. | R22 | R134a | R404A | R22 | R134a | R404A | R22 | R134a | R404A | (m3/hr) | Pressure (bar) | AC Coil | DC Coil |
| 2402-0404 | 1/4 | 3.2 | 3.0 | 2.1 | - | - | - | 2.1 | 1.6 | 1.8 | 0.175 | 0 | 21 | 19 |
| 2402-0606 | 3/8 | 14.5 | 13.5 | 9.5 | 2.2 | 1.8 | 1.85 | 9.5 | 6.9 | 8.2 | 0.8 | 0.5 | 21 | 19 |
| 2402-0808RP | 1/2 | 145 | 13.5 | 9.5 | 2.2 | 1.8 | 1.85 | 9.5 | 6.9 | 8.2 | 0.8 | 0.5 | 21 | 19 |
| 2402-1010 | 5/8 | 47.0 | 44.0 | 31.0 | 7.0 | 5.7 | 6.0 | 30.8 | 22.9 | 26.5 | 3.8 | 0.5 | 21 | 18 |
| 2402-1212 | 3/4 | 86.4 | 80.0 | 57.1 | 13.2 | 10.5 | 11.0 | 56.8 | 41.5 | 48.5 | 4.9 | 0.5 | 21 | 13 |



| Part No. | Solder Conn. Size | I | Weight | | |
|-------------|-------------------|----|--------|----|-------|
| | (Inch) | н | L | В | (kg) |
| 2403-0404 | 1/4 | 63 | 102 | 7 | 0.135 |
| 2403-0606 | 3/8 | 69 | 111 | 8 | 0.230 |
| 2403-0808 | 1/2 | 78 | 127 | 10 | 0.500 |
| 2403-1010 | 5/8 | 78 | 127 | 13 | 0.520 |
| 2403-1212 | 3/4 | 80 | 176 | 16 | 0.860 |
| 2403-1414 | 7/8 | 80 | 176 | 19 | 0.870 |
| 2403-1818RP | 1-1/8 | 80 | 176 | 19 | 0.880 |

| Part No. | Solder Conn. (Inch) | | Liquid (kW) | 1 | | Vapour (kW |) | Hot Gas (kW) | | Hot Gas (kW) | | Opening Diff. Pressure | Maximum Operating Pressure Differential (bar) | |
|-------------|---------------------------------------|-------|-------------|-------|------|------------|-------|--------------|-------|--------------|-------|------------------------------|--|---------|
| | , , , , , , , , , , , , , , , , , , , | R22 | R134a | R404A | R22 | R134a | R404A | R22 | R134a | R404A | | (bar) | AC coil | DC Coil |
| 2403-0404 | 1/4 | 3.2 | 3.0 | 2.1 | - | - | - | 2.1 | 1.6 | 1.8 | 0.155 | 0 | 21 | 19 |
| 2403-0606 | 3/8 | 14.5 | 13.5 | 9.5 | 2.2 | 1.8 | 1.9 | 9.5 | 6.9 | 8.2 | 0.8 | 0.5 | 21 | 19 |
| 2403-0808 | 1/2 | 39.6 | 37.1 | 26.2 | 6.0 | 4.8 | 5.0 | 26.0 | 18.9 | 22.4 | 2.3 | 0.5 | 21 | 19 |
| 2403-1010 | 5/8 | 47.0 | 44.0 | 31.0 | 7.0 | 5.7 | 6.0 | 30.8 | 22.9 | 26.5 | 3.8 | 0.5 | 21 | 19 |
| 2403-1212 | 3/4 | 87.0 | 80.5 | 58.0 | 13.2 | 10.5 | 11.0 | 56.8 | 41.5 | 48.5 | 4.9 | 0.7 | 21 | 19 |
| 2403-1414 | 7/8 | 105.0 | 99.0 | 69.0 | 15.5 | 12.8 | 13.4 | 67.5 | 49.2 | 58.2 | 5.9 | 0.7 | 21 | 19 |
| 2403-1818RP | 1-1/8 | 105.0 | 99.0 | 69.0 | 15.5 | 12.8 | 13.4 | 67.5 | 49.2 | 58.2 | 5.9 | 0.7 | 21 | 19 |

Capacities based on; Hot gas capacities based on:

Evaporating temperature:4°Condensing Temperature:38Pressure drop across valve:15

Suction temperature: Pressure drop: 18°C 100 kPa



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Solenoid Coils

Henry Technologies offer flexibility in their range of encapsulated solenoid coils by designing them to suit a number of alternative brands in addition to the Henry Tech range.

The range offered suits the following Normally Closed solenoid valves:

- 2406 series coils suit the 2402 & 2403 series Henry Tech solenoid valves as well as the Castel brand of solenoid valves.
- · 2406-EVR coils fit the Danfoss type EVR solenoid valves.

The 2406 series coils come in various voltage combinations and provides the service market with the ability to stock less replacement coils due to the interchangeability of the Henry Tech coils.

In addition, the 2406 series solenoid valve coils have the added visual diagnostic feature of a LED light that is illuminated when power is supplied to the coil Din Plug.

The 2406 series solenoid coils are of rugged moisture proof design with a 2406 series featuring a simple click-on mounting. Both are IP65 rated with the CE mark to meet the low voltage directive of Europe (LVD) 72/23/EC where applicable.

In addition, Henry Tech also produce the 2405-MAG Permanent Magnet. This is a great asset for the Service Technician as it allows the solenoid valve to be energized without power supply. Ideal for trouble shooting, evacuating a system or for pressure testing purposes, when power is not available. Fits Henry Tech, Danfoss and most other popular brands of solenoid valve.

Features

- Compact Ergonomic Design.
- Low wattage coil.
- LED light feature.
- UV stabilised outer shell.
- Hirschmann style din plug.
- Coil operating temperature -40 °C to 80 °C.
- Fits multiple brands.





Manufacturing Standards

Manufactured in accordance with AS/NZS 1677.2

Benefits

- 1. Simple click-on with minimal space requirement.
- 2. Power saving costs.
- 3. Visual diagnostic feature.
- 4. Suits tough hot environments.
- 5. Quick and safe connection.
- 6. Suits Australian conditions.
- 7. Saves stocking costs.



| Part No. | Coils Description | Watts | Hz | Weight (kg) | Pack Qty |
|-------------|------------------------------|-------|----------|----------------|-------------|
| 2406-012-DC | 12 volt DC solenoid coil | 9w | 50/60 Hz | 0.190 | 20 |
| 2406-024-DC | 24 volt DC solenoid coil | 9w | 50/60 Hz | 0.190 | 20 |
| 2406-24-AC | 24 volt AC solenoid coil | 9w | 50/60 Hz | 0.190 | 1 |
| 2406-240-AC | 240 volt AC solenoid coil | 9w | 50/60 Hz | 0.190 | 1 |
| | | | | | |

Solenoid Coil Range - 2406 Series (Fits new series 2402 & 2403 Solenoid Valves)

| Part No. | Suit Valve Series | Brands Coil Fits | Supply Voltage V a.c / DC" | Frequency (Hz) | Power Cons. (a.c) | Power Cons. (DC) | Temp. Range | Weight (kg) |
|-----------------|---------------------------------|---------------------------|----------------------------------|-------------------|----------------------|---------------------|-------------|----------------|
| 2406-EVR-240-AC | EVR Danfoss - Flare & Solder | Danfoss | 240 V a.c | 50/60 | 10W | - | -40/80°C | 0.315 |
| 2406-DIN-LED | EVR Danfoss - Flare & Solder ** | Danfoss | - | - | - | - | -40/80°C | 0.020 |
| 2405-MAG | 2405 / 2406 / EVR * | Heldon / Castel / Danfoss | - | - | - | - | -40/80°C | 0.120 |
| | | | | | | 1 | | |

** Terminal Assemble for 2406-EVR





Note: Dimensions in mm.



2406-DIN-LED



2405-MAG

