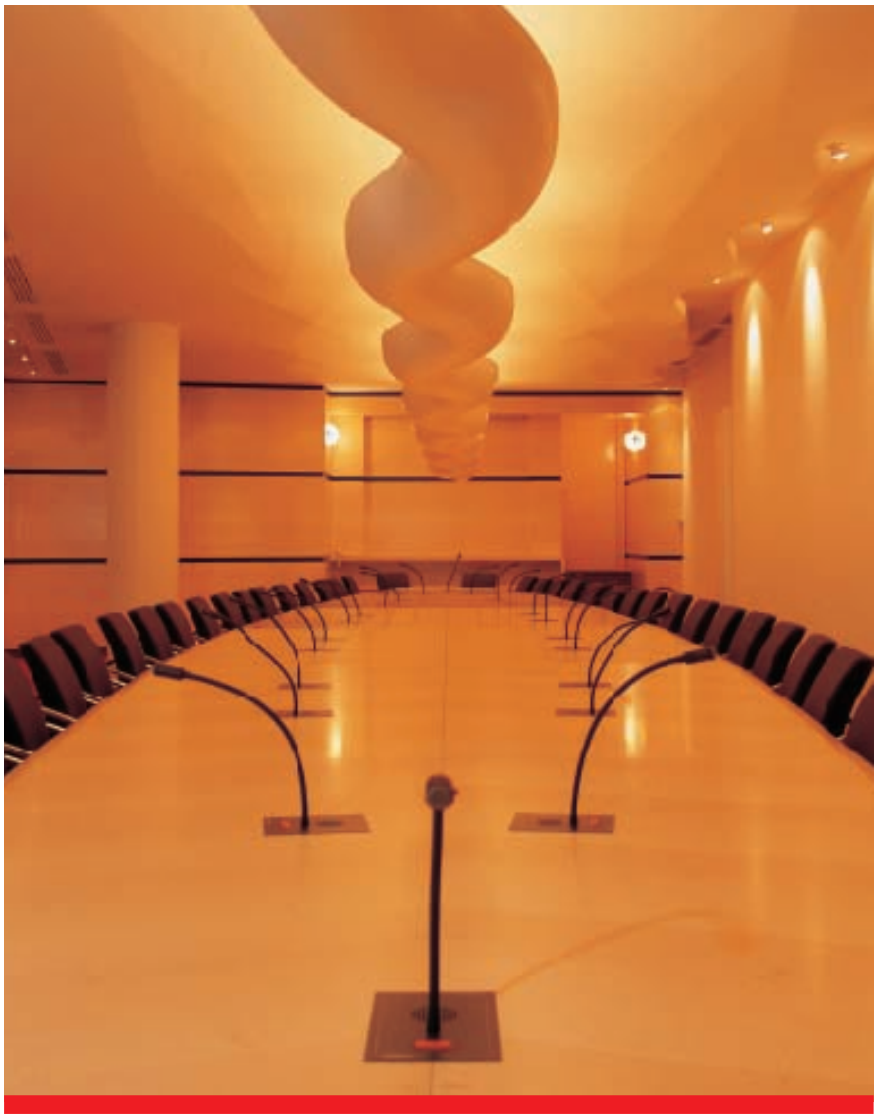
TRANE®

Creating The Right Atmosphere®

Products, Systems and Services



James TRANE

Colchester

Charmes

Epinal-Golbey

An overview

The Trane Company is a worldwide manufacturer of heating, ventilating, air conditioning and building management equipment and systems. Trane is a division of American Standard Inc.

The Trane Company began in 1885 as a small, family-owned plumbing operation in La Crosse, Wisconsin USA. James Trane, a Norwegian immigrant, earned a reputation as one of the best plumbers in the area. What caught the attention of customers then, rings true today: People, service, quality and innovation remain the hallmarks of Trane.

In 1913, James and his son Reuben incorporated The Trane Company. The product line expanded further in 1925 with the development of the convector radiator. In 1931, The Trane Company developed its first air conditioning unit, the Trane unit cooler, and in 1938 its first centrifugal refrigeration machine, the Turbovac.

In 1958, Trane returned to its native Europe and established its European headquarters in France. Since that time, it has added three manufacturing plants: Golbey, Charmes – both in France; and one plant in Colchester, UK.

In 1978, Trane acquired Sentinel Electronics, a building automation systems manufacturer. This enabled the company to develop factory-mounted controls and building management systems for its customers.

In 1982 The Trane Company broadened its residential and light commercial product lines by acquiring the central air conditioning department of General Electric.

And in 1984, The Trane Company became part of what is now known as American Standard Companies. Although much has changed since 1885, one thing that hasn't changed is The Trane Company's commitment to excellence and serving its customers.

Sales, Service and Support to Meet Your Needs

More than 1000 field sales engineers around the world with an average tenure of 15 years, comprise the industry's most comprehensive sales support.

Trane sales personnel have the knowledge and resources to assist system designers and building owners in creating safe, comfortable, and cost-effective indoor environments in new and existing buildings. Expert support doesn't stop with the sale. Trane has a full system service capability including service specialists and parts professionals who support your replacement parts needs.

The ServiceFirst® HVAC parts program combined with OEM knowledge provide you with the expertise to keep your HVAC system operating smoothly and cost effectively.

The Trane Company has the products, services, replacement parts and people to meet customer's continuing HVAC needs. The intent is to provide total support throughout the life of the system.

A Global Presence

The Trane Company currently has 250 sales and service distribution offices located in 192 different countries and continues to grow. You will find a Trane contact in nearly every major city.

A Universe of Products, Systems and Services

The following presentation is representative of most of the heating, air conditioning and ventilation products and systems offered through Trane sales offices.

Creating The Right Atmosphere®

One of the reasons buildings are built is to provide a productive living and working environment. But too often, the biggest complaint by building occupants is that it is too hot or too cold or, too dry or too humid, or too loud or too quiet. And if these complaints are left unanswered, it can lead to lost revenue for the building owner and also, unhappy occupants.

In this brochure, The Trane Company presents a full-line of HVAC and building management systems and services that can help system designers and building owners create the right atmosphere – whether in a building or for a process. Most often, though, the answer does not lie in a single product but in the system.

By system we mean the combination of products, controls and building management systems which when working together, create the right atmosphere. The answer is in the system and most often, not in any one product.

Integrated Comfort™ System

The Trane Company is a systems provider. Its Integrated Comfort™ system (ICS) has helped over 10,000 building owners and process specialists to create the right atmosphere.

The idea behind Trane's ICS is to provide a prepackaged, pre-engineered approach, combining air conditioning equipment with factory mounted controls, linked to a building management system.

To building owners the advantage of ICS is:
- Single source responsibility – working with one company versus three means improved responsiveness and more ownership
- System Optimization – a number of energy saving strategies which can add up to big savings in money

To building designers the advantage of ICS is:
- Prepackaged design means less design time and more reliable designs
- Access to Trane's systems expertise in both people and documentation

And to the system installer, the advantage of ICS is:
- Quicker installations since many controls come factory mounted
- Quicker commissioning of systems since unit mounted controls are tested in the factory

Trane has provided Integrated Comfort systems around the world for over 15 years and key to its success is the "No Bad Jobs" attitude.

An example of Trane ICS expertise is in chiller plant management. Trane offers a diverse range of chiller plant management products from basic chiller unit controls to economical chiller monitoring to total chiller plant automation. We have the expertise to control the whole chiller plant including Trane absorption and centrifugal chillers, helical rotary and scroll chillers, cooling towers, evaporator and condenser water pumps, existing and new chillers from other manufacturers. Control functions include demand limiting, chilled water temperature control, advanced motor protection, timed override, chilled water reset and chiller sequencing and rotation.
Chiller plant management is only one step in building management.

What many customers have come to rely on from Trane is the expertise and advice of its field sales engineers. When you need ideas for HVAC systems, controls and building management talk to the experts at Trane. We have factory-trained sales and service professionals in nearly every major city.

Index

ABDA	13
ABDL	13
ABSC	12
ABTF	12
BCU	42, 43, 44
BDA, BDC, BDG, BDW	34
BPH	29, 31
BPV	29, 31
BYPS	38
CAS	26, 30
CAUH	8, 24
CCGA	35, 27
CCEA	36; 27
CCP2	38, 43
CCUH	8, 24
CGA	14
CGAH	15
CGC	18
CGCH	19
CGWH	8
CPC	43
CVAE	17
CVGE	11
CWS	40
CXA	20
CXAH	21
CXC	22
DDC2	43
FHC, FHK	41
FLC, FLK	41
FSC, FSK	41
FVC, FVK	41
FHK	41
FLK	41
FSK	41
FVK	41
FWD	40
ICS	5, 42
Intellipak®	33
Load 700	47
Load Express™	47
MCW	25
MDA, MDC, MDG, MDW	34
MUA, MUC, MUG, MUW,	34
MWD	28, 30, 31
MWW	25, 30
MWX	26, 30
PCM	35, 42, 44
RAC	28, 29, 31
RACH	23
RAH	27, 28, 30
RAU	28, 29, 31
RAUH	23
RTAA	17
RTAB	16
RTCA	9, 24
RTHA	9
RTHB	10
RTHC	10
RTRA	19
RTUA	9, 24
RTWA	9
RTXA	21
RXC	28, 29, 31
RXH	27, 28, 30
RXU	28, 29, 31
SAHF	33
SDA, SDC, SDW	34
SecuriTrane	45
SEHF	33
ServiceFirst	45
SLHF	33
SPA, SPC, SPW	34
SSHF	33
STA, STC, STW	34
SUA, SUC, SUW	34
Summit	43, 44
SXHF	33
System Analyzer™	47
TCD	32, 33
TCH	32, 33
TCM	43
TED	33
TEH	33
TTD	25, 30
TTK	25, 26, 27, 28, 30
TTT	25, 30
TRACE® 600	47
TRACE® Load 700	47
Tracer Summit®	44
Tracker®	43
TWD	25, 30
TWE	27, 30
TWK	25, 26, 27, 28, 30
TWT	25, 30
UCM	44
UPCM	42, 44
VADA	38
Varitrac®	38
Varitrane®	39
VAV	39, 47
VCCD, VCED, VCWD	39
VDLE	39
VFCD, VFED, VFWD	39
VFX	40
VFS	40
VGA	14
VRLE	39
VSCD, VSED, VSWD	39
Voyager™	32, 33
VXA	20
WCC	32
WCD	32
WCH	32
YCD	32, 33
YCH	32, 33

Content

Refrigeration Products

Water-Cooled Liquid Chillers 8
Absorption Liquid Chillers 12
Air-Cooled Liquid Chillers, Axial Fans, for Outdoor Installation 14
Air-Cooled Liquid Chillers, Centrifugal Fans, for Indoor Installation 18
Reversible Air-Cooled Liquid Chillers 20
Air-Cooled Condensing Units 23
Air-Cooled Condenser Units 24

Unitary Products

Mini Splits 25
Ductable Split Systems 27
Split System or Self-Contained Air Conditioners 29
Condensing Units 30
Self-Contained Rooftop Units 32
Close-Control Air Conditioners 34

Air Handling Units 35

Air Terminal Devices

Variable Air Volume Systems 38
Water Terminals 40
Fan Coil Units 41

Building Management Products

General Purpose Controllers 42
Chiller Sequencers 43
Building Management Systems 43

Service Products 45

Training 46

HVAC System Design Tools 47

Water-Cooled Liquid Chillers

CGWH 115-250

Scroll Compressor
Liquid Chillers
37 to 194 kW

- One or two independant refrigeration circuits.
- 3-D® Scroll TRANE compressors:
  - Superior reliability,
  - Quiet operation.
- Microprocessor based control module. Trane ICS capability.
- Compact design, thanks to the - evaporator and condenser- brazed plate heat exchangers
- Condenserless unit -CCUH series- available for installation with a remote condenser. (see CAUH unit, page 24)
- Capacity control based on condenser water outlet available for water to water heat pump operation.
- Separate hydraulic module including chilled water pump and buffer tank.
- Available with refrigerant R134a, R22 and R404A.

Model	Nominal Cooling Capacity (1)			Overall Dimensions L x W x H	Operating Weight
	R134a (kW)	R22 (kW)	R404A (kW)	(mm)	(kg)
CGWH 115	37.2	56.3	67.8	1002 x 800 x 1545	412
CGWH 120	46.0	69.6	83.8	1002 x 800 x 1545	444
CGWH 125	54.7	82.8	97.0	1002 x 800 x 1545	476
CGWH 225	67.0	101.6	124.2	2002 x 800 x 1545	680
CGWH 230	75.8	114.9	138.6	2002 x 800 x 1545	712
CGWH 235	84.5	128.1	152.9	2002 x 800 x 1545	744
CGWH 240	91.9	139.3	167.7	2002 x 800 x 1545	808
CGWH 250	109.3	165.6	193.9	2002 x 800 x 1545	872

(1) At 7°C leaving chilled water temperature, 35°C leaving condenser water temperature.

RTWA 108-217

Helirotor® Compressor
Liquid Chillers
150 to 650 kW

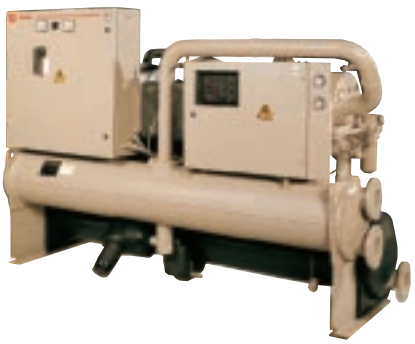
- One or two refrigeration circuits.
- Dual helirotor compressor, hermetic design, refrigerant cooled motor:
  - Quiet operation.
  - Superior energy efficiency.
- Continuous capacity control:
  - Reduced number of starts.
  - Precise chilled water temperature control.
- High efficiency heat exchange surfaces for compact design.
- Advanced microprocessor based Adaptive Control™ module. Clear Language Display operator interface. Trane ICS capability.
- Condenserless unit -RTUA series- available for installation with a remote condenser. (see RTCA unit, page 24)
- Available with refrigerant R134a, R22 and R404A.

Model	Nominal Cooling Capacity (1)			Overall Dimensions L x W x H	Operating Weight
	R134a (kW)	R22 (kW)	R404A (kW)	(mm)	(kg)
RTWA 108	147	225	250	2630 x 865 x 1715	1945
RTWA 109	163	250	277	2630 x 865 x 1715	2050
RTWA 110	196	297	328	2630 x 865 x 1715	2080
RTWA 207	145	224	242	2673 x 860 x 1715	2270
RTWA 209	176	263	284	2673 x 860 x 1715	2295
RTWA 211	221	329	353	2673 x 860 x 1715	2322
RTWA 212	258	387	410	2673 x 860 x 1715	2395
RTWA 213	300	467	498	3868 x 885 x 1813	3010
RTWA 215	340	520	554	3868 x 885 x 1813	3215
RTWA 216	368	565	602	3868 x 885 x 1813	3350
RTWA 217	402	617	654	3868 x 885 x 1813	3415

(1) At 7°C leaving chilled water temperature, 35°C leaving condenser water temperature.

RTHA 215-450

Helirotor® Compressor
Liquid Chillers
400 to 850 kW



- Dual helirotor compressor, with integral oil separator and economiser:
  - High energy efficiency: 4.6 to 5.0 kW/kW under nominal conditions.
- Sophisticated hermetic, liquid refrigerant cooled motor.
- Continuous capacity control:
  - Reduced number of starts.
  - Precise chilled water temperature control.
- High efficiency heat exchange surfaces, cleanable water paths:
  - Compact design.
  - Simplified maintenance work.
- Trane ICS capability.
- Refrigerant R134a.

Model	Nominal Cooling Capacity (1)		Overall Dimensions L x W x H (mm)		Operating Weight (kg)	
	R134a (kW)	R134a (kW)				
	S.E.	H.E.	S.E.	H.E.	S.E.	H.E.
RTHA 215	396	414	2713 x 909 x 1785	3475 x 909 x 1785	2740	3030
RTHA 255	514	540	2759 x 1199 x 2018	3521 x 1199 x 2018	4280	4730
RTHA 300	593	621	2759 x 1199 x 2018	3521 x 1199 x 2018	4780	4730
RTHA 380	708	747	2924 x 1315 x 2360	3542 x 1315 x 2360	5930	6430
RTHA 450	789	826	2924 x 1315 x 2360	3542 x 1315 x 2360	5930	6430

(1) At 7°C leaving chilled water temperature, 35°C leaving condenser water temperature.
S.E. = Standard Efficiency, H.E. = High Efficiency version (long shell heat exchangers).

RTHB 215-450

Helirotor® Compressor Liquid Chillers 620 to 1370 kW

- Dual helirotor compressor, with integral oil separator and economiser:
  - High energy efficiency: 4.9 to 5.6 kW/kW under nominal conditions.
- Sophisticated hermetic, liquid refrigerant cooled motor.
- Continuous capacity control:
  - Reduced number of starts.
  - Precise chilled water temperature control.
- High efficiency heat exchange surfaces, cleanable water paths:
  - Compact design.
  - Simplified maintenance work.
- Advanced microprocessor based Adaptive Control™ module. Clear Language Display operator interface. Trane ICS capability.
- Refrigerant R22.

Model	Nominal Cooling Capacity (1)		Overall Dimensions L x W x H (mm)		Operating Weight (kg)	
	R22 (kW)	R22 (kW)				
	S.E.	H.E.	S.E.	H.E.	S.E.	H.E.
RTHB 215	625	640	2759 x 1130 x 1810	3521 x 1130 x 1810	3390	3820
RTHB 255	802	836	2780 x 1273 x 1965	3542 x 1273 x 1965	4800	5370
RTHB 300	901	938	2780x 1273 x 1965	3542 x 1273 x 1965	4840	5425
RTHB 380	1167	1218	2994 x 1491 x 2059	3756 x 1491 x 2059	7080	7790
RTHB 450	1309	1363	2994 x 1491 x 2059	3756 x 1491 x 2059	7140	7870

(1) At 7°C leaving chilled water temperature, 35°C leaving condenser water temperature.
S.E. = Standard Efficiency, H.E. = High Efficiency version (long shell heat exchangers).

RTHC B1-E3

Helirotor® Compressor Liquid Chillers 550 to1600 kW

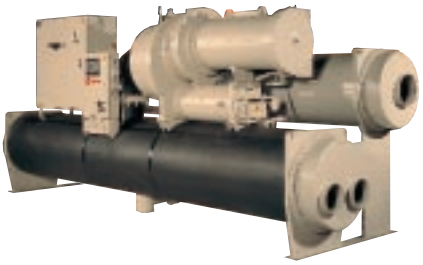
- New dual helirotor compressor, with continuous capacity control:
  - High energy efficiency up to 7.0 kW/kW under nominal conditions.
- Noise level reduced compared to the former generation.
- High reliability.
- Reduced maintenance: Only one oil analysis a year.
- Advanced microprocessor based Adaptive Control™ module. Clear Language Display operator interface. Trane ICS capability.
- Refrigerant R134a.

Model	Nominal Cooling Capacity (1)		Overall Dimensions L x W x H (mm)		Operating Weight (kg)	
	R134a (kW)	R134a (kW)				
	S.E.	H.E.	S.E.	H.E.	S.E.	H.E.
RTHC B1	550	650	3160 x 1320 x 1760	3160 x 1320 x 1760	4260	4340
RTHC B2	600	700	3160 x 1320 x 1760	3160 x 1320 x 1760	4315	4425
RTHC C1	800	900	3300 x 1575 x 1975	3300 x 1575 x 1975	6535	6715
RTHC C2	850	950	3075 x 1575 x 1975	3300 x 1575 x 1975	6500	6920
RTHC D1	980	1150	3100 x 1575 x 2000	3550 x 1855 x 2145	6700	9450
RTHC D2	1100	1250	3100 x 1575 x 2000	3550 x 1855 x 2145	6850	9500
RTHC D3	1160	1350	3100 x 1575 x 2000	3550 x 1855 x 2145	6850	9500
RTHC E3	1360	1560	3410 x 1830 x 2145	4015 x 2040 x 2225	8065	12385

(1) At 7°C leaving chilled water temperature, 35°C leaving condenser water temperature.
S.E. = Standard Efficiency, H.E. = High Efficiency version (long shell heat exchangers).

CVGE 045-080

Centrifugal Compressor Liquid Chillers 1850 to 3900 kW



- Two stage centrifugal compressor with integral economiser cycle:
  - Design for long life operation, proven reliability.
  - Superior energy efficiency.
- Sophisticated hermetic, liquid refrigerant cooled motor.
- Continuous capacity control:
  - Reduced number of starts.
  - Precise chilled water temperature control.
- High efficiency heat exchange surfaces, cleanable water paths:
  - Compact design.
  - Simplified maintenance work.
- Factory mounted starter:
  - Reduced commissioning charges.
- Advanced microprocessor based UCP2™ control module with extended control, safety and diagnostic capability. Clear Language Display (2 lines of 40 characters) operator interface. Trane ICS capability.
- Refrigerant R134a.

Model	Nominal Cooling Capacity (1)		Overall Dimensions L x W x H (mm)		Operating Weight (kg)	
	R134a (kW)	R134a (kW)				
	S.E.	H.E.	S.E.	H.E.	S.E.	H.E.
CVGE 045 J	1850	1920	4660 x 1370 x 2150	5680 x 1370 x 2150	6700	7400
CVGE 047 K	2190	2210	4660 x 1660 x 2400	5680 x 1660 x 2400	8550	9400
CVGE 050 L	2420	2480	4660 x 1660 x 2400	5680 x 1660 x 2400	8780	9400
CVGE 056 M	2620	2780	4660 x 1660 x 2420	5680 x 1660 x 2420	10850	11750
CVGE 063 M	2800	2900	4660 x 1660 x 2420	5680 x 1660 x 2420	11950	13350
CVGE 071 N	3100	3200	4660 x 1660 x 2420	5680 x 1660 x 2420	12400	13750
CVGE 080 P	3320	3440	4660 x 1660 x 2420	5680 x 1660 x 2420	12950	14050
CVGE 080 Q	-	3700	-	5680 x 2440 x 2930	-	20100
CVGE 080 R	-	3800	-	5680 x 2440 x 2930	-	20700
CVGE 080 T	-	3900	-	5680 x 2440 x 2930	-	21300

(1) At 7°C leaving chilled water temperature, 35°C leaving condenser water temperature.
S.E. = Standard Efficiency, H.E. = High Efficiency version (long shell heat exchangers).

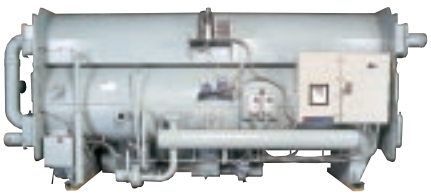
ABSC

Absorption
Liquid Chillers
400 to 6000 kW - 22 sizes

- Proven refrigeration cycle:
  - Hot water (up to 130°C) or superheated steam (up to 1 bar) is used as primary energy source to provide cooling giving substantial savings by using low temperature and/or waste energy to ensure the chilled water production (incinerator, low pressure steam from a power plant, etc.).
  - Refrigerant = water.
  - Absorbant = lithium bromide.
- One single moving part: hermetic pump-motor assembly, cooled by distilled refrigerant water.
- Single shell, compact design for a superior tightness.
- Cupro-nickel tubing in concentrator, evaporator and absorber.
- Patented fixed and floating tubes support to allow tube expansion.
- Tubes are individually replacable.
  - Superior operation reliability.
- Advanced microprocessor based UCP2™ control module with extended control, safety and diagnostic capability. Clear Language Display (2 lines of 40 characters) operator interface. Trane ICS capability.
  - Adaptative evaporator leaving fluid temperature control.
  - Enhanced operation safeties (automatic crystallization protection).

ABTF

Two Stage Absorption
Liquid Chillers
1400 to 4300 kW - 10 sizes



- High energy efficiency double effect distilled water/lithium bromide refrigeration cycle with optimized heat exchangers:
  - C.O.P. of 1.2 under nominal conditions.
  - Uses superheated water (up to 180°C) or steam (up to 8 bars) as primary energy source.
  - Reduced heat rejection.
- Modular design to facilate reliable disassembly and reassembly on jobsite:
  - Ease of installation
- Lithium bromide solution variable speed pump:
  - Optimized part load efficiency
- Advanced microprocessor based UCP2™ control module with extended control, safety and diagnostic capability. Clear Language Display (2 lines of 40 characters) operator interface. Trane ICS capability.
  - Precise leaving water temperature control
  - Enhanced operation safety (automatic crystallization protection).
  - Fully automatic purge system.

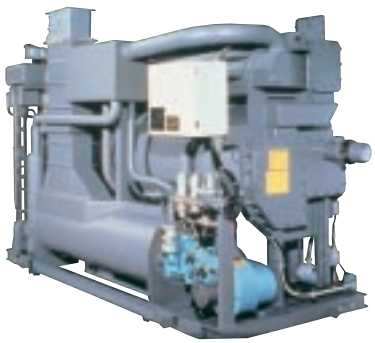
ABDA

Direct Fired Absorption Liquid Chillers
1400 to 2800 kW - 6 sizes

- Use natural gas as primary energy source.
  - Reduced operating costs due to competitive primary energy pricing policy.
- Double effect distilled water/lithium bromide refrigeration cycle:
  - Superior energy efficiency (C.O.P. of = 1.05 under nominal conditions).
- Ability to produce simultaneously both chilled water and hot water (up to 80°C)
- Modular design to facilitate reliable disassembly and reassembly on jobsite:
  - Ease of installation.
- Low NOx (< 30 ppm) burner.
- Lithium bromide solution variable speed pump:
  - Optimized part load efficiency.
- Advanced microprocessor based UCP2™ control module with extended control, safety and diagnostic capability. Clear Language Display (2 lines of 40 characters) operator interface. Trane ICS capability.
  - Precise leaving water temperature control.
  - Enhanced operation safety (automatic crystallization protection).
  - Fully automatic purge system.

ABDL

Direct Fired Absorption Liquid Chillers
350 to 3800 kW



- Use natural gas as primary energy source.
  - Reduced operating costs due to competitive primary energy pricing policy.
- High energy efficiency, double effect, reverse flow distilled water/lithium bromide refrigeration cycle, optimized heat exchangers, exhaust gas economizer:
  - Superior energy efficiency (C.O.P. of 1.02 under nominal conditions).
  - High efficiency version (C.O.P. of = 1.10) available as an option.
- All sizes have the ability to produce both chilled water (cooling mode) and hot water (heating mode).
  - For some applications, can replace the traditional boiler plus the liquid chiller, saving a significant amount of floor space.
- Ability -as option- to produce simultaneously both chilled water and hot water
- Unique concentrator design, eliminates tubes:
  - Superior hermetic integrity.
  - Combustion chamber easily cleaned.

Air-Cooled Liquid Chillers, Axial Fans, for Outdoor Installation

CGA 024-060

Hermetic Compressor Liquid Chillers
5 to 15 kW

- Hermetic reciprocating (rotary on size 24) compressor, stainless steel brazed plate heat exchangers:
  - Compact design, reduced footprint.
- Microprocessor based control module.
- Separate hydraulic module including chilled water pump and buffer tank:
  - Ease of installation.
- Refrigerant R22.

Model	Nominal Cooling Capacity (1) R22 (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
CGA 024	5.6	1018 x 360 x 795	85
CGA 030	7.7	1018 x 360 x 795	94
CGA 036	8.9	1018 x 360 x 795	94
CGA 048	12.3	1018 x 360 x 1252	126
CGA 060	15.1	1018 x 360 x 1252	136

(1) At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.

CGA - VGA 075-250

Hermetic Compressor Liquid Chillers
14 to 60 kW

- One or two refrigeration circuits.
- Hermetic reciprocating compressor, stainless steel brazed plate heat exchangers:
  - Compact design, reduced footprint.
  - Quiet operation (compressor sound attenuator supplied as standard).
- Microprocessor based control module.
- VGA series including an hydraulic module with all the required hydraulic components (chilled water pump, buffer tank).
  - Ease of installation.
- Available with refrigerant R134a, R22.

CGA

Model	Nominal Cooling Capacity (1) R134a (kW)	Nominal Cooling Capacity (1) R22 (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
CGA-VGA 075	14.0	19.5	1060 x 970 x 1060 / 1520	241 / 473
CGA-VGA 100	18.0	24.7	1060 x 970 x 1060 / 1520	241 / 473
CGA-VGA 125	22.5	29.4	1260 x 1070 x 1060 / 1520	250 / 482
CGA 150	28.0	39.3	1800 x 970 x 1060	407
CGA 200	36.0	50.1	1800 x 970 x 1060	410
CGA 250	45.0	59.6	2200 x 1070 x 1060	463

(1) At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.

CGAH 115-270

Scroll Compressor
Liquid Chillers
33 to 198 kW

- One or two independent refrigeration circuits.
- 3-D® Scroll TRANE compressors:
  - Superior reliability.
  - Quiet operation.
- Microprocessor based control module. Trane ICS capability.
- Compact design due to the evaporator brazed plate heat exchangers .
- Series CGAH-LN (sizes 115 to 250 with R22) for low sound level application.
- Separate hydraulic module including chilled water pump and buffer tank.
- Available with refrigerant R134a, R22 and R404A.

Model Standard	Nominal Cooling Capacity (1)			Overall Dimensions	Operating Weight
	R134a (kW)	R22 (kW)	R404A (kW)	L x W x H (mm)	(kg)
CGAH 115	33.5	49.3	47.5	2060 x 1020 x 1280	539
CGAH 120	42.4	52.3	60.5	2060 x 1020 x 1280	612
CGAH 125	51.1	75.0	72.3	2060 x 1020 x 1280	675
CGAH 225	60.9	89.5	89.4	2920 x 1020 x 1280	847
CGAH 230	70.2	103.1	103.1	2920 x 1020 x 1280	940
CGAH 235	77.2	113.5	111.4	2920 x 1020 x 1280	971
CGAH 240	84.8	124.6	120.9	2250 x 1890 x 1280	1085
CGAH 250	102.1	150.1	144.5	2250 x 1890 x 1280	1212
CGAH 260	129.5	181.4	173.9	3130 x 1975 x 1600	1695
CGAH 270	142.3	197.5	183.2	3130 x 1975 x 1600	1754

(1) At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.

RTAB 108-434

Helirotor® Compressor Liquid Chillers
137 to 715 kW

- One or two refrigeration circuits.
- Dual helirotor compressor, hermetic design, refrigerant cooled motor :
  - Superior energy efficiency: operates with a reduced superheat.
- Continuous capacity control:
  - Reduced number of starts.
  - Precise chilled water temperature control.
- High efficiency heat exchange surfaces for compact design.
- Advanced microprocessor based Adaptive Control™ module. Clear Language Display operator interface. Trane ICS capability.
- Quiet operation. Low noise Series (units with R22) for critical sound level applications.
  - Easy integration on job site.
- Also available with additional heat recovery condenser (RTAB 207 to 212 with R22).
- Available with refrigerant R134a, R22 and R404A.

Model Standard	Nominal Cooling Capacity (1)			Overall Dimensions	Operating Weight	
	R134a (kW)	R22 (kW)	R404A (kW)	L x W x H (mm)	R134a (kg)	R22 (kg)
RTAB 108	137	211	207	3340 x 2161 x 2162	2190	2200
RTAB 109	153	243	225	3340 x 2161 x 2162	2310	2390
RTAB 110	180	283	269	3340 x 2161 x 2162	2350	2430
RTAB 207	118	190	188	3340 x 2161 x 2162	2240	2250
RTAB 209	146	227	224	3340 x 2161 x 2162	2430	2500
RTAB 210	165	260	250	3340 x 2161 x 2162	2490	2560
RTAB 211	180	290	276	3340 x 2161 x 2162	2550	2620
RTAB 212	215	329	333	3340(*) x 2161 x 2162	2630	2680(*)
RTAB 213	270	429	-	4521(**) x 2161 x 2162	3150	3440
RTAB 214	298	465	-	4521(**) x 2161 x 2162	3630	3970
RTAB 215	311	492	-	4521(**) x 2161 x 2162	3830	4090
RTAB 216	349	538	-	4521(**) x 2161 x 2162	3910	4230
RTAB 217	376	582	-	4521(**) x 2161 x 2162	3960	4280
RTAB 220	405	655	-	5795 x 2100 x 2190	5400	5490
RTAB 324	477	-	-	6320 x 2200 x 2190	6050	-
RTAB 328	537	-	-	6320 x 2200 x 2190	6100	-
RTAB 430	601	-	-	6470 x 2200 x 2190	7500	-
RTAB 432	648	-	-	6470 x 2200 x 2190	7550	-
RTAB 434	715	-	-	6470 x 2200 x 2190	7600	-

(1) At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.
(2) Weight of units with R404A = Weight of units with R22 (except RTAB 212 (R404A) = 3100 kg).
(*) Length = 4230 mm for RTAB 212 with R404A.
(**) Length = 5411 mm for RTAB 213 to 217 with R22.

RTAA 213-434

Helirotor® Compressor Liquid Chillers 290 to1130 kW

- Two refrigeration circuits.
- Dual helirotor compressor, hermetic design, refrigerant cooled motor :
  - Superior energy efficiency: operates with a reduced superheat.
  - Continuous capacity control:
- W shaped condenser:
  - Installation possible with limited spacing around the unit.
  - Reliable operation, unaffected by crosswinds
- Advanced microprocessor based Adaptive Control™ module. Clear Language Display operator interface. Trane ICS capability.
- Quiet operation. Low noise Series for critical sound level applications.
  - Easy integration on job site.
- Also available with additional heat recovery condenser (RTAA 213 to 217 with R22 and R134a).
- Available with refrigerant R134a, R22 and R404A.

Model Standard	Nominal Cooling Capacity (1)			Overall Dimensions	Operating Weight
	R134a (kW)	R22 (kW)	R404A (kW)	L x W x H (mm)	(kg)
RTAA 213	288	444	395	5020 x 2110 x 2190	3900
RTAA 214	324	487	434	5880 x 2110 x 2190	4640
RTAA 215	335	510	454	5880 x 2110 x 2190	4710
RTAA 216	381	562	500	5880 x 2110 x 2190	4810
RTAA 217	409	609	542	5880 x 2110 x 2190	4890
RTAA 322	415	659	612	7550 x 2190 x 2155	6800
RTAA 324	466	759	707	8450 x 2190 x 2155	7300
RTAA 328	525	852	826	8450 x 2190 x 2155	7300
RTAA 430	584	943	880	10250 x 2190 x 2155	9750
RTAA 432	629	1026	959	10250 x 2190 x 2155	9750
RTAA 434	695	1127	1050	10250 x 2190 x 2155	9750

(1) At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.

CVAE 027-032

Centrifugal Compressor Liquid Chillers 940 to 1200 kW

- Two stage centrifugal compressor with integral economiser cycle.
- Sophisticated hermetic, liquid refrigerant cooled motor.
- Continuous capacity control:
  - Reduced number of starts.
  - Precise chilled water temperature control.
- Factory mounted starter:
  - Reduced commissioning charges.
- Advanced microprocessor based UCP2™ control module. Clear Language Display operator interface. Trane ICS capability.
- Also available with additional heat recovery condenser (series CVAE-HR) or free cooling control.
- Refrigerant R134a.

Model	Nominal Cooling Capacity (1)	Overall Dimensions	Operating Weight
	R134a (kW)	L x W x H (mm)	(kg)
CVAE 027-C2-E	939	12530 x 2440 x 2630	10690
CVAE 027-C1-E	1017	12530 x 2440 x 2630	10750
CVAE 027-D1-F	1046	12530 x 2440 x 2630	12380
CVAE 032-D2-F	1116	12530 x 2440 x 2630	12380
CVAE 032-D1-F	1187	12530 x 2440 x 2630	12380

(1) At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.

Air-Cooled Liquid Chillers, Centrifugal Fans, for Indoor Installation

CGC 050-250

Hermetic Compressor Liquid Chillers
14 to 61 kW

- One or two refrigeration circuits.
- Hermetic reciprocating compressor, stainless steel brazed plate heat exchangers:
  - Compact design, reduced footprint.
  - All unit sizes fit through a standard width single door.
  - Quiet operation (compressor sound attenuator supplied as standard).
- Horizontal or vertical fan discharge:
  - Easy location on job site.
- Microprocessor based control module.
- Unit sizes 125 to 250 available for outdoor installation.
- Available with refrigerant R22 (and R134a with unit sizes 150 and 200).

Model	Nominal Cooling capacity(1)		Nominal Airflow	External Static Pressure	Overall Dimensions L x W x H	Operating Weight
	R134a (kW)	R22 (kW)	(m^3/s)	(Pa)	(mm)	(kg)
CGC 050	-	13.8	1.25	150	900 x 600 x 1800	214
CGC 060	-	16.5	2.20	100	1270 x 690 x 1950	265
CGC 075	-	19.6	2.20	100	1270 x 690 x 1950	293
CGC 100	-	26.3	2.20	100	1270 x 690 x 1950	319
CGC 125	-	30.1	2.83	150	1370 x 795 x 1490	342
CGC 150	33.2	38.8	3.78	200	2120 x 795 x 1490	502
CGC 200	40.4	50.4	4.50	200	2120 x 795 x 1490	544
CGC 250	_	61.3	5.20	150	2120 x 795 x 1490	566

(1) At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.

CGCH 115-250

Scroll Compressor
Liquid Chillers
34 to 150 kW

- One or two independent refrigeration circuits.
- 3-D® Scroll TRANE compressors:
  - Superior reliability.
  - Quiet operation.
- Microprocessor based control module. Trane ICS capability.
- Compact design, due to the evaporator brazed plate heat exchangers.
  - All unit sizes fit through a standard double width door.
- Centrifugal fans with horizontal or vertical discharge.
- Unit built for outdoor installation (horizontal discharge only).
- Separate hydraulic module including chilled water pump and buffer tank.
- Available with refrigerant R134a and R22.

Model	Nominal Cooling capacity(1)		Nominal Airflow	External Static Pressure	Overall Dimensions L x W x H	Operating Weight
	R134a (kW)	R22 (kW)	(m^3/s)	(Pa)	(mm)	(kg)
CGCH 115	33.6	50.9	4.25	600	2260 x 850 x 2000	740
CGCH 120	41.1	62.3	4.96	550	2260 x 850 x 2000	870
CGCH 125	49.3	74.7	6.62	500	2260 x 850 x 2000	901
CGCH 225	59.1	89.5	7.47	550	3190 x 850 x 2000	1078
CGCH 230	67.0	101.5	8.50	550	3190 x 850 x 2000	1107
CGCH 235	74.5	112.9	9.60	500	3190 x 850 x 2000	1170
CGCH 240	82.3	124.7	11.8	450	3190 x 850 x 2000	1229
CGCH 250	98.7	149.5	11.8	400	3190 x 850 x 2000	1330

(1) At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.

RTRA 107-110

Helirotor® Compressor
Liquid Chillers
130 to 270 kW

- Dual helirotor compressor, hermetic design, refrigerant cooled motor :
  - Superior energy efficiency: operates with a reduced superheat.
- Continuous capacity control:
  - Reduced number of starts.
  - Precise chilled water temperature control.
- Particularly compact design.
- Advanced microprocessor based Adaptive Control™ module. Clear Language Display operator interface. Trane ICS capability.
- Centrifugal fans with horizontal or vertical discharge.
- Outdoor version available on request.
- Available with refrigerant R134a, R22 and R404A.

Model	Nominal Cooling capacity (1)			Nominal Airflow	External Static Pressure	Overall Dimensions L x W x H	Operating Weight (2)	
	R134a (kW)	R22 (kW)	R404A (kW)	(m^3/s)	(Pa)	(mm)	R134a (kg)	R22 (kg)
RTRA 107	----	162	153	14.2	400	3500 x 1300 x 2000		2160
RTRA 108(*)	132	186	176	16.0	350	3500 x 1300 x 2000	2320	2320
RTRA 109	139	218	207	18.9	400	4500 x 1300 x 2000	2720	2650
RTRA 110	168	264	250	21.3	350	4500 x 1300 x 2000	2760	2830

(1) At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.
(2) Weight of units with R404A = Weight of units with R22
(*) RTRA 108 with A404a: length= 4500 mm; Weight= 2600 kg.

Reversible Air-Cooled Liquid Chillers, Axial Fans, for Outdoor Installation

CXA 024-060

Hermetic Compressor
Reversible Liquid Chillers
5 to 15 kW

- Hermetic reciprocating (rotary on size 24) compressor, stainless steel brazed plate heat exchangers:
  - Compact design, reduced footprint.
- Microprocessor based control module.
- Separate hydraulic module including chilled water pump and buffer tank:
  - Ease of installation.
- Refrigerant R22.

Model	Nominal Capacity (1) Cooling / Heating R22 (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
CXA 024	5.6 / 6.8	1018 x 360 x 795	89
CXA 030	7.7 / 8.1	1018 x 360 x 795	99
CXA 036	8.9 / 10.0	1018 x 360 x 795	99
CXA 048	12.3 / 13.4	1018 x 360 x 1252	135
CXA 060	15.1 / 16.2	1018 x 360 x 1252	145

(1) Cooling Mode : At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.
Heating Mode : At 50°C leaving condenser water temperature, 7°C outside ambient air temperature.

CXA - VXA 075-250

Hermetic Compressor
Reversible Liquid Chillers
14 to 60 kW

VXA

- One or two refrigeration circuits.
- Hermetic reciprocating compressor, stainless steel brazed plate heat exchangers:
  - Compact design, reduced footprint.
  - Quiet operation (compressor sound attenuator supplied as standard).
- Microprocessor based control module.
- VXA series including an hydraulic module with all the required hydraulic components (chilled water pump, buffer tank).
  - Ease of installation.
- Available with refrigerant R134a and R22.

Model	Nominal Capacity (1) Cooling / Heating R134a (kW)	R22 (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
CXA-VXA 075	14.0 / 15.1	19.5 / 20.8	1060 x 970 x 1060 / 1520	260 / 492
CXA-VXA 100	18.0 / 19.8	24.7 / 26.6	1060 x 970 x 1060 / 1520	260 / 492
CXA-VXA 125	22.5 / 23.7	29.4 / 32.5	1260 x 1070 x 1060 / 1520	268 / 500
CXA 150	28.0 / 30.0	39.3 / 41.8	1800 x 970 x 1060	440
CXA 200	36.0 / 39.6	50.1 / 53.5	1800 x 970 x 1060	445
CXA 250	45.0 / 47.4	59.6 / 65.2	2200 x 1070 x 1060	505

(1) Cooling Mode : At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.
Heating Mode : At 50°C leaving condenser water temperature, 7°C outside ambient air temperature.

CXAH 115-250

Scroll Compressor
Reversible Liquid Chillers
54 to 153 kW

- One or two independent refrigeration circuits.
- 3-D® Scroll TRANE compressors:
  - Superior reliability.
  - Quiet operation.
- Microprocessor based control module. Trane ICS capability.
- Compact design, with compressor sound enclosure available on request.
- Separate hydraulic module including chilled water pump and buffer tank.
- Refrigerant R22.

Model	Nominal Capacity (1) Cooling / Heating R22 (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
CXAH 115	54.2 / 55.6	3125 x 1050 x 1600	792
CXAH 120	65.8 /67.1	3125 x 1050 x 1600	828
CXAH 125	76.7 / 78.6	3125 x 1050 x 1600	860
CXAH 225	95.0 / 94.3	3125 x 1975 x 1600	1208
CXAH 230	106.5 / 105.8	3125 x 1975 x 1600	1244
CXAH 235	117.2 / 117.3	3125 x 1975 x 1600	1275
CXAH 240	131.7 / 134.1	3125 x 1975 x 1600	1442
CXAH 250	153.3 / 157.1	3125 x 1975 x 1600	1507

(1) Cooling Mode : At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.
Heating Mode : At 50°C leaving condenser water temperature, 7°C outside ambient air temperature.

RTXA 209-212

Helirotor® Compressor
Reversible Liquid Chillers
240 to 350 kW

- Two refrigeration circuits.
- Dual helirotor compressor, hermetic design, refrigerant cooled motor :
  - Superior energy efficiency: operates with a reduced superheat.
- Continuous capacity control:
  - Reduced number of starts.
  - Precise chilled water temperature control.
- Advanced microprocessor based Adaptive Control™ module. Clear Language Display operator interface. Trane ICS capability.
- Compact design with compressor sound enclosure available on request :
  - Easy location on job site .
- Refrigerant R22.

Model	Nominal Capacity (1) Cooling / Heating R22 (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
RTXA 209	240 / 248	3740 x 2200 x 2200	3220
RTXA 210	271 / 273	4650 x 2200 x 2200	3390
RTXA 211	301 / 298	4650 x 2200 x 2200	3460
RTXA 212	352 / 341	4650 x 2200 x 2200	3580

(1) Cooling Mode : At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.
Heating Mode : At 50°C leaving condenser water temperature, 7°C outside ambient air temperature.

Reversible Air-Cooled Liquid Chillers, Centrifugal Fans, for Indoor Installation

CXC 050-250

Hermetic Compressor
Reversible Liquid Chillers
14 to 61 kW

- One or two refrigeration circuits.
- Hermetic reciprocating compressor, stainless steel brazed plate heat exchangers:
  - Compact design, reduced footprint.
  - All unit sizes fit through a standard width single door.
  - Quiet operation (compressor sound attenuator supplied as standard).
- Horizontal or vertical fan discharge:
  - Easy location on job site.
- Microprocessor based control module.
- Unit sizes 125 to 250 available for outdoor installation.
- Available with refrigerant R22 (and R134a with unit sizes 150 and 200).

Model	Nominal Capacity (1) Cooling / Heating		Nominal Airflow	External Static Pressure	Overall Dimensions L x W x H	Operating Weight
	R134a (kW)	R22 (kW)	(m^3/s)	(Pa)	(mm)	(kg)
CXC 050	-	13.8 / 14.6	1.25	150	900 x 600 x 1800	220
CXC 060	-	16.5 / 17.3	2.20	100	1270 x 690 x 1950	271
CXC 075	-	19.6 / 19.1	2.20	100	1270 x 690 x 1950	300
CXC 100	-	26.3 / 26.4	2.20	100	1270 x 690 x 1950	326
CXC 125	-	30.1 / 34.7	2.83	150	1370 x 795 x 1490	347
CXC 150	33.2 / 37.3	38.8 / 41.3	3.78	200	2120 x 795 x 1490	510
CXC 200	40.4 / 44.7	50.4 / 53.9	4.50	200	2120 x 795 x 1490	552
CXC 250	_	61.3 / 64.7	5.20	150	2120 x 795 x 1490	574

(1) Cooling Mode : At 7°C leaving chilled water temperature, 35°C outside ambient air temperature.
Heating Mode : At 50°C leaving condenser water temperature, 7°C outside ambient air temperature.

Air-Cooled Condensing Units

RAUH 115-250

Scroll Compressor,
Axial Fans
36 to 230 kW

- One or two independent refrigeration circuits.
- 3-D® Scroll TRANE compressors:
  - Superior reliability.
  - Quiet operation.
- Microprocessor based control module. Trane ICS capability.
- Compact design.
- Available with refrigerant R22 and R134a.

Model	Nominal Cooling Capacity (1)		Overall Dimensions	Operating Weight
	R134a (kW)	R22 (kW)	L x W x H (mm)	(kg)
RAUH 115	36.9	55.9	2060 x 1020 x 1280	500
RAUH 120	47.0	71.3	2060 x 1020 x 1280	569
RAUH 125	57.2	86.6	2060 x 1020 x 1280	623
RAUH 225	66.0	99.9	2920 x 1020 x 1280	780
RAUH 230	77.0	116.6	2920 x 1020 x 1280	864
RAUH 235	85.1	129.0	2920 x 1020 x 1280	888
RAUH 240	94.1	142.6	2250 x 1890 x 1280	996
RAUH 250	114.3	173.2	2250 x 1890 x 1280	1105
RAUH 260	136.6	204.5	3130 x 1975 x 1600	1571
RAUH 270	153.7	228.6	3130 x 1975 x 1600	1630

(1) At 4°C saturated suction temperature, 35°C outside ambient air temperature.

RACH 115-250

Scroll Compressor,
Centrifugal Fans
36 to167 kW

- One or two independent refrigeration circuits.
- 3-D® Scroll TRANE compressors:
  - Superior reliability.
  - Quiet operation.
- Microprocessor based control module. Trane ICS capability.
- Compact design,
  - All unit sizes fit through a standard double width door.
- Centrifugal fans with horizontal or vertical discharge.
- Unit built for outdoor installation (horizontal discharge only).
- Available with refrigerant R22 and R134a.

Model	Nominal Cooling Capacity (1)		Nominal Airflow	External Static Pressure	Overall Dimensions	Operating Weight
	R134a (kW)	R22 (kW)	(m^3/s)	(Pa)	L x W x H (mm)	(kg)
RACH 115	36.4	55.2	4.25	600	2270 x 865 x 2000	699
RACH 120	45.0	68.2	4.96	550	2270 x 865 x 2000	824
RACH 125	55.0	83.4	6.62	500	2270 x 865 x 2000	849
RACH 225	63.3	96.0	7.47	550	3190 x 865 x 2000	987
RACH 230	72.4	109.7	8.50	550	3190 x 865 x 2000	1014
RACH 235	81.2	123.0	9.60	500	3190 x 865 x 2000	1071
RACH 240	90.0	136.4	11.8	450	3190 x 865 x 2000	1130
RACH 250	110.0	166.7	11.8	400	3190 x 865 x 2000	1219

(1) At 4°C saturated suction temperature, 35°C outside ambient air temperature.

Air-Cooled Condensers

CAUH 115-250

Axial Fans.
40 to 150 kW

- Available into 2 versions: Standard and Super-Quiet.
- One or two independent refrigeration circuits.
- One or two vertical coils.
- Integral subcooler.
- Suitable with TRANE condenserless liquid chillers. (see CCUH unit, page 8).

Model Standard	Nominal Capacity (1)		Overall Dimensions L x W x H	Operating Weight
	R134a (kW)	R22 (kW)	(mm)	(kg)
CAUH 115	43	49	2060 x 1020 x 1280	329
CAUH 120	51	59	2060 x 1020 x 1280	372
CAUH 125	66	74	2060 x 1020 x 1280	401
CAUH 225	78	88	2920 x 1020 x 1280	495
CAUH 235	100	113	2920 x 1020 x 1280	554
CAUH 240	102	118	2250 x 1890 x 1280	602
CAUH 250	131	148	2250 x 1890 x 1280	660

(1) Performance of the standard version, for a temperature difference of 15 0C, and R22 or R134a refrigerant.

RTCA 208-216

Axial Fans
120 to 455 kW

- Available into 2 versions: Standard and Super-Quiet.
- One or two independent refrigeration circuits.
- Two V shaped coils, surbased profile.
- Integral subcooler.
- Factory mounted starter with single speed fan motors. Dual speed fan motors available on request.
- Suitable with TRANE condenserless liquid chillers. (see RTUA unit, page 9).

Model Standard	Nominal Capacity (1)		Overall Dimensions L x W x H	Operating Weight
	R134a (kW)	R22 (kW)	(mm)	(kg)
RTCA 208	119	169	2870 x 2285 x 1630	810
RTCA 209	138	191	2870 x 2285 x 1630	890
RTCA 211	166	228	2870 x 2285 x 1630	1090
RTCA 213	239	341	4610 x 2285 x 1630	1535
RTCA 215	277	387	5450 x 2285 x 1630	1770
RTCA 216	344	455	5450 x 2285 x 1630	2050

(1) Performance of the standard version, for a temperature difference of 15 0C, and R22 or R134a refrigerant

MiniSplits

Indoor Units MWW

Wall mounted
- mono-split: 2 - 10 kW
- multi-split: 5 - 10 kW

The wall-mounted split systems are designed to air-condition small and medium-sized areas, private housing, offices and shops. They ensure safety and comfort.

A multi-split system may provide the best solution for air-conditioning several rooms in a residence or several offices.
The outdoor unit's reduced space requirements and reduced installation time mean the Trane multi-split is more economical than standard systems.

- 3-speed tangential fan motor.
- Aluminium fin heat exchanger with copper tubes.
- Washable air filters.
- Microprocessor based control module with infrared remote control.

Indoor Units(1)	Outdoor Units	Nominal Airflow (2) (m^3/h)	Nominal Capacity (3) Cooling / Heating (kW)	Overall Dimensions (2) L x W x H (mm)	Operating Weight (2) (kg)
Mono Split					
MWW 506	TTK-TWK 509	420	2.1 / 2.3	905 x 197 x 295	12
MWW 509	TTK-TWK 509	420	2.5 / 2.8	905 x 197 x 295	12
MWW 512	TTK-TWK 512	480	3.2 / 3.4	905 x 197 x 295	12
MWW 518	TTK-TWK 518	700	4.6 / 5.8	1105 x 197 x 295	14
MWW 524	TTK-TWK 524	760	5.7 / 6.7	1105 x 197 x 295	14
MWW 530	TTK-TWK 530	1290	8.6 / 9.0	1412 x 275 x 376	34
MCW 530 (*)	TTK 530	1290	8.6 / -	1412 x 275 x 376	34
MCW 536 (*)	TTK 536	1340	9.8 / -	1412 x 275 x 376	34

(1) TTK: Cooling only units. TWK: Reversible units. Description page 30.
(2) Indoor Unit.
(3) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating mode: air inlet temperature: 20°C; outdoor temperature: 7°C DB / 6°C WB.
(*) MCW 530 and MCW 536: Cooling only units.

Outdoor Units (1)	Indoor Units Series MWW	Nominal Airflow (2) (m^3/h)	Nominal Capacity (3) Cooling / Heating (kW)
Bi Split			
TTD-TWD 518 PB	509 + 512	365 + 365	2.1 + 3.2 / 2.3 + 3.4
TTD-TWD 518 RB	509 + 509	365 + 365	2.5 + 2.5 / 2.8 + 2.8
TTD-TWD 524 PB	512 + 512	365 + 365	3.2 + 3.4 / 3.2 + 3.4
Tri Split			
TTT-TWT 524	509 + 509 + 512	420 + 420 + 480	2.1 + 2.1 + 3.2 / 2.3 + 2.3 + 3.4
TTT-TWT 527	509 + 509 + 509	420 + 420 + 420	2.5 + 2.5 + 2.5 / 2.8 + 2.8 + 2.8
TTT-TWT 536	512 + 512 + 512	480 + 480 + 480	3.2 + 3.2 + 3.2 / 3.4 + 3.4 + 3.4

(1) TTD, TTT: Cooling only units. TWD, TWT: Reversible units. Description page 30.
(2) Indoor Unit.
(3) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating mode: air inlet temperature: 20°C; outdoor temperature: 7°C DB / 6°C WB.

Indoor Units MWX

Convertible: 3 - 10 kW

The Trane convertible minisplits offer the choice of console or ceiling installation, without requiring any additional accessories.
These units are ideal for shops and restaurants, and integrate perfectly into their surroundings, thanks to their attractive design.

- 3-speed centrifugal fan motor.
- Multi-direction air deflectors.
- Washable air filters.
- Aluminium fin heat exchanger with copper tubes.
- 2 versions: with or without electric heater.
- Condensate pump as accessory.
- Microprocessor based control module with infrared remote control.

Indoor Units(1)	Outdoor Units	Nominal Airflow (2) (m³/h)	Nominal Capacity (3) Cooling / Heating (kW)	Overall Dimensions (2) L x W x H (mm)	Operating Weight (2) (kg)
MWX 512	TTK-TWK 512	680	3.4 / 3.5	1085 x 248 x 622	36
MWX 518	TTK-TWK 518	810	5.0 / 5.6	1085 x 248 x 622	39
MWX 524	TTK-TWK 524	1150	6.4 / 7.2	1335 x 268 x 622	48
MWX 536	TTK-TWK 530	1550	8.8 / 9.4	1585 x 268 x 622	70
MWX 536	TTK-TWK 536	1550	10.2 / 10.8	1585 x 268 x 622	70

(1) TTK: Cooling only units. TWK: Reversible units. Description page 30.
(2) Indoor Unit.
(3) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating mode: air inlet temperature: 20°C; outdoor temperature: 7°C DB / 6°C WB.

Indoor Units CAS

Cassette: 5 - 14 kW

The cassette type air-conditioner constitutes the ideal application of efficient and harmonious air-conditioning. These units are designed to integrate into any type of false ceiling. Only the air inlet and discharge grille of the indoor units is visible.

- 3-speed centrifugal fan motor.
- Centrifugal condensate pump (500 mm head).
- Air discharge on 2, 3 or 4 sides.
- Ultra thin plenum grilles.
- Washable air filters.
- Electric heater as accessory.
- Microprocessor based control module with infrared or hard-wired remote control. SIngle remote control able to manage up to 32 systems.

Indoor Units(1)	Outdoor Units	Nominal Airflow (2) (m³/h)	Nominal Capacity (3) Cooling / Heating (kW)	Overall Dimensions (2) L x W x H (mm)	Operating Weight (2) (kg)
CAS 518	TTK-TWK 518	980	5.2 / 5.8	723 x 723 x 306	34
CAS 524	TTK-TWK 524	1320	6.4 / 7.3	723 x 723 x 306	42
CAS 530	TTK-TWK 530	1360	8.5 / 9.3	723 x 723 x 306	46
CAS 536	TTK-TWK 536	2360	10.6 / 10.6	1171 x 723 x 311	68
CAS 048	TTK-TWK 048	2360	14.2 / 15.2	1171 x 723 x 311	75

(1) TTK: Cooling only units. TWK: Reversible units. Description page 30.
(2) Indoor Unit.
(3) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating mode: air inlet temperature: 20°C; outdoor temperature: 7°C DB / 6°C WB.

Ductable Split Systems

Indoor Units TWE

Horizontal/Vertical installation:
8 - 16 kW

The adaptable blower units are designed for both horizontal and vertical installation, and discharge can be directed downwards or upwards. It adapts easily to all the requirement for installation on site.
In addition, this ductable system offers the advantage of remote air discharge, and is therefore suitable for a whole variety of applications.

- Adaptable galvanised steel housing.
- Direct drive centrifugal fan motor.
- Aluminium fin heat exchanger with copper tubes.
- Polyester condensate tray.
- Disposable air filter.

Indoor Units	Outdoor Units (1)	Nominal Airflow (2) (m^3/h)	Nominal Capacity (3) Cooling / Heating (kW)	Overall Dimensions (2) L x W x H (mm)	Operating Weight (2) (kg)
TWE 030	TTK-TWK 530	1700	8.2 / 9.8	1100 x 534 x 546	52
TWE 040	TTK-TWK 536	1785	10.4 / 11.3	1332 x 534 x 597	68
TWE 050	TTK-TWK 048	2550	13.8 / 15.6	1488 x 534 x 597	83
TWE 050	TTK-TWK 060	2550	15.8 / 17.9	1488 x 534 x 597	83
TWE 030	RAH-RXH 530	1700	8.5 / 9.8	1100 x 534 x 546	52
TWE 040	RAH-RXH 540	1785	10.9 / 11.8	1332 x 534 x 597	68
TWE 050	RAH-RXH 050	2550	14.4 / 16.0	1488 x 534 x 597	83
TWE 050	RAH-RXH 060	2550	16.2 / 18.4	1488 x 534 x 597	83

(1) TTK, RAH: Cooling only units. TWK, RXH: Reversible units. Description page 30.
(2) Indoor Unit.
(3) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating mode: air inlet temperature: 20°C; outdoor temperature: 7°C DB / 6°C WB.

Indoor Units MWD

Ceiling installation:
2 - 16 kW

The MWD can be concealed in a false ceiling and is used to distribute air via a duct network. This makes it possible to air-condition several zones with a single indoor unit.
This economic, discreet and quiet ductable ceiling-mounted split system is controlled by a simple wall-mounted room thermostat.

- Non-painted galvanised steel casing.
- 3-speed centrifugal fan motor.
- Aluminium fin heat exchanger with copper tubes.
- Self-contained condensate tray.
- Air inlet behind or underneath the units.
- Removable outdoor electric panel.

Indoor Units	Outdoor Units (1)	Nominal Airflow (2) (m^3/h)	Nominal Capacity (3) Cooling / Heating (kW)	Overall Dimensions (2) L x W x H (mm)	Operating Weight (2) (kg)
MWD 509	TTK-TWK 509	410	2.4 / 2.7	890 x 600 x 250	26
MWD 512	TTK-TWK 512	550	3.3 / 3.5	890 x 600 x 250	26
MWD 518	TTK-TWK 518	820	5.0 / 5.9	890 x 600 x 250	29
MWD 524	TTK-TWK 524	1100	6.5 / 7.5	1090 x 710 x 300	37
MWD 530	TTK-TWK 530	1370	8.3 / 9.3	1090 x 710 x 300	40
MWD 536	TTK-TWK 536	1650	10.1 / 10.9	1090 x 710 x 300	41
MWD 048	RAH-RXH 048	2190	13.5 / 15.1	1290 x 820 x 350	54
MWD 060	RAH-RXH 060	2300	16.2 / 18.2	1290 x 820 x 350	54
MWD 075	RAU-RXU 075	3000	20.6 / 23.1	1290 x 970 x 450	83
MWD 100	RAU-RXU 100	4500	26.7 / 29.9	1290 x 1095 x 655	128
MWD 125	RAU-RXU 125	4500	32.5 / 37.4	1290 x 1095 x 655	128
MWD 075	RAC-RXC 075	3000	20.0 / 23.2	1290 x 970 x 450	83
MWD 100	RAC-RXC 100	4500	26.6 / 30.3	1290 x 1095 x 655	128
MWD 125	RAC-RXC 125	4500	33.4 / 37.4	1290 x 1095 x 655	128

(1) TTK, RAH, RAU, RAC: Cooling only units. TWK, RXH, RXU, RXC: Reversible units. Description pages 30 and 31.
(2) Indoor Unit.
(3) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating mode: air inlet temperature: 20°C; outdoor temperature: 7°C DB / 6°C WB.

Split Systems
or Self-Contained Air Conditioners

Indoor Units BPV

Vertical cabinet
Split System: 21 - 27 kW

- Galvanised steel panels coated with polyester powder paint.
- Aluminium fin coil with copper tubes.
- Moulded polyester condensate tray.
- Variable pulley-belt drive centrifugal fan motor.
- Thermal protection of the fan motor winding.
- Washable filters.
- Copper brazed connections, possible on each side of the unit.

Indoor Units	Outdoor Units (1)	Nominal Airflow (2)	Nominal Capacity (3) Cooling / Heating	Overall Dimensions (2) (4) L x W x H	Operating Weight (2)
		(m^3/h)	(kW)	(mm)	(kg)
BPV 075	RAU-RXU 075	4140	21.3 / 22.8	1270 x 690 x 1950	195
BPV 100	RAU-RXU 100	5400	26.9 / 28.9	1270 x 690 x 1950	205
BPV 075	RAC-RXC 075	4140	21.1 / 23.6	1270 x 690 x 1950	195
BPV 100	RAC-RXC 100	5400	27.1 / 29.2	1270 x 690 x 1950	205

(1) RAU, RAC: Cooling only units. RXU, RXC: Reversible units. Description page 31.
(2) Indoor Unit.
(3) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating mode: air inlet temperature: 20°C; outdoor temperature: 7°C DB / 6°C WB.
(4) Height of the indoor unit = 2500 mm when fitted with a discharge plenum.

Indoor Units BPH

Horizontal cabinet
Split System: 21 - 56 kW
Self Contained: 21- 61 kW

Features as BPV with:
- Horizontal or vertical discharge versions available.

Indoor Units	Outdoor Units (1)	Nominal Airflow (2)	Nominal Capacity (3) Cooling / Heating	Overall Dimensions (2) (4) L x W x H	Operating Weight (2)
		(m^3/h)	(kW)	(mm)	(kg)
Split System application (4)					
BPH 075	RAU-RXU 075	3060	21.2 / 21.9	1370 x 836 x 750	143
BPH 100	RAU-RXU 100	5040	25.7 / 29.4	1370 x 836 x 750	151
BPH 125	RAU-RXU 125	5620	33.1 / 37.9	1370 x 836 x 750	154
BPH 150	RAU-RXU 150	6800	37.0 / 44.7	2120 x 836 x 750	225
BPH 200	RAU-RXU 200	10800	44.9 / 58.3	2120 x 836 x 750	230
BPH 250	RAU-RXU 250	11880	56.1 / 71.8	2120 x 836 x 750	251
Split System or Self-Contained application (5)					
BPH 075	RAC-RXC 075	3060	21.0 / 22.7	1370 x 836 x 750	143
BPH 100	RAC-RXC 100	5040	25.9 / 29.7	1370 x 836 x 750	151
BPH 125	RAC-RXC 125	5620	33.5 / 36.6	1370 x 836 x 750	154
BPH 150	RAC-RXC 150	6800	37.7 / 45.8	2120 x 836 x 750	225
BPH 200	RAC-RXC 200	10800	46.8 / 59.0	2120 x 836 x 750	230
BPH 250	RAC-RXC 250	11880	60.9 / 71.2	2120 x 836 x 750	251

(1) RAU, RAC: Cooling only units. RXU,RXC: Reversible units. Description page 31.
(2) Indoor Unit.
(3) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating mode: air inlet temperature: 20°C; outdoor temperature: 7°C DB / 6°C WB.
(4) Height of the indoor unit = 2500 mm when fitted with a discharge plenum.
(5) Height of the Self-Contained unit = 2200 mm.

Condensing Units

Outdoor Units
TTK, TTD, TTT, (Cooling only)
TWK, TWD, TWT (Reversible)

- One circuit (1 compressor: TTK, TWK), two circuits (2 compressors: TTD, TWD) or three circuits (3 compressors: TTT, TWT)
- Hermetic rotary (TTK-TWK 506 to 524) or reciprocating (other sizes) compressor.
- Axial fan.
- Integrated condensate tray.
- Aluminium fin coil with copper tubes.
- Condenser coil and fan protection grilles.
- R22 refrigerant charge.
- Compatible with MWW, MWX, CAS, TWE, MWD indoor units (pages 25, 26, 27 and 28).

Outdoor Units (1)	Overall Dimensions L x W x H (mm)	Operating Weight (2) (kg)
Mono-Circuit		
TTK-TWK 506	700 x 253 x 530	34 / 36
TTK-TWK 509	700 x 253 x 530	34 / 36
TTK-TWK 512	700 x 253 x 530	36 / 38
TTK-TWK 518	1018 x 360 x 592	60 / 63
TTK-TWK 524	1018 x 360 x 592	61 / 64
TTK-TWK 530	1018 x 360 x 798	87 / 91
TTK-TWK 536	1018 x 360 x 798	89 / 93
TTK-TWK 048	1018 x 360 x 798	113 / 118
TTK-TWK 060	1018 x 360 x 798	118 / 123
Bi-Circuit		
TTD-TWD 518 PB	1018 x 360 x 592	65 / 66
TTD-TWD 518 RB	1018 x 360 x 592	66 / 67
TTD-TWD 524 PB	1018 x 360 x 592	68 / 69
Tri-Circuit		
TTT-TWT 524	1068 x 360 x 795	110 / 116
TTT-TWT 527	1068 x 360 x 795	112 / 118
TTT-TWT 536	1068 x 360 x 795	115 / 121

(1) TTK, TTD, TTT: Cooling only units. TWK, TWD, TWT: Reversible units.
(2) Cooling only units weight / Reversible units weight.

Outdoor Units ,
RAH (Cooling only)
RXH (Reversible)

- Direct drive centrifugal fan motor.
- Hermetic reciprocating compressor.
- Aluminium fin coil with copper tubes.
- R22 refrigerant charge.
- Compatible with TWE, MWD indoor units (pages 27 and 28).

Unités Extérieures (1)	Dimensions hors tout L x l x H (mm)	Poids en ordre de marche (kg)
RAH-RXH 530	1750 x 795 x 540	190
RAH-RXH 540	1750 x 795 x 540	190
RAH-RXH 050	1750 x 795 x 640	220
RAH-RXH 060	1880 x 930 x 640	240

(1) RAH : Cooling only units. RXH : Reversible units.

Outdoor Units

RAU (Cooling only)

RXU (Reversible)

- Sizes 075 to 125: 1 refrigerant circuit, sizes 150 to 250: 2 refrigerant circuits.
- Hermetic compressor with anti-recycle timer.
- Internal thermal protection of the fan and compressor motor winding.
- Direct drive axial fan motor
- High and low pressure cut-outs.
- Aluminium fin coil with copper tubes.
- R22 refrigerant charge.
- Compatible with MWD, BPV, BPH indoor units (pages 28 and 29).

Outdoor Units (1)	Overall Dimensions L x W x H (mm)	Operating Weight (2) (kg)
RAU-RXU 075	1060 x 950 x 1060	219 / 219
RAU-RXU 100	1060 x 950 x 1060	238 / 238
RAU-RXU 125	1260 x 1050 x 1060	265 / 280
RAU-RXU 150	1800 x 950 x 1060	365 / 385
RAU-RXU 200	1800 x 950 x 1060	370 / 385
RAU-RXU 250	2200 x 1050 x 1060	415 / 450

(1) RAU: Cooling only units. RXU: Reversible units.
(2) Cooling only units weight / Reversible units weight

Outdoor Units

RAC (Cooling only)

RXC (Reversible)

- Sizes 075 to 125: 1 refrigerant circuit, sizes 150 to 250:2 refrigerant circuits.
- Hermetic compressor with anti-recycle timer.
- Internal thermal protection of the fan and compressor motor winding.
- Variable pulley-belt drive fan motor
- High and low pressure cut-outs.
- Aluminium fin coil with copper tubes.
- R22 refrigerant charge.
- Compatible with MWD, BPV, BPH indoor units (pages 28 and 29).

Outdoor Units (1)	Overall Dimensions L x W x H (mm)	Operating Weight (2) (kg)
RAC-RXC 075	1370 x 795 x 1450	296 / 302
RAC-RXC 100	1370 x 795 x 1450	308 / 313
RAC-RXC 125	1370 x 795 x 1450	331 / 336
RAC-RXC 150	2120 x 795 x 1450	495 / 500
RAC-RXC 200	2120 x 795 x 1450	535 / 540
RAC-RXC 250	2120 x 795 x 1450	561 / 566

(1) RAC: Cooling only units. RXC: Reversible units.
(2) Cooling only units weight / Reversible units weight

Self-Contained Rooftop Units

Reversibles Rooftops

WCC, WCD, WCH
9 - 58 kW

Rooftop type WCC:
- Convertible unit for horizontal or vertical discharge
- Galvanised steel casing coated with enamel paint.
- Direct drive outdoor axial fan.
- 2-speed indoor centrifugal fans.
- R22 operating charge.

Rooftop type WCD, WCH:
- Single circuit units: sizes 060 and 075, dual circuit units: sizes 100 to 200.
- Watertight galvanised steel casing.
- 1 (sizes 060 to 100) or 2 (sizes 120 to 200) direct drive outdoor axial fans.
- Variable pulley-belt drive indoor centrifugal fan.
- Microprocessor based control. Frost protection control system. Trane ICS capability.
- R22 operating charge.

Unit Size	Nominal Airflow (m³/h)	Nominal Capacity (1) Cooling / Heating (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
WCC 030	1700	8.8 / 7.9	1405 x 945 x 745	170
WCC 050	2850	13.9 / 15.1	1635 x 1145 x 850	265
WCD - WCH 060	3570	19.4 / 15.1	2215 x 1260 x 890	313
WCD - WCH 075	4250	23.0 / 20.5	2215 x 1260 x 890	327
WCD - WCH 100	5600	31.8 / 27.9	2395 x 1608 x 1245	520
WCD - WCH 120	7130	36.6 / 29.4	2726 x 1799 x 1270	618
WCD - WCH 150	8500	43.6 / 38.7	2726 x 1799 x 1270	640
WCD - WCH 200	11200	57.6 / 54.9	3107 x 2154 x 1372	877

WCC: Convertible units, WCD: Downflow units, WCH: Horizontal flow units.
(1) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating mode: air inlet temperature: 20°C; outdoor temperature: 7°C DB / 6°C WB.

Voyager™ Rooftops

TCD, TCH (Cooling only)
YCD, YCH (Gas-Fired)
18 - 68 kW

- Single circuit units: sizes 060 and 075, dual circuit units: sizes 085 to 250.
- Watertight galvanised steel casing.
- 1 (sizes 060 to 120) or 2 (sizes 150 to 250) direct drive outdoor axial fans.
- Variable pulley-belt drive indoor centrifugal fan.
- Microprocessor based control. Trane ICS capability.
- CE marked gas-heating module (YCD-YCH only).
- Burner with forced combustion blower. Efficiency exceeding 86%. (YCD-YCD only).
- R22 operating charge.

Unit Size	Nominal Airflow (m³/h)	Nominal Capacity (1) Cooling / Heating (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
TC* - YC* 060	3570	18.5 / 41.4	2215 x 1260 x 890	287 / 340
TC* - YC* 075	4250	22.7 / 41.4	2215 x 1260 x 890	313 / 360
YC* 085	4760	26.4 / 41.4	2232 x 1260 x 1156	---- / 435
TC* - YC* 100	5600	31.5 / 49.1	2395 x 1608 (*) x 1245	410 / 540
TC* - YC* 120	7130	38.3 / 49.1	2395 x 1608 x 1245	520 / 562
TC* - YC* 150	8500	45.5 / 70.6	2726 x 1811 x 1274	622 / 645
YC* 175	9850	53.1 / 70.6	2726 x 1811 x 1274	---- / 700
TC* - YC* 200	11200	61.8 / 77.4	3107 x 2167 x 1372	827 / 910
TC* - YC* 250	14100	67.9 / 77.4	3107 x 2167 x 1372	876 / 960

TCD, YCD: Downflow units, TCH, YCH: Horizontal flow units.
(1) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating capacity with G20 (natural gas) (YCD-YCH only)
(2) Cooling only units weight (TCD-TCH) / Gas fired units weight (YCD-YCH).
(*) Width of TCD 100 = 1260 mm. Width of YCD 100 = 1608 mm.

Voyager™ III Rooftops

TCD, TCH (Cooling only)
TED, TEH (Electric Heat)
YCD, YCH (Gas-Fired)
80 - 145 kW

- Watertight galvanised steel casing.
- 3D®-scroll" compressors.
- 3 (sizes 275 to 350) or 4 (sizes 400 and 500) direct drive outdoor axial fans.
- Variable pulley-belt drive indoor centrifugal fan.
- Microprocessor based control. Trane ICS capability.
- CE marked gas-heating module, 2 heating capacities per unit. (YCD-YCH only).
- Burner with forced combustion blower. Efficiency exceeding 86%. (YCD-YCD only).
- R22 operating charge.

Unit Size	Nominal Airflow (m³/h)	Nominal Capacity (1) Cooling / Heating (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
TC* - TE* - YC* 275	13600	80.0 / 25.0 / 70.6	4580 x 2302 x 1790	1530 / 1521
TC* - TE* - YC* 300	15300	88.0 / 37.5 / 70.6	4580 x 2302 x 1790	1590 / 1664
TC* - TE* - YC* 350	17000	102.2 / 50.0 / 70.6	4580 x 2302 x 1790	1630 / 1703
TC* - TE* - YC* 400	20400	117.8 / 62.5 / 77.4	5917 x 2302 x 1956	2065 / 2233
TC* - TE* - YC* 500	24650	144.8 / 75.0 / 77.4	5917 x 2302 x 1956	2165 / 2332

TCD, TED, YCD: Downflow units, TCH, TEH, YCH: Horizontal flow units.
(1) Cooling mode: air inlet temperature : 27°C DB / 19°C WB; outdoor temperature: 35°C.
Heating capacity 1: TED-TEH units with electric heater under 380V supply.
Heating capacity 2: YCD-YCH units with low capacity gas heating module and G20 (natural gas).
(2) Dimensions non applicable to gas fired units (YCD-YCH) equipped with the high capacity gas heating module.
(3) Cooling only units weight (TCD-TCH) / Gas fired (low capacity gas heating module) units weight (YCD-YCH).

Intellipak® Rooftops

150 - 380 kW

For constant or variable air flow applications

SAHF: Cooling only.
SXHF: Cooling only + extended casing.
SEHF: Cooling only + electric heater.
SLHF: Cooling only + hot water coil.
SSHF: Cooling only + steam coil.

For more information, contact your Trane sales office.

Close-Control Air Conditioners

Indoor Units (*)

Air-cooled or Water-cooled direct expansion: 5 - 85 kW
Chilled Water: 7 - 129 kW

- Self-supporting 1.2 mm sheet steel frame with a dark grey external epoxy coating and internal lining providing sound-proofing and thermal insulation.
- 1.2 mm sheet steel protective panels with cream coloured epoxy coating and internal lining made up of soundproofing and thermal insulation materials.
- Filters: EU4 arrestance rate, control of pressure loss through the filter and activation of a clogged filter indicator.
- Double inlet galvanised steel centrifugal fans.
- Electric panel placed in a compartment isolated from the airflow path.
- Control by microprocessor, which enables very accurate control of the indoor conditions.

Unit Size	Nominal Airflow (m^3/h)	Nominal Capacity (1) Cooling / Heating (kW)	Overall Dimensions (2) L x W x H (mm)	Operating Weight (2) (kg)
Direct Expansion (SDA, SDW, STA, STW, SUA, SUW, SPA, SPW)				
0151	1040 - 1580	5.2	550 x 450 x 1740	130
0251	1190 - 1580	8.0	550 x 450 x 1740	130
0331	1400 - 1940	9.9	700 x 450 x 1740	150
0351	1940 - 3020	12.8	850 x 450 x 1740	185
0501	2950 - 4720	17.7	1200 x 450 x 1740	260
0601	3020 - 4970	20.1	1200 x 450 x 1740	260
Direct Expansion (MDA, MDW, MDG, MUA, MUW, MUG, BDA, BDW, BDG)				
0701	7700	23.1	1440 x 650 x 1970	350
0702	7700	26.5	1440 x 650 x 1970	400
1002	9860	33.7	1670 x 650 x 1970	465
1302	9860	38.7	1670 x 650 x 1970	475
1352	14690	44.6	2370 x 650 x 1970	585
1604	14690	48.9	2370 x 650 x 1970	650
2002	19500	66.0	2640 x 850 x 1970	850
2402	24000	84.9	2640 x 850 x 1970	880
Chilled water (SDC, STC, SUC, SPC)				
0200	1040 - 1580	7.5	550 x 450 x 1740	100
0250	1080 - 1940	9.6	700 x 450 x 1740	115
0300	1150 - 2050	10.7	850 x 450 x 1740	150
0400	1940 - 3020	13.6	850 x 450 x 1740	155
0600	2950 - 4720	21.4	1200 x 450 x 1740	220
Chilled Water (MDC, MUC, BDC)				
0910	6160	31.7	970 x 650 x 1970	250
1210	9540	45.8	1140 x 650 x 1970	320
1710	12280	62.3	1670 x 650 x 1970	370
2310	18500	82.2	2370 x 650 x 1970	470
2510	18360	92.4	2370 x 650 x 1970	480
3010	23080	112.1	2370 x 850 x 1970	650
3310	22900	121.7	2370 x 850 x 1970	665
3510	22720	128.9	2370 x 850 x 1970	680

SD..A/W/C, ST..A/W/C, MD..A/W/C/G, BD..A/W/C/G: Downflow discharge unit.
SU..A/W/C, SP..A/W/C, MU..A/W/C/G: Upflow discharge unit.

(1) Direct Expansion units: air inlet temperature: 24°C DB / 50% RH; condensing temperature: 48°C.
Chilled Water units: air inlet temperature: 24°C DB / 50% RH; chilled water: 7°C/12°C.
(2) Indoor Unit.
(*) Product non available in Belgium and Italy.

Air handling Units

CCGA (*)

40 sizes: 700 - 80 000 m³/h

The Trane CCGA Air Handling Unit offers a complete range suitable for a large number of applications.
Its modular 175 mm construction with double skin panels and range of sizes makes the CCGA the ideal air-handling unit for the replacement market.

The Trane CCGA Air Handling Unit provides all the functions needed to process air: Filtration (flat washable or throwaway panel, bag, carbon activated and High Efficiency Particle Arrestance filters). Cooling & heating (CW, LPHW and Direct Expansion) coils. Heat recovery (coil loops, Plate Heat Exchangers and thermal wheels). Humidification (factory mounted steam humidifier). Ventilation (forward curved or backward inclined fans for constant or variable air flow).

Main characteristics are:

- Modular 25 or 50-mm double skin panels manufactured by injecting CFC free polyurethane foam between two metal skins, this produces a rigid, vibration free and long life cycle panel.
- Inner and outer panel skins available in 0.5, 0.9 and 1.2-mm thick galvanised steel, Stainless steel available as an option. The outer skin of the panel is coated with Plastisol, "Poppy Red" for indoor units, "Mushroom" for outdoor units, other colours are available.
- The unit framework is constructed from extruded aluminium profiles, assembled with reinforced nylon corners. Panel to unit framework seal is obtained by means of a non-hydroscopic gasket compressed between the panels and the framework.
- Access panels can be lift-off or hinged with a variety of handle options to choose from.
- Units are supplied with a 160-mm high sub base frame to maintain the unit rigidity during transportation, installation and operation.
- 3 way sloping drain trays under all cooling coils and humidifier sections ensure drainage of condensate.
- Units suitable for external applications are supplied with pitched weatherproof roofs and intake louvres or hoods.

Factory mounted controls (*):

The Trane CCGA Direct Digital Control (DDC) unit mounted control system offers you more jobsite control while requiring less design time. We make it easier for you to design and install air conditioning systems into your building.
The factory mounted control offering includes designing, selecting, mounting, wiring and testing of all control items such as actuator, control valves, pressure sensors, temperature sensor and relays. All these control items are wired back within the unit framework to a Trane Programmable Control Module (PCM).

The Trane DDC controller provides direct digital control with high flexibility to provide standard or custom control sequences to control heating and cooling cycles, damper/economiser operation and VAV fan modulation.
This makes the CCGA unit fully standalone, or by using an Integrated Comfort™ system (ICS) communication link part of the complete Trane Tracer Summit® Building Management System.

(*) CCGA factory mounted controls options are not available in all countries. Contact your local Trane sales office for confirmation.

CCEA (*)

48 sizes: 800 - 150 000 m³/h

Designed for particularly demanding environments, the Trane CCEA Air Handling Unit is suitable for applications not only in industry, hospitals and the pharmaceutical industry, but also for the replacement market and special applications.

The "Clean Concept" unit

The basic element of the CCEA air handling is a completely enclosing self supporting sandwich panel. The absence of structure means no thermal bridge and the smooth internal and external surfaces make the panels easily cleanable. Upon request, the standard galvanised steel -used for panels, condensate trays, fan motor assemblies, filter frames ...- can be replaced with stainless steel. Also any component can be mounted on slide rails and every section can be fitted with a drain to remove liquid when washing or disinfecting the unit. All internal edges can be with rounded corners and equipped with anti-bacteria seals. Such characteristics make the CCEA air handling unit compliant with the major requirements of particularly demanding environments (hospital, food industry...).

Build to last

The two galvanised steel skins 0.7 mm thick enclose the insulation material hermetically and hence protect it from the mechanical, chemical or climatic deterioration. No welded seams or spot welds make the panel highly corrosion resistant. The panels are screwed onto a standard supply galvanised steel subbase which makes the unit extremely strong and which prevents condensation under the unit by insuring airflow circulation. An angular frame surrounds the unit, covered with a rounded protective strip to improve the finish.

Silence for comfort

The panel insulation, 70 kg/m³ high-density rockwool, M0 (non-combustible) rated has made the CCEA a reference for low noise applications. The fan motor assembly mounted on anti-vibration isolators with flexible connection prevent vibration transmission. Moreover, sound attenuators can be incorporated in the CCEA air handlers for critical applications such theatre, schools, offices...

Easy installation maintenance

If access is restricted, the CCEA units can be delivered in several sections or fully deassembled. The structure of the CCEA air handling unit makes it possible to assemble or deassemble a panel from inside or outside with a simple set of tools. Captive nuts and assembly cleats allow greatly simplified assembly while assuring tightness with a very low leakage rate (class C as per standard DW 142 or Eurovent 2/2).

The answer to market needs

To suit particular specifications, the CCEA air handling unit offer wide choices of panel material: galvanised steel, stainless steel, PVC coated steel, aluminium, etc.

To suit application requirements the CCEA air handling unit offer wide choices of unit configurations: false ceiling, double deck, side by side, vertical...

Besides the standard supply for basic air handling, the CCEA units can be fitted with more specific components such as:

- Carbon filter, HEPA filter.
- Heating and cooling coil in stainless steel, heresite or special coating.
- Plate heat exchanger, heat recovery wheel, heat pipe.
- Free wheel fan (plug fan).
- Gas heater.

With this flexibility in design, the CCEA air handling unit is the answer to numerous industrial applications: paper mills, swimming pools, cement factory, micro-electronic production, food industry ...

(*) Product non available in Albania, Austria, Bulgaria and Yugoslavia.

CCGA

40 sizes: 700 - 80 000 m³/h

CCGA Size	Nominal Airflow (m³/h)	Dimensions Width (mm)	Dimensions Height (mm)
03-03	1310	675	835
04-03	1920	850	835
04-04	2620	850	1010
05-03	2530	1025	835
05-04	3730	1025	1010
05-05	4975	1025	1185
06-04	4630	1200	1010
06-05	6175	1200	1185
06-06	7410	1200	1360
07-05	7375	1375	1185
07-06	10690	1375	1360
07-07	10690	1375	1535
08-06	9745	1550	1360
08-07	11775	1550	1535
08-08	13805	1550	1710
09-06	11185	1725	1360
09-07	13515	1725	1535
09-08	15845	1725	1710
09-09	17710	1725	1885
10-07	15225	1900	1535
10-08	17885	1900	1710
10-09	19990	1900	1885
10-10	22620	1900	2060
11-08	19930	2075	1710
11-09	22270	2075	1885
11-10	25200	2075	2060
11-11	27545	2075	2235
12-08	21850	2250	1710
12-09	24420	2250	1885
12-10	27635	2250	2060
12-11	30205	2250	2235
12-12	33415	2250	2410
14-10	32800	2600	2060
14-11	35840	2600	2235
14-12	39660	2600	2410
14-14	46520	2600	2760
16-12	45900	2950	2410
16-14	83840	2950	2760
18-12	52140	3300	2410
18-14	61160	3300	2760

Nominal flow with 2.5 m/s cooling coil velocity.
Overall dimensions for 50 mm panel units.
All units can come with either 25 mm or 50 mm thick panels.

CCEA (*)

48 sizes: 800 - 150 000 m³/h

CCEA Size	Nominal Airflow (m³/h)	Dimensions Width (mm)	Dimensions Height (mm)
0,5	1070	710	465
0,75	1775	1015	465
1	2140	710	770
1 F	2515	1320	465
1,5	3550	1015	770
2	4960	1320	770
2,25	5410	1015	1075
3 F	6370	1625	770
3	7710	1320	1075
3,75 F	9900	1625	1075
4	10310	1320	1380
4,50 F	12060	1930	1115
5	13440	1625	1420
6	16370	1930	1420
6,25	16720	1625	1725
7 F	19500	2235	1420
7,5	20670	1930	1725
8 F	22370	2540	1420
8,75	24620	2235	1725
9	24600	1930	2030
10	28260	2540	1725
10,5	29360	2540	1725
11,25 F	32210	2845	1725
12	34140	2540	2030
12,25	34420	2235	2335
12,50 F	36160	3150	1725
13,5	38920	2845	2030
14	40025	2540	2335
15	43700	3150	2030
15,75	45630	2845	2335
16	45250	2540	2640
16,5	48390	3455	2030
17,5	51230	3150	2335
18	51010	2845	2640
18 F	53250	3760	2030
19,25 F	56730	3455	2335
19,50 F	57940	4065	2030
20	57250	3150	2640
21 F	62420	3760	2335
22	63410	3455	2640
22,75 F	67930	4065	2335
24	69770	3760	2640
24,50 F	69120	4370	2335
26	75930	4065	2640
26,25 F	74300	4675	2335
28	82080	4370	2640
30	88240	4675	2640
32	94390	4980	2640

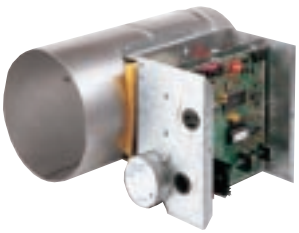
Nominal flow with 2.5 m/s cooling coil velocity.
Overall dimensions for 50 mm panel units.
Unit sizes 0,5 to 12 (except 11,25) can come with either 30 mm or 50 mm thick panels.
Unit sizes 12,25 and above come only with 50 mm thick panels.

(*) Product non available in Albania, Austria, Bulgaria and Yugoslavia.

Air Terminal Devices

Variable Air Volume system Varitrac®

Varitrac variable air volume system provides individual zone control with a single constant volume air conditioning units.
Each zone is equipped with a Varitrac damper that modulates air supply according to the room temperature and the set points.
The CCP2 or the system's nerve centre, continuously communicating with each damper to determine its requirements, chooses the operating - cooling or heating- mode of the air handler equipment.
The surplus of air, not needed to air condition the zones, returns directly to the air handler through a bypass damper, insuring a constant airflow over the coil.
In summary, the installation is simple, quiet and unobstrusive, providing each zone and users with maximum comfort.



VADA zone damper,
BYPS bypass damper

- Rigid welded aluminium cylinder for high structural integrity and durability.
- Radiused damper design with 90-degree rotation allows for stable air modulation with no damper rattle.
- Rolled ridge with radiused damper provides a tight mechanical seal with low leakage; no gasketing or neoprene seals that come loose or become worn in time.
- Microprocessor based damper control for accurate temperature control.
- Software based minimum and maximum positions, no mechanical stops used to stall the damper motor.
- End switches used to stop actuator operation at fully closed and wide-open positions.
- Proven damper gear design developed over 10 years of experience.
- Drive gear is moulded to the motor shaft to assure no gear slippage.

Zone Damper VADA	06	08	10	12	14	16
Nominal Diameter (mm)	150	200	250	300	355	400
Nominal Airflow (m^3/h) (1)	400	710	1110	1600	2170	2850

(1) Based on 6m/s air velocity

CCP2 central control unit

- Communicates with up to 16 zone dampers.
- Controls the bypass damper.
- Chooses the operating -cooling or heating- mode of the air handler equipment, depending on the zone requirements.
- Performs an automatic calibration of the dampers.
- Trane ICS capability

Diffusers

- Available in two designs, linear or cassette with thermal and sound-proofing insulation.
- Utilises the 'Coanda' effect, thus ensuring good room air distribution.
- Cassette diffusers suited for 600 by 600 ceiling.
- Linear difffusers, constructed from aluminium profiles, in length of 600 or 1200 mm, available with 1,2,3 or 4 slots, with either one or two way blow.

Variable Air Volume system Varitrane®

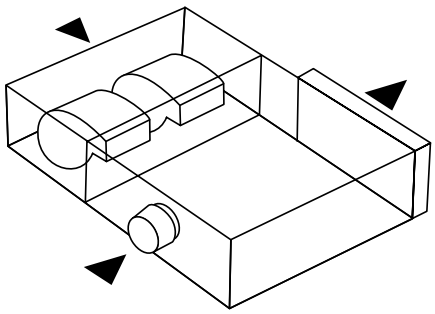
Varitrane variable air volume system offers a high quality air conditioning at significant first-cost savings and operating cost -savings. This is done by varying the amount of air instead of varying the supply air temperature.

Thus reducing the energy used for ventilation.
Also, a Varitrane system allows, thanks to the diversity of the loads over the building, the use of smaller air handlers and ductwork.

VAV air valve
- Low leakage without gasketing or neoprene seal. Beveled, self-centering damper and precision cast aluminium inlet provide a mechanical seal with less than 1% leakage at 1000 Pa of static pressure.
- Integral electric actuator meaning no fragile or exposed pins, levers, rods...
- Geometrical optimised valve for low inlet static requirements, quiet operation along the full operation range and smooth evenly distributed air flow regardless of valve positions
- Precise air flow measurement with multi point flow ring. Accuracy within 5%
- Can be supplied with Trane controller. Trane ICS capability.

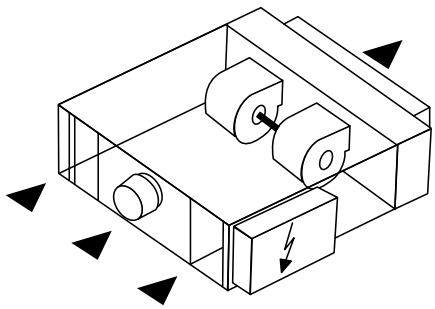
VCCD, VCED, VCWD, Shutoff VAV
- Casing made of galvanised sheet metal steel.
- Insulation with open cell foam for a high sound absorption and good thermal performances.
- Available with terminal electric heater (VCED) or hot water terminal reheat coil (VCWD)

Size	03	06	11	17	24	32	42
Nominal Diameter (mm)	125	150	200	250	300	350	400
Nominal Airflow (m^3/h)	360	720	1300	2000	2900	3600	5000



Parallel

VFCD, VFED, VFWD
Parallel Fan Powered VAV
- Casing as Shutoff VAV. Not available in size 03.
- Fan is outside primary air and runs only when heating is required.
- Available with terminal electric heater (VFED) or hot water terminal reheat coil (VFWD) to complement the free heating obtained when recirculating air from the plenum.

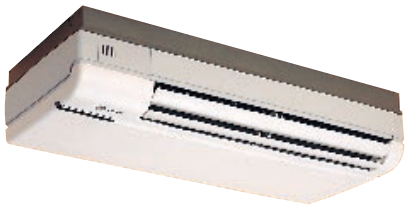


Series

VSCD, VSED, VSWD
Series Fan Powered VAV
- Casing as Shutoff VAV.
- Fan is in line with primary air and runs continuously to provide a constant airflow into the conditioned zone for excellent air motion and constant sound level.
- Fan flow higher than primary flow.
- Available with terminal electric heater (VFED) or hot water terminal reheat coil (VFWD) to complement the free heating obtained when recirculating air from the plenum.

VDLE, VRLE, Diffusers
- Linear difffusers available in standard length of 600, 900, 1200 or 1500 mm, with 1,2,3 or 4 slots, with either one or two way blow.
- Constructed from aluminium profiles, available in 156 RAL colours with thermal and soundproofing insulation.
- Utilises the 'Coanda' effect, thus ensuring good room air distribution.

Water terminals



Blower Units VFX, VFS
Convertible (VFX)
Ceiling (VFS): 1 - 2.5 kW

- 3-speed centrifugal fan motor.
- Multi-direction air deflectors.
- Washable air filters.
- Fixing support supplied with mounting kit.
- Condensate pump (VFS only)

Unit	Nominal Airflow (m³/h)	Nominal Capacity (1) Cooling / Heating (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
VFX - VFS 404	350	1.0 / 1.4	830 x 172 x 365	13
VFX - VFS 405	350	1.4 / 1.7	830 x 172 x 365	13
VFX - VFS 408	450	1.8 / 2.2	830 x 172 x 365	13
VFX - VFS 411	550	2.5 / 2.9	1055 x 172 x 365	16

(1) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; chilled water: 7°C / 12°C.
Heating mode: air inlet temperature: 20°C; hot water: 50°C / 45°C.

Blower Units CWS
Casette: 3 - 6 kW

- 5-speed centrifugal fan motor.
- Air discharge on 2, 3 or 4 sides.
- Washable air filters.
- Ultra thin plenum grilles (30 mm).
- Centrifugal condensate pump kit (500 mm head).

Unit	Nominal Airflow (m³/h)	Nominal Capacity (1) Cooling / Heating (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
CWS 025	525	2.0 / 2.2	574 x 574 x 305	15
CWS 045	525	3.4 / 3.7	574 x 574 x 305	18
CWS 065	525	4.1 / 3.6	574 x 574 x 305	21

(1) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; chilled water: 6°C / 11°C.
Heating mode: air inlet temperature: 20°C; hot water: 82°C / 71°C.

Blower Units FWD
Ductable: 5 - 15 kW

- Non-painted galvanised steel casing.
- 3-speed centrifugal fan motor.
- Air inlet behind or underneath the units.
- Self-contained condensate tray.

Unit	Nominal Airflow (m³/h)	Nominal Capacity (1) Cooling / Heating (kW)	Overall Dimensions L x W x H (mm)	Operating Weight (kg)
FWD 08	820	5.2 / 6.2	890 x 600 x 250	32
FWD 12	1650	8.3 / 11.4	1090 x 710 x 300	46
FWD 20	2300	15.0 / 18.5	1290 x 820 x 350	61
FWD 30	3000	18.8 / 20.9	1290 x 970 x 450	76
FWD 45	4500	30.1 / 38.2	1290 x 1090 x 650	118

(1) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; chilled water: 7°C/12°C.
Heating mode: air inlet temperature: 20°C; hot water: 50°C / 45°C.

Fan Coil Units

FVC, FLC: vertical cabinet
FHC, FSC: horizontal cabinet
FVK, FLK: vertical concealed
FHK, FSK: horizontal concealed

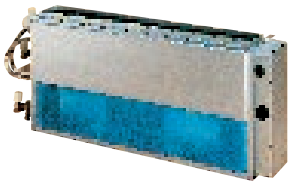
- Composite cabinet designed by an international designer (series FVC, FLC, FHC and FSC).
- Washable filter.
- Fans with plastic scrolls and large diameter impellers for a low sound level. External static up to 80 Pa with specific motor.
- Hot and/or cold water coil, aluminium find and copper tubes, right or left side connections.
- Electric heater specially designed to be inserted into the water coil.
- Free Cooling capability by using outdoor air.
- Factory installed and tested valves and controls.
- Trane ICS capability.

FVC

FVK

FLC

FLK

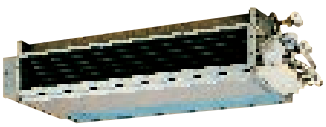


FHC

FHK

FSC

FSK



Size (1)	Nominal Airflow (2) (m^3/h)	Nominal Capacity (3)(4) Cooling / Heating (kW)	Overall Dimensions L x W x H (mm)		Operating Weight (kg)	
			FVC	FHK	FVC	FHK
02	187	1.0 / 0.6	790 x 553 x 228	733 x 448 x 230	18	17
03	281	1.5 / 1.0	990 x 553 x 228	933 x 448 x 230	22	20
04	400	2.6 / 1.5	1190 x 553 x 228	1133 x 448 x 230	25	23
06	551	3.9 / 2.1	1390 x 553 x 228	1333 x 448 x 230	32	30
08	774	5.1 / 2.7	1590 x 553 x 228	1533 x 448 x 230	40	38
10	1062	6.6 / 3.9	1790 x 553 x 228	1733 x 448 x 230	55	48
11	1123	6.4 / 3.6	/	1349 x 574 x 291	/	55
12	1256	8.3 / 4.0	/	1549 x 574 x 291	/	63
14	1490	9.3 / 4.7	/	1749 x 574 x 291	/	71
15	1536	10.1 / 5.0	/	1749 x 574 x 291	/	71
16	1566	10.9 / 5.2	/	1949 x 574 x 291	/	80
20	2045	13.3 / 6.1	/	1949 x 574 x 291	/	80

(1) Sizes 11 to 20 only available in concealed version or FVK, FLK, FHK and FLK series.
(2) Nominal airflow at medium speed.
(3) Cooling mode: air inlet temperature: 27°C DB / 19°C WB; chilled water: 7°C / 12°C. 3 row coil, medium speed airflow.
(4) Heating mode: air inlet temperature: 20°C; hot water: 50°C / 45°C. 1 row coil, medium speed air flow.

Building Management Products

All the equipment described in the previous pages can be part of a Trane Integrated Comfort™ system (ICS). The majority of this equipment come with factory mounted and tested controls.
These TRANE microprocessor based control modules, factory mounted and tested, is the second brick of the ICS concept.
These modules can exchange information and commands with TRANE's building automation products.
As a result: a coherent, optimized and reliable system, quicker installation and commissioning, and a single source of responsibility.

PCM, UPCM
General Purpose Controllers

Trane general-purpose controllers provide the capability to tie non-Trane equipment into the Trane building automation network.

UPCM

PCM or Programmable Control Module
- Electronic board panel (H x W x D: 356 x 394 x 89 mm). Clear Language Display (2 lines of 20 characters) and 4 key keypad operator interface as option.
- Direct digital control and monitoring for a wide range of HVAC and other applications.
- Typical uses include controlling air handling equipment, interfacing with chilling or boiler units, controlling pumps and cooling towers....
- Flexibility to operate as standalone controller with custom programming routines and DDC loops.
- Also used as generic input/output for the BCU (Building Control Unit described on page 44).

UPCM or Universal Programmable Control Module
- Electronic board panel (H x W x D: 482 x 406 x 152 mm). Clear Language Display (2 lines of 40 characters) and 8 key keypad operator interface as option.
- Programmable direct digital controller. More flexible, enhanced version of the PCM with a greater number of inputs and outputs which are also variable in configuration.
- Enhanced performance in both execution speed and number of DDC loops and routines.
- Also used as generic input/output for the BCU (described on page 44).

DDC2, CPC-Summit

Chiller Sequencers

DDC2

- Sequence panel, based on a PCM with operator interface, for control of two chillers and associated pumps. Provides stand-alone hard-wired control of these pieces of equipment.

Main features:

- Start/stop control and automatic rotation of the chillers and associated pumps.
- Lead/Lag control.
- System chilled water setpoint control. Possibility of ice making mode.
- Soft loading to prevent unnecessary operation of the lag chiller at the system startup.
- Failure recovery. Start the lag chiller if the lead chiller fails.
- Alarm output.

CPC-Summit

CPC-Summit

- Based on the Tracer Summit® BCU, control and monitoring, on serial communication links, of chiller plants with up to 25 chillers to optimize plant perfomance and improve system efficiency.

Main features:

- Chiller Plant Control to monitor and control multiple chillers and the related pumps and valves, plus cooling towers and ice tanks.
- Sequencing of up to 25 chillers, over 4 water distribution circuits to equilize the running hours of each chiller.

Various built in control and sequencing strategies: Base, Peak, Swing ...

- Control of pumps and ancilliary devices. Control of cooling towers.
- Reports and trend log.
- Remote communication through Modem. Alarm dial out or remote diagnostics, programmation and setup.
- Interoperability with other BMS (Building Management Systems) using BACnet™ or Modbus™ communication protocols.

Tracker®

Light Commercial Building Supervisor

- Control and monitoring, on a serial communication link, of 16 air handling systems with a maximum of:
  - 12 Trane Voyager™ rooftops,
  - 12 non Trane ICS compatible air handlers via Trane TCM -or Thermostat Control Module,
  - 8 Varitrac® variable air volume systems via CCP2 with 16 zones and one blower unit each (as described in page 38).
- Electronic board panel (H x W x D: 304 x 249 x 56 mm).Clear Language Display (2 lines of 40 characters) and 16 key keypad operator interface. Choice of language within English/French/Spanish.

Main features:

- Control of zone temperature set points, in both occupied and non-occupied mode.
- Time of day scheduling for equipment for each of the seven weekdays, plus separate holiday and exception days.
- Optimal start of each unit based on the history of the operation of the previous days.
- Demand limiting to reduce energy useage.
- Alarm (Red LED on front panel), and event log (32 last events).
- Remote communication through Modem. Alarm dial out or remote diagnostics and setup.

Tracer Summit®
Building Control

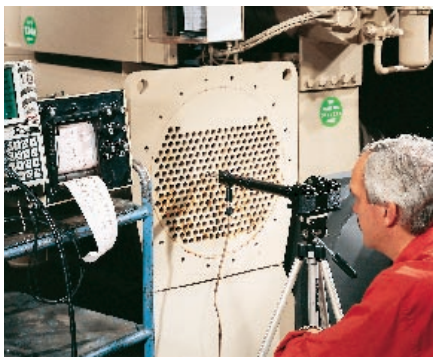
- Control and monitoring, on serial communication links, of Trane chillers and air handlers equipped with compatible UCM (Unit Control Modules).
- Capability to control and monitor any other equipments with the Trane generic purpose controllers (PCM, UPCM described on page 42).
- Graphic user interface.
- Capability of standalone operation.
- Interoperability with other BMS using BACnet™ or Modbus™ communication protocols.

BCU or intelligent field panel
- Electronic board panel (H x W x D: 482 x 406 x 127 mm)

Main features:
- Communication with multiple Trane Unit Control modules (UCM) or Trane generic purpose controllers (PCM, UPCM).
- Multiple BCUs and PC Workstations can be connected via a high-speed local area network on coaxial or fiber-optic cable using the BACnet™ communication protocol.
- Time of day scheduling for each of the seven weekdays, plus separate holiday and exception days. Time of day schedules are easily copied from one day to another, or from one zone to another.
- Area control to coordinate HVAC equipment and lighting for a specific area of the building.
- Variable Air Volume air system control to coordinate the handling units with the VAV boxes they supply for proper control of temperature, air flow, static pressure and indoor air quality.
- Chiller Plant Control to monitor and control multiple chillers and the related pumps and valves, plus cooling towers and ice tanks to optimize plant perfomance.
- Alarms (20 user-definable levels) and event log.
- Reports and trend logs
- Remote communication through Modem. Alarm dial out or remote diagnostics, programming and setup.
- Interoperability with other BMS (Building Management Systems) using BACnet™ or Modbus™ communication protocols.

PC Workstation
- PC Workstation can be connected to and disconnected from the high-speed local area network using the BACnet™ communication protocol, without interruption to the system.
- Primary graphical user interface (English/French/German/Spanish/Portuguese) under multitask operating system.
- Provides the end user with the ability view current and trended information, acknowledge alarm, perform override ... Several levels of access limited through password.
- Provides the system operator with the ability to create and edit system database and create customised routines.

Service Products



Trane organisation offers numerous services to keep your HVAC system operating smoothly and cost effectively for years.
These services can be, for example, preventive maintenance contracts, conversion to a new refrigerant, plant automation.

SecuriTrane Contracts

Preventive, Total maintenance, Remote monitoring.
Your contract may be only preventive by including only the maintenance actions specified in the maintenance guide.
To help you to stay within your maintenance budget, it may also cover other expenditures such as troubleshooting, unplanned shut down....
Remote monitoring will ensure the seamless operation of your installation as any problem will be reported to the service organisation who will respond and take corrective action.

Analysis

Oil, Tubes, Lithium Bromide
Two oil analyses a year will help inform you on the conditions of your installation. Particles in suspension can give information on the degree of wear of the compressor or some other components.
The water flowing through the heat exchangers may be agressive. Eddy Current Tube Analysis will detect cracking or loss of metal.
A yearly lithium bromide analysis is necessary to have a correct dosage of corrosion inhibitors in an absorption machine, thus ensuring correct operation.

Trane Parts

Overhaul kits, Oils, Spare Parts - genuine or generic-
ServiceFirst manages more than 17000 part references, 2 600 of these are available within 24 hours.
This covers genuine parts or generic parts (manometers, pressostats, thermostats...).
Trane has also tested and approved some oils that work well with the Trane compressors.

Plant Management, Remote Monitoring

Plant automation, remote monitoring or control are feasible with your existing installation even if it is several years old.
Trane ServiceFirst can undertake the technical upgrading of your equipment with the most recent microprocessor based controls and then offer you the plant automation customised to your needs.

Refrigerant Conversion

When is the right time to make the chiller conversion?
ServiceFirst provides you with the expertise to guide you to the best solution and if necessary, convert your installation to an alternate refrigerant.

Compressors. Remanufactured, Hermetic, Scroll

ServiceFirst has at your disposal several ranges of new compressors for replacement
Remanufactured compressors are rebuilt in our factory using original parts and under go identical tests to newly assembled compressors.

Training

Trane recognises that new technologies require new technology training. And that is why Trane offers extensive trainings for owners, operators and maintenance personnel on broad range of equipment: high tonnage chillers, rooftop air conditioners, mini split air conditioners, air handling or air terminal products.
Trane also provides technical trainings on basics of refrigeration, new compression technologies, microprocessor based controls, chiller plant automation, preventive maintenance, and more.

Trane's European Training Centre is located at Epinal (France), near to the manufacturing plants.
It is equipped with modern classrooms and multi-media equipment and, includes a hands-on laboratory.
Trane can provide its customers with trainings in its local Epinal facility and can provide local training at its customer's locations.

A sample of the available courses includes:

- Voyager™ Cooling/Heating Rooftop
- Scroll Chillers
- Screw Chillers
- Centrifugal Chillers
- Absorption Steam and Hot Water Single Stage
- Absorption Direct Gas Fired two Stage
- Air Side Applications
- Variable Air Volume (VAV)
- Integrated Comfort ™ system (ICS) components
- Tracer Summit® Building Automation System
- Microprocessor Controls

Trane is constantly updating its training courses and facilities.

For more information, contact your Trane sales office.

HVAC Design Tools

Trane offers not only the equipment and the expertise to set up Integrated Comfort™ systems, but also help the design engineer in the search for solutions.
Trane offers software tools to help design, size and apply equipment in heating, ventilation, and air conditioning (HVAC) systems for all types of buildings:

Design software

- VAV: Duct design.
  - Use of the static regain method.
  - Taking in account target noise level in each zone, structural constrictions on duct sizes.
  - Ouput giving the full list of material (ducts, fittings, fire dampers, Trane VAV boxes ...) and values of airflow and pressure in every branch of the ductwork.

- Load Express™, TRACE® Load 700: Load Estimation.
  - Calculation of cooling, heating and airflow capacities for small to medium-sized light commercial buildings (Load Express) or for more complex building geometries and systems (TRACE Load 700).
  - Intuitive Windows graphical interface
  - Non-sequential data entry of the building information for a direct reading from the blue print submittals and for easy future modifications.
  - Extensive predefined (and editable) libraries and templates of construction materials and building load information.
  - Over 480 global weather profiles available.

Analysis software

- System Analyzer™, TRACE® 600: comparative energy and economical analysis, over the lifetime of the installation, between different HVAC systems.

  - Which is more economically feasible - containing refrigerant within an older, less efficient chiller, retrofitting that chiller with an alternative refrigerant? Or replacing the chiller with a new, high efficiency chiller?
  - How much energy can one expect to save with a decoupled piping system?
  - Would a hybrid plant pay for itself in a given application?

  - Over 25 years of experience simulating the operation HVAC in building.
  - Numerous building templates that can be customised.
  - A wide choice of constant- and variable-volume airside systems.
  - Various chilled water options- thermal storage, low-temperature water, waterside economisers, free cooling, hybrid plants, decoupled piping systems, and much more.
  - Output guiding to the best life cycle solution, with the most effective sizing of equipement (airside, refrigeration, heating) and for the energy resulting to the less costly operation.

A20 GN 013 E - 0599

New

Stocking location : Europe

Société Trane
Route de Chamagne
88130 Charmes
Cedex, France

http : // www.trane.com

An American Standard Company