

ENGINEERING
TOMORROW

Danfoss

Streamline your
air conditioning business
Partner with the power of Danfoss

1 supplier

Save time and money
by sourcing more
A/C components in
just one place.

www.danfoss.com

Why bother with a pack of A/C component suppliers when you can partner with the one who sets the pace?

More and more air conditioning OEMs and installers are turning to Danfoss for our comprehensive range of components, uncompromising energy efficiency and world-renowned service.

Reducing the number of vendors almost always makes good economic sense. When it comes to integrating the parts that make up a complex A/C system, however, the benefits of partnering with an expert in cooling technology are more than economic.

The Danfoss advantages go way beyond the products themselves. We support OEMs, installation and

service providers with a unique blend of technology and insight that only a leading supplier of A/C solutions can deliver.

Take advantage of Danfoss expertise to configure your application

Start by discussing your objectives with us. We help you to identify the best solution for your needs – and to

select the right components for the job. To get the ball rolling, just call your local Danfoss representative or check for more details on... www.danfoss.com.

And since Danfoss components are designed for a wide spectrum of A/C systems and refrigerants, we have the part for almost any requirement.



Performance

Total cost of ownership depends on the longevity and energy efficiency of each individual component – but also on how well they all work together. Our unrelenting dedication to quality and reduction of energy costs gives you the best of both worlds: best-in-class specifications for individual A/C components, and seamless integration across the complete A/C system.



Reliability

Danfoss has built its reputation for more than 75 years. When it comes to complex A/S installations, however, trusting a dependable partner is good – and controlling vital system functions is even better. Danfoss automatic control components give you the peace of mind that comes from ongoing, transparent regulation of your compressor and other key A/C components.



Flexibility

Our experience and extensive product range are second to none. So whether your A/C project is large or small, residential or commercial, involving special heat-reclaim systems or not, we have what it takes to help you design, build and install the A/C system that will keep your customers satisfied. Danfoss components work with all kinds of refrigerants, including R22, R410A, R407C, R134a, flammable refrigerants and HC.



Availability

The Danfoss sales and service network is available to you and your customers wherever and whenever you need it. Our global grid of own sales companies and dedicated distributors gives you ready access to components and parts. But we also provide a broad range of pre-sale and after-sale services to make sure that you get the full benefit of our A/C experience – free of charge.

+80 years
of experience

We've been perfecting
our components since
1933, so you get the
benefit of our long
experience.

Danfoss

Danfoss

The most extensive range of A/C components available from any single supplier, worldwide:



Thermostatic expansion valves:

Regulate the injection of refrigerant liquid into evaporators. Injection is controlled by the refrigerant superheat. The range comprises a variety of valves designed for specific applications.



Electronic expansion valves:

The ETS series comprises a complete range of electrically operated expansion valves for precise liquid injection in evaporators. For the highest precision and reliability, it is recommended to use Danfoss Superheat Controllers range. Both components, working together, let you fine tune your system in the most energy-efficient way.



4-way valves:

Designed for reversible air conditioning systems up to 400kW to provide consistent changeover between heating in winter and cooling in summer.



Filter driers:

Protect your air conditioning system from moisture, acids and dirt. Our range covers both hermetic and exchangeable core filter driers.



Solenoid valves:

Direct or servo-operated valves for liquid, suction and hot gas lines with fluorinated refrigerants. Delivered as a parts program, so you can design your valve according to your requirements.



Pressure switches:

Small, light and robust, these disc-type pressure control units manage high or low pressure safety cuts and/or fan cycling. Available with automatic or manual reset, and in a wide variety of pressure settings.



Other components:

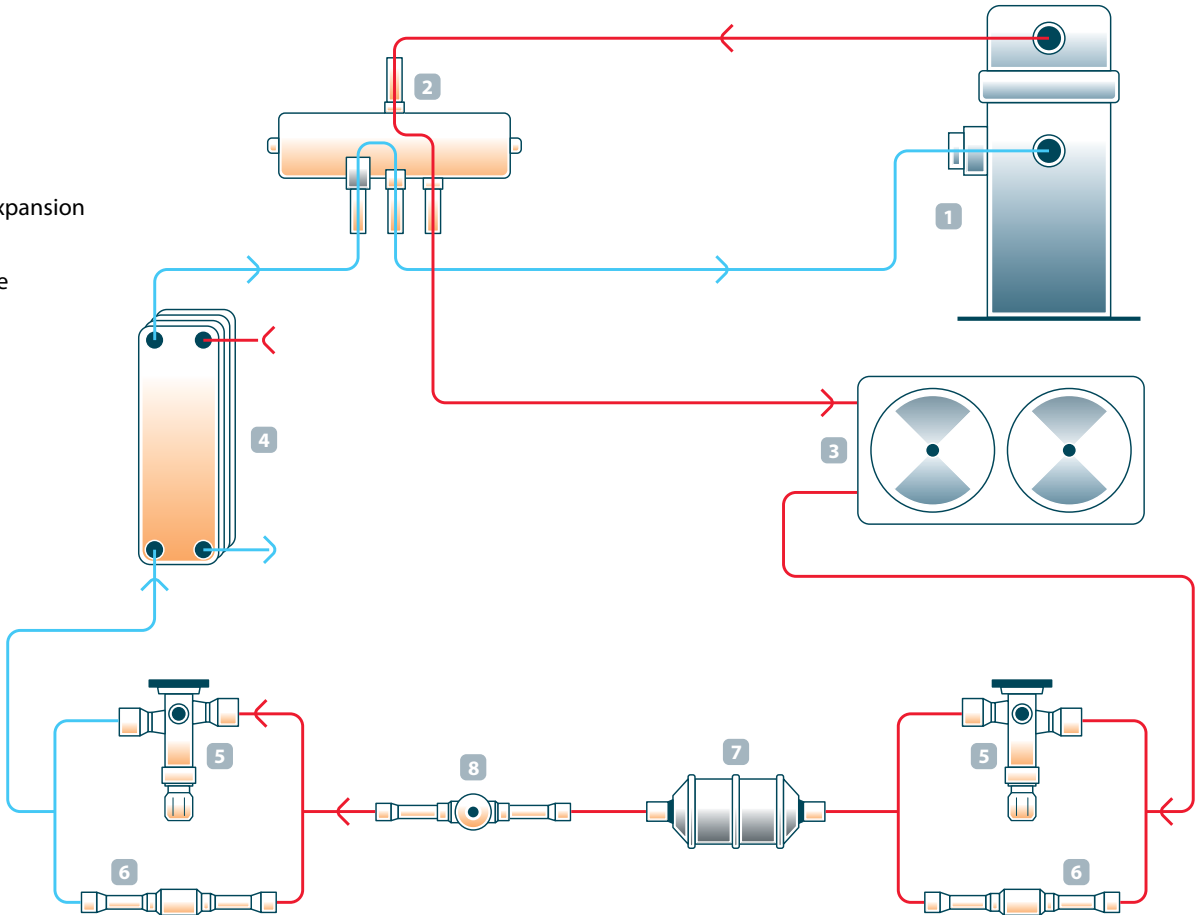
Shut-off valves, ball valves, check valves, oil separators, refrigerant distributors and line heat exchangers. A wide range of proven technology for every need.

How it works:

This diagram illustrates a sample reversible A/C system with thermostatic expansion device.

Actual system configuration and components will vary.

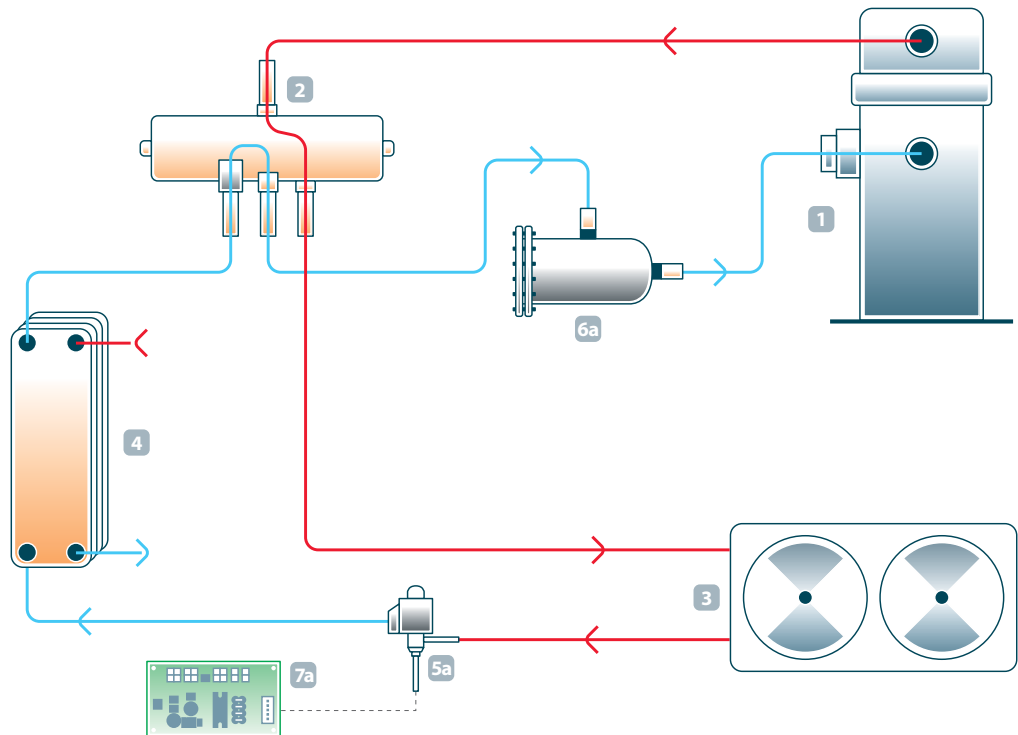
- 1 Compressor
- 2 4-way valve
- 3 Condenser
- 4 Evaporator
- 5 Thermostatic expansion valve
- 6 NRV check valve
- 7 Filter drier
- 8 Sight glass



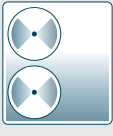
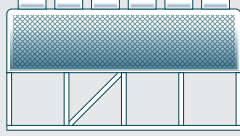
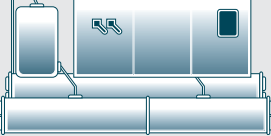
This diagram illustrates a sample reversible A/C system with electronic expansion device.

Actual system configuration and components will vary.

- 1 Compressor
- 2 4-way valve
- 3 Condenser
- 4 Evaporator
- 5a Electronic expansion device
- 6a DCR
- 7a Superheat controller



Product portfolio for commercial A/C

			
	<50kW	50~500kW	>500kW
Thermostatic expansion valves	TGE, TE, TU, TC	TGE, TE, TRE80	TRE80, PHT
Electronic expansion valves	ETS 6	ETS 6, ETS	ETS
SH controllers	EIM 336	EIM 336, EKC 316, EKC 312, EKD 316	EKC 316, EKC 312, EKD 316
Solenoid valves	EVUL, EVR		EVR
4-way valves	STF/VHV		
Filter driers	DCL/DML/DMB	DCL/DML/DMB/DCR	DCR
Pressure switches	ACB/LCB		ACB/LCB/KP
Other components	NRV/SG/GBC/ KV, WV*		
Intelligent controllers	MCX		

* WV (water valves) are only used in water-cooled chillers

R410A – Component selection

Technical Data

TXV	Cooling Capacity kW*	EXV	Cooling Capacity kW	Solenoid Valve	Connection inch	Others
TGEL 3.5	12	ETS 6-10	3,1	EVR 2	1/4	<ul style="list-style-type: none"> Liquid line filter driers mono- and bi-flow (DML/DMB) Sight glasses (SG+) Four-way valves (STF, VHV) Ball valves (GBC) Cartridges pressure controls (ACB) Pressure transmitters (AKS/NSK/YSK) Check valves (NRV) Temperature sensors (AKS/EKS)
TGEL 4.5	16	ETS 6-14	6,8	EVR 3	1/4	
TGEL 6.5	24	ETS 6-18	12,1	EVR 3	3/8	
TGEL 9	32	ETS 6-25	23,0	EVR 6	3/8	
TGEL 13	45	ETS 6-32	33,9	EVR 6	1/2	
TGEL 15	54	ETS 12.5	70,0	EVRH 10	1/2	
TGEL 19	68	ETS 25	144,0	EVRH 15	5/8	
TGEL 23	79	ETS 50	262,3	EVRH 20	7/8	
TGEL 31	110	ETS 100	488,4			
TGEL 35	125					
TGEL 46	161					
TRE 80-55L	193					
TRE 80-80L	280					
TRE 80-100L	350					

* TXV cooling capacity is based on N charge

R407C – Component selection

Technical Data

TXV	Cooling Capacity kW*	EXV	Cooling Capacity kW	Solenoid Valve	Connection inch	Others
TGEZ 2.5	9	ETS 6-10	2,7	EVR 2	1/4	<ul style="list-style-type: none"> Liquid line filter driers mono- and bi-flow (DML/DMB) Sight glasses (SG) Four-way valves (STF, VHV) Ball valves (GBC) Catridges pressure controls (ACB) Pressure transmitters (AKS/NSK/YSK) Check valves (NRV) Temperature sensors (AKS/EKS)
TGEZ 3.5	13	ETS 6-14	5,9	EVR 3	1/4	
TGEZ 5	19	ETS 6-18	10,6	EVR 3	3/8	
TGEZ 7	25	ETS 6-25	20,1	EVR 6	3/8	
TGEZ 10	36	ETS 6-32	29,6	EVR 6	1/2	
TGEZ 12	42	ETS 12.5	63,0	EVR 10	1/2	
TGEZ 15	53	ETS 25	129,0	EVR 10	5/8	
TGEZ 18	62	ETS 50	240,5	EVR 15	5/8	
TGEZ 24	84	ETS 100	447,8	EVR 15	7/8	
TGEZ 27	95	ETS 250	1212,0	EVR 20	7/8	
TGEZ 34	121	ETS 400	1933,0	EVR 20	1 1/8	
TRE 80-40Z	140			EVR 22	1 3/8	
TRE 80-55Z	193			EVR 25	1 1/8	
TRE 80-70Z	245			EVR 25	1 3/8	
PHT series	105~1890			EVR 32	1 3/8	
				EVR 32	1 5/8	
				EVR 40	1 5/8	
				EVR 40	2 1/8	

* TXV cooling capacity is based on N charge

R134a – Component selection

Technical Data

TXV	Cooling Capacity kW*	EXV	Cooling Capacity kW	Solenoid Valve	Connection inch	Others
TGEN 1.5	6	ETS 6-10	2	EVR 2	1/4	<ul style="list-style-type: none"> Liquid line filter driers mono- and bi-flow (DML/DMB) Sight glasses (SG) Four-way valves (STF, VHV) Ball valves (GBC) Catridges pressure controls (ACB) Pressure transmitters (AKS/NSK/YSK) Check valves (NRV) Temperature sensors (AKS/EKS)
TGEN 2.5	8	ETS 6-14	4,5	EVR 3	1/4	
TGEN 3.5	12	ETS 6-18	8,1	EVR 3	3/8	
TGEN 4.5	17	ETS 6-25	15,3	EVR 6	3/8	
TGEN 7	24	ETS 6-32	22,5	EVR 6	1/2	
TGEN 8	29	ETS 12.5	45	EVR 10	1/2	
TGEN 10	37	ETS 25	93	EVR 10	5/8	
TGEN 12	44	ETS 50	170	EVR 15	5/8	
TGEN 17	61	ETS 100	316,5	EVR 15	7/8	
TGEN 20	70	ETS 250	874	EVR 20	7/8	
TGEN 25	87	ETS 400	1394	EVR 20	1 1/8	
TRE 80-25N	88			EVR 22	1 3/8	
TRE 80-35N	123			EVR 25	1 1/8	
TRE 80-45N	158			EVR 25	1 3/8	
PHT series	55~1083			EVR 32	1 3/8	
				EVR 32	1 5/8	
				EVR 40	1 5/8	
				EVR 40	2 1/8	

* TXV cooling capacity is based on N charge

For more detailed specifications and selection please contact your local Danfoss sales office or browse through www.danfoss.com



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 produce approximately 250,000 components each day at our 76 factories in 25 countries.

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 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
- Industrial Refrigeration
- Food Retail
- Wholesalers & Installers

Learn more at www.danfoss.com