



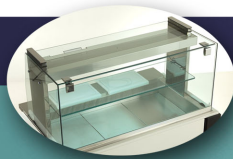
**R448A/ R449A**

**Remote Refrigeration Specification Drop In Displays.**



Until 2022, Kubus & Designline chilled models are suitable for use with a remotely sited R448a/ R449a refrigerated central plant. The information provided will allow a refrigeration engineer to provide a suitably sized condensing unit and correctly sized pipework to serve the display.

- 1) The units are supplied with a 210mm deep condensing unit transportation cradle attached, to protect the refrigerant liquid & suction line stubs & to house the electrical control box.\*\*
- 2) Once installed, the cradle can be retained or removed and the electrical control box re-housed locally, if necessary.
- 3) The following refrigeration components are supplied:  
 1 x Danfoss TE2-R448A expansion valve (Ced 7650/ DAN169),  
 1 x Danfoss 3/8 ODS EVR6 Solenoid (Ced 7622/ DAN616),  
 1 x Danfoss No. 1 Orifice (Ced 7651/DAN218),  
 1 x Danfoss10W Solenoid Coil (Ced 7653/ DAN680),  
 1 x HO7 0.75mm 3 core coil cable (These items are not covered by warranty).
- 4) The single feed evaporator coil is supplied pressure tested to 25 bar with dry nitrogen.
- 5) **32mm site drainage is required** for evaporator defrost water removal, for these models.
- 6) The following waste connection items are also supplied for installation  
 – 1 x 32mm bottle or P trap, 1M length of 32mm waste pipe.
- 7) **A separate 13A 50Hz 230V SPN+E electrical supply is required** to serve display lighting – in addition to a supply for the remote condensing unit.
- 8) \*\*Electrical control box is supplied with 1.5m plug top and lead.



**Kubus Range**

Model	Description	** Max. Cooling Duty (Watts)
KCW2	Kubus 2-1 Self Help Cold Well	664
KCW3	Kubus 3-1 Self Help Cold Well	664
KCW4	Kubus 4-1 Self Help Cold Well	741
KCW5	Kubus 5-1 Self Help Cold Well	1166
KCW6	Kubus 6-1 Self Help Cold Well	1388
KCW2 + KAS2	Kubus 2-1 Assisted Service Cold Well	664
KCW3 + KAS3	Kubus 3-1 Assisted Service Cold Well	664
KCW4 + KAS4	Kubus 4-1 Assisted Service Cold Well	741
KCW5 + KAS5	Kubus 5-1 Assisted Service Cold Well	1166
KCW6 + KAS6	Kubus 6-1 Assisted Service Cold Well	1388
KCIW2	Kubus 2-1 Self Help Cold Island Well	664
KCIW3	Kubus 3-1 Self Help Cold Island Well	664
KCIW4	Kubus 4-1 Self Help Cold Island Well	741
KCIW5	Kubus 5-1 Self Help Cold Island Well	1166
KCIW6	Kubus 6-1 Self Help Cold Island Well	1388
KMDR2	Kubus 2-1 Self Help Cold Multideck (Rear Doors)	1166
KMDR3	Kubus 3-1 Self Help Cold Multideck (Rear Doors)	1388
KMDR4	Kubus 4-1 Self Help Cold Multideck (Rear Doors)	1388
KMDR5	Kubus 5-1 Self Help Cold Multideck (Rear Doors)	1388
KMDR2AS	Kubus 2-1 Assisted Service Cold Multideck (Rear Doors)	1166
KMDR3AS	Kubus 3-1 Assisted Service Cold Multideck (Rear Doors)	1166
KMDR4AS	Kubus 4-1 Assisted Service Cold Multideck (Rear Doors)	1388
KMDR5AS	Kubus 5-1 Assisted Service Cold Multideck (Rear Doors)	1388
KMDF2	Kubus 2-1 Self Help Cold Multideck (Fixed Back)	1166
KMDF3	Kubus 3-1 Self Help Cold Multideck (Fixed Back)	1388
KMDF4	Kubus 4-1 Self Help Cold Multideck (Fixed Back)	1388
KMDF5	Kubus 5-1 Self Help Cold Multideck (Fixed Back)	1388
KMDR3RS	Kubus 3-1 Self Help Cold Multideck – Roller Shutter, Rear Doors	1388
KMDR4RS	Kubus 4-1 Self Help Cold Multideck – Roller Shutter, Rear Doors	1388
KMDF3RS	Kubus 3-1 Self Help Cold Multideck – Roller Shutter, Fixed Back	1388
KMDF4RS	Kubus 4-1 Self Help Cold Multideck – Roller Shutter, Fixed Back	1388
KCDL2	Kubus 2-1 Assisted Service Cold Deli	664
KCDL3	Kubus 3-1 Assisted Service Cold Deli	664
KCDL4	Kubus 4-1 Assisted Service Cold Deli	741
KCDL5	Kubus 5-1 Assisted Service Cold Deli	1166
KCDL6	Kubus 6-1 Assisted Service Cold Deli	1388
KCDLSH2	Kubus 2-1 Self Help Cold Deli	664
KCDLSH3	Kubus 3-1 Self Help Cold Deli	664
KCDLSH4	Kubus 4-1 Self Help Cold Deli	741
KCDLSH5	Kubus 5-1 Self Help Cold Deli	1166
KCDLSH6	Kubus 6-1 Self Help Cold Deli	1388
KCMDL2	Kubus 2-1 Assisted Service Cold Multi Level Deli	664
KCMDL3	Kubus 3-1 Assisted Service Cold Multi Level Deli	664
KCMDL4	Kubus 4-1 Assisted Service Cold Multi Level Deli	741
KCMDL5	Kubus 5-1 Assisted Service Cold Multi Level Deli	1166
KCTW2	Kubus 2-1 Self Help Cold Tiered Well	664
KCTW3	Kubus 3-1 Self Help Cold Tiered Well	664
KCTW4	Kubus 4-1 Self Help Cold Tiered Well	741
KCTW2+KAS2	Kubus 2-1 Assisted Service Cold Tiered Well	664
KCTW3+KAS3	Kubus 3-1 Assisted Service Cold Tiered Well	664
KCTW4+KAS4	Kubus 4-1 Assisted Service Cold Tiered Well	741



**Designline Range**

Model	Description	** Max. Cooling Duty (Watts)
CW2	Designline 2-1 Self Help Cold Well	664
CW3	Designline 3-1 Self Help Cold Well	664
CW4	Designline 4-1 Self Help Cold Well	741
CW5	Designline 5-1 Self Help Cold Well	1166
CW6	Designline 6-1 Self Help Cold Well	1388
CW2 + AS2	Designline 2-1 Assisted Service Cold Well	664
CW3 + AS3	Designline 3-1 Assisted Service Cold Well	664
CW4 + AS4	Designline 4-1 Assisted Service Cold Well	741
CW5 + AS5	Designline 5-1 Assisted Service Cold Well	1166
CW6 + AS6	Designline 6-1 Assisted Service Cold Well	1388
CIW3	Designline 3-1 Self Help Cold Island Well	664
CIW4	Designline 4-1 Self Help Cold Island Well	741
CIW6	Designline 6-1 Self Help Cold Island Well	1388
CW2NG	Designline 2-1 Cold Well (No Gantry)	664
CW3NG	Designline 3-1 Cold Well (No Gantry)	664
CW4NG	Designline 4-1 Cold Well (No Gantry)	741
CW5NG	Designline 5-1 Cold Well (No Gantry)	1166
CW6NG	Designline 6-1 Cold Well (No Gantry)	1388
MDR2	Designline 2-1 Self Help Cold Multideck (Rear Doors)	1166
MDR3	Designline 3-1 Self Help Cold Multideck (Rear Doors)	1388
MDR4	Designline 4-1 Self Help Cold Multideck (Rear Doors)	1388
MDR5	Designline 5-1 Self Help Cold Multideck (Rear Doors)	1388
MDR2AS	Designline 2-1 Assisted Service Cold Multideck (Rear Doors)	1166
MDR3AS	Designline 3-1 Assisted Service Cold Multideck (Rear Doors)	1166
MDR4AS	Designline 4-1 Assisted Service Cold Multideck (Rear Doors)	1388
MDR5AS	Designline 5-1 Assisted Service Cold Multideck (Rear Doors)	1388
MDF2	Designline 2-1 Self Help Cold Multideck (Fixed Back)	1166
MDF3	Designline 3-1 Self Help Cold Multideck (Fixed Back)	1388
MDF4	Designline 4-1 Self Help Cold Multideck (Fixed Back)	1388
MDF5	Designline 5-1 Self Help Cold Multideck (Fixed Back)	1388
CDL2	Designline 2-1 Assisted Service Cold Deli	664
CDL3	Designline 3-1 Assisted Service Cold Deli	664
CDL4	Designline 4-1 Assisted Service Cold Deli	741
CDL5	Designline 5-1 Assisted Service Cold Deli	1166
CDL6	Designline 6-1 Assisted Service Cold Deli	1388
CDLSH2	Designline 2-1 Self Help Cold Deli	664
CDLSH3	Designline 3-1 Self Help Cold Deli	664
CDLSH4	Designline 4-1 Self Help Cold Deli	741
CDLSH5	Designline 5-1 Self Help Cold Deli	1166
CDLSH6	Designline 6-1 Self Help Cold Deli	1388
CMDL3	Designline 3-1 Assisted Service Cold Multi Level Deli	664
CMDL4	Designline 4-1 Assisted Service Cold Multi Level Deli	741
CTD2	Designline 2-1 Assisted Service Cold Tiered Deli	664
CTD3	Designline 3-1 Assisted Service Cold Tiered Deli	664
CTD4	Designline 4-1 Assisted Service Cold Tiered Deli	741

**\*\* Max.Cooling Duty to EN13215 :  
 Evaporating temp. -10 deg.C, return gas  
 temp at 20 deg.C, 3K of subcooling,  
 ambient 32 deg. C.**