Danfoss is the single-source supplier who provides complete solutions to satisfy customers’ needs for mission critical operations. As the reputable expert in the A/C field, Danfoss understands the challenges faced in the purchasing/procurement departments.

Danfoss, as your reputable and experienced partner, understands your business challenges and responds to the needs for the successful running of mission critical operations.

**EASE**
- 1 contact point
- Dedicated customer service
- Long term relationship thinking
- Easy product selection process

**FLEXIBILITY**
- Global organization which responds to your local needs
- Local availability, broad range of products
- Technical support in multiple languages, availability and reliability

**RELIABILITY**
- Reliable, highest quality products - tested through and through
- Dependable and solid business partner

**AVAILABILITY**
- Our global platform guarantees both availability and reliability

Danfoss is a world leader in climate and energy technology. The Danfoss Group operates globally with the primary aims of making modern living possible for our stakeholders and being a leader in refrigeration, heating, power electronics, and mobile hydraulics.

A single-source supplier with total engineered solutions and a trusted partner with long experience and expertise in precise cooling applications. Danfoss has what it takes to help you design, build and install the system that will keep your customers satisfied.

**EXPERIENCE**
- 80 years of recognised experience in the HVAC/R field

**INNOVATION**
- Wide range of hi-tech, electronic “smart” components
- Continuous development of new products and systems

**COMPREHENSIVENESS**
- Total package – total energy efficient designs
- The support of dedicated Field System Engineers (FSEs) with testing, product selection, installation and training

**A world leader in climate and energy technology**

Enhance your cooling systems’ efficiency with complete solutions from your trusted partner.

A world leader in climate and energy technology

One supplier fulfilling all your Close Control A/C needs

Reduce the number of suppliers and thus reduce the cost of management without jeopardizing your systems quality.

Danfoss is a world leader in climate and energy technology. The Danfoss Group operates globally with the primary aims of making modern living possible for our stakeholders and being a leader in refrigeration, heating, power electronics, and mobile hydraulics.

We employ 24,000 people, 6,000 of whom work in Denmark at 11 different locations.

We promise leadership in our businesses through reliability, excellence, and innovation – driving true customer satisfaction and solutions within climate and energy.

Extensive experience in all key HVAC/R segments

Danfoss has a comprehensive range of automated solutions and compressors for a wide variety of HVAC/R segments, including:

- Commercial Air Conditioning
- Residential Air Conditioning
- Heat Pumps
- Commercial Refrigeration
- Household, Light Commercial and Mobile Refrigeration
- Wholesalers & Installers
- Industrial Refrigeration
- Food Retail

Danfoss plays a leading role in research, development and production in a wide spectrum of industries, and has been a key player in the HVAC/R field for more than 75 years. Our Refrigeration & Air Conditioning Division designs, produces and markets a comprehensive range of automated solutions and compressors for a wide variety of HVAC/R segments, including:

- Commercial Air Conditioning
- Residential Air Conditioning
- Heat Pumps
- Commercial Refrigeration
- Household, Light Commercial and Mobile Refrigeration
- Wholesalers & Installers
- Industrial Refrigeration
- Food Retail

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The most extensive range of Close Control A/C components:

**R410A - Component selection**

**R22/R407C - Component selection**

**R22/R407C - Component selection**

### Application Diagram:

**Elbow Control for Closed-circuiting components in typical systems**

1. Compressor
2. Pressure switch
3. Filter dryer
4. Solenoid valve
5. Sight glass
6. Sight glass
7. Expansion device
8. Expansion valve
9. Fan
10. Condenser
11. Check valve
12. Ball valve
13. Sight glass

### Technical Data:

**Compressors**

- **R22**
  - Type: Variable speed
  - Capacity: 100 kW
  - Model: SY 255
  - Features: Electronic expansion valve

- **R410A**
  - Type: Fixed speed
  - Capacity: 125 kW
  - Model: SM 145
  - Features: Thermostatic expansion valve

### Durability

- **Fluid temperature**: -30°C to 70°C (-22°F to 158°F)
- **Ambient temperature**: -30°C to 60°C (-22°F to 140°F)

### Compressors

- **Compressor characteristics**
  - Refrigerant oil: All mineral oils and ester oils (to lubricate ETS 6 valve)
  - Compatible refrigerants: HCF, HCFC (R22, R134a, R404A, R407C, R410A)
  - Maximum working pressure: 47 bar (682 psig)
  - Tested for 30,000 full-stroke cycles, including 20-pulse overdrive at each closing.
  - Tested for 60 million total pulses supplied to partially open valve, which is comparable to 150,000 cycles if the valve is operated between 100 to 300 pulses when open.

### Electrical connection

- **JST XHP-6 and JST XHP-5**
- **Excitation speed**: Min. 30 pps (pulses per second) to max. 90 pps; 31.3 pps recommended
- **Modulation**: 95% RH or less
- **Ambient humidity**: 95% RH or less
- **Test conditions**: 50°C and 95% RH

### Special features

- **Electronic expansion valve**
  - **Max. coil winding temperature**: 115°C (239°F)
  - **Installation position**: With coil on the upper side and the valve/coil assembly within ±15˚of the vertical axis
  - **Examples**: 16 sec @ 30 pps, 6 sec @ 80 pps
  - **Operating range**: 0 to 480 pulses, no holding power required
  - **Electrical connection**
    - **JST XHP-6 and JST XHP-5**
  - **Excitation speed**: Min. 30 pps (pulses per second) to max. 90 pps; 31.3 pps recommended
  - **Modulation**: 95% RH or less
  - **Test conditions**: 50°C and 95% RH

### Valve characteristics

- **Solenoid valve**
  - **Type**: Permanent magnet type, direct operating stepper motor
  - **Modulation**: 95% RH or less
  - **Ambient humidity**: 95% RH or less
  - **Test conditions**: 50°C and 95% RH