

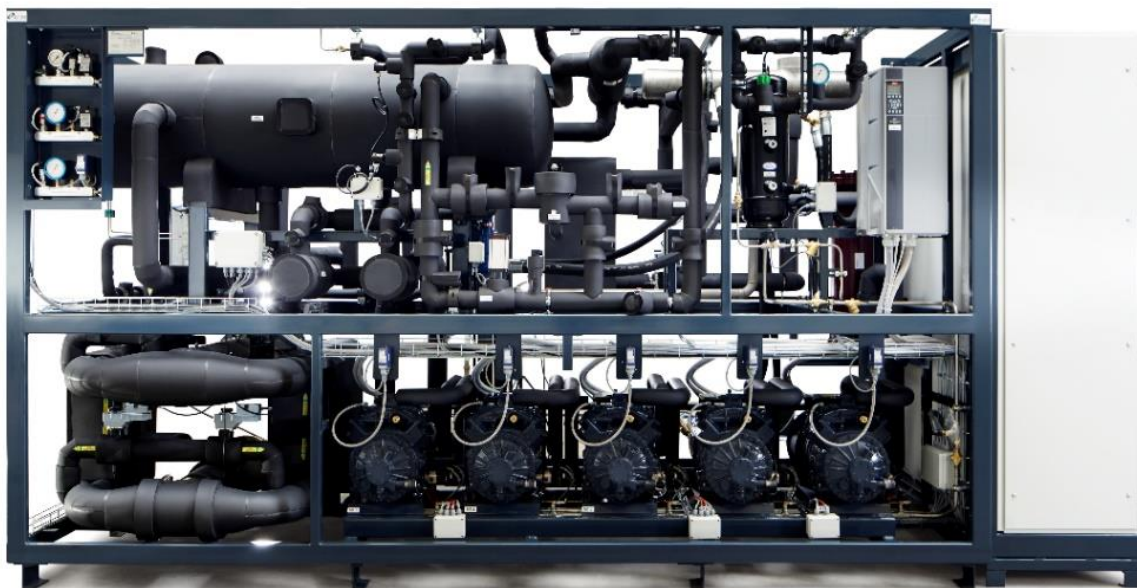


## CO<sub>2</sub> CHILLER, 4-PIPES & HEAT PUMP WITH REMOTE GAS COOLER

# YUKON Series

Cooling capacities from 35 to 940kW

Heating capacities from 35 to 560kW



Enex presents YUKON, the innovative series of Chillers with transcritical cycle cooled by air, dedicated to cooling water and water/glycol mixtures. Heat Pump and 4 Pipes versions are available. Its use is particularly suitable in all environments that require a significant quantity of hot water, such as hotels and hospitals, beside the production of cold water to different temperatures for both technical, process and comfort applications.

The series was conceived to facilitate and exploit heat recovery in a particularly efficient way. Enex has been the first company ever to develop CO<sub>2</sub> only solutions since 2004. CO<sub>2</sub> (R744) is a natural fluid with zero OPD, GWP = 1. Neutral refrigerant by excellence, CO<sub>2</sub> is neither toxic nor flammable: among natural gases it is in fact the one with fewer contraindications so that represents the perfect choice for the future, not subject to the F-gas regulation on fluorinated gases.

# 4 VERSIONS FOR A FUTURE PROOF SOLUTION FOR HEATING, COOLING AND SIMULTANEOUS HEATING & COOLING

YUKON is Enex's innovative CO<sub>2</sub> transcritical air- or water-cooled chiller, 4-pipe and heat pump series for cooling and heating of water or brine mixtures.

The well-known advantages of CO<sub>2</sub> as a refrigerant are further exploited in all applications requiring 2 simultaneous production of chilled water, for space cooling or process, and hot water, even at high temperatures, for space heating, process and domestic hot water usage. Cooling and heating can be produced simultaneously or independently. Examples include hotels and hospitals, ice rinks, food processing plants and industrial facilities.

Enex was a pioneer in the development of transcritical CO<sub>2</sub> solutions since 2004. CO<sub>2</sub> (R744) is a natural refrigerant with ODP=0 (Ozone Depletion Potential) and GWP=1 (Global Warming Potential). It is not, and will never be, subjected to the restrictions imposed by the European F-gas regulation to fluorinated refrigerants. It is not toxic, non-flammable therefore extremely safe. It represents the ideal candidate as refrigerant of the future.

4 VERSIONS			
COMFORT		BRINE	
4-PIPE REVERSIBLE		HEAT PUMP	

## THE OPERATING PRINCIPLE OF THE EJECTOR

The operating principle of standard version YUKON is with gravity-fed flooded evaporator which allows better temperature control and lower energy consumption. Alternatively, the EJECTOR version guarantees superior energy efficiency levels of over 12% per year, thanks to the use of the ejector (Enex patent) and its innovative principle.

The ejector is a device capable of recovering the expansion energy of a gas flow and convert it to a pressure lift of a secondary flow. In general, it can be used as a liquid pump or a gas compressor. In the Yukon range, the ejector is used in combination with two evaporators arranged in series, leading to an increase in the compressor suction pressure, for a given operating condition. This method of application guarantees that the ejector works properly even in intermediate seasons. The solution has been patented.



**PATENTED**  
Patent Certificate N.  
102017000130508 issued  
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Sviluppo Economico  
Italiano dated 31.01.2020

## MAIN FEATURES

- Compressor: semi hermetic type, designed for CO<sub>2</sub> transcritical applications;
- Inverter: 1st compressor driven by frequency inverter for a continuous and accurate capacity control;
- Expansion valve: back pressure electronic expansion valve for high pressure value fine tuning;
- 4-pipe unit design: specific heat exchangers for cool and hot water in each operating mode (cooling, heating, heat recovery);
- Evaporator: gravity fed flooded stainless steel plate exchangers to increase the performances of the unit;
- Hot water exchangers: brazed stainless-steel plate HX designed for each specific application (space heating, DHW production);
- Outstanding hot water temperature: possibility of reaching up to 90°C with heat recovery operating mode.
- Strong frame design: fully welded painted steel frame suitable for all kind of installations;
- Nonstop operation assurance: all pipes are made of fully welded TIG stainless steel (no fittings, no leaks), every unit perform a pressure test of several days to ensure the absolute absence of leaks, backup mechanical expansion valve;
- Noise reduction: the split system design (source side air exchanger separated from the main unit) together with the full housing paneling of the unit (panels with soundproofing polyurethane foam) always guarantees the lowest noise levels when it is required;
- Dedicated software: proprietary control software for operation and performance optimization developed by Enex thanks to more than 15 years of experience on CO<sub>2</sub> systems;
- Control panel: LCD / touch screen display on the electrical panel of the unit;
- Standard remote interface via Modbus TCP/IP protocol with graphic interface on the web server;
- Antivibration feet;
- Standard design pressures: 80 bar LP - 130 HP;
- Safety devices: panel gauges for pressure monitoring, safety valves ducted together in a single inox pipe.

## ENEX TECHNOLOGICAL DISTINCTIVE ADVANTAGES

- ◆ Extreme control stability;
- ◆ High efficiency;
- ◆ Remote gas cooler;
- ◆ Patented ejector circuit (optional) with two evaporators in series;
- ◆ Efficient heat recovery even at high temperatures;
- ◆ No current or future F-gas restrictions;
- ◆ Unique 4 pipe version with remote reversible gas cooler (2 pipes connection);
- ◆ Robust welded steel frame;
- ◆ Stainless steel pipes;
- ◆ Easily accessible components;
- ◆ Enex remote monitoring system and serial port Modbus TCP/IP for external supervisor.

# COMFORT VERSION



Water chiller with remote gas cooler for outlet water temperatures from 5° to 15°C, with optional heat recovery.  
Hot water production is possible only if there is a request for cooling.

For chilled water production, Enex has adopted a gravity fed flooded evaporator system, which ensures simple construction, extreme control stability, small temperature approach and high efficiency.

For some models the Ejector option is also available, which guarantees seasonal energy efficiency 12% higher thanks to the application of the ejector according to an innovative principle patented by Enex. The ejector is the key element of this Chiller range.

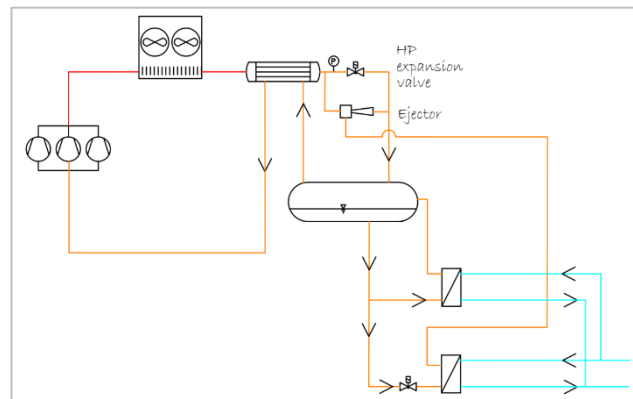


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## GENERAL TECHNICAL DATA

COMFORT VERSION			0111	0241	0392	0512	0693
Cooling capacity	(1)(2)	kW	33,9	74,7	120,3	154,8	209,5
Power consumption	(1)(2)	kW	14,8	32,5	51,4	68,8	92,2
EER	(1)(2)	-	2,3	2,3	2,3	2,3	2,3
Water flow rate	(1)(2)	kg/s	1,6	3,6	5,7	7,4	10,0
Water pressure drop	(1)(2)	kPa	17,9	36,3	17,6	26,5	27,2
Water connections		"	1.1/2" ISO	2" ISO	2.1/2" ISO	3" Flanged	4" Flanged
No. of compressors			1	1	2	2	3
No. of circuits			1	1	1	1	1
Length	(7)	mm	1500	1500	3000	3000	4000
Width	(7)	mm	1060	1060	1150	1150	1250
Height	(7)	mm	1900	1900	2500	2500	2500
Weight	(7)	kg	900	950	2700	2700	3400
Sound power		dB(A)	75	78	80	81	82
Sound pressure	(8)	dB(A)	47	50	52	53	54
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

Notes:

- (1) Water temperature in/out: 12°C / 7°C. Outdoor air temperature: 35°C
- (2) Performances according to EN 14511
- (3) Water temperature in/out: -4°C / -8°C with 35% ethylene glycol. Outdoor air temperature: 35°C
- (4) Water temperature in/out: 35°C / 50°C. Outdoor air temperature: -5°C
- (5) Water temperature in/out: 30°C / 35°C. Outdoor air temperature: -5°C
- (6) Water temperature in/out: 35°C / 65°C. Outdoor air temperature: -5°C
- (7) With cladding
- (8) Sound pressure level @ 10m with directivity factor Q=2

# GENERAL TECHNICAL DATA



COMFORT VERSION			0874	1024	1215	1385	1586
Cooling capacity	(1)(2)	kW	264,2	306,8	366,0	414,3	475,4
Power consumption	(1)(2)	kW	115,6	137,7	162,6	190,0	216,0
EER	(1)(2)	-	2,3	2,2	2,3	2,2	2,2
Water flow rate	(1)(2)	kg/s	12,6	14,7	17,5	19,8	22,7
Water pressure drop	(1)(2)	kPa	33,2	41,9	39,9	48,5	30,5
Water connections		"	4" Flanged	4" Flanged	5" Flanged	5" Flanged	6" Flanged
No. of compressors			4	4	5	5	6
No. of circuits			1	1	1	1	1
Length	(7)	mm	4500	4500	5700	5700	5800
Width	(7)	mm	1400	1400	1450	1450	1550
Height	(7)	mm	2500	2500	2500	2500	2500
Weight	(7)	kg	4000	4000	5200	5500	7000
Sound power		dB(A)	84	84	85	86	86
Sound pressure	(8)	dB(A)	56	56	57	58	58
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

COMFORT VERSION			1826	1904	2504	2815	3105
Cooling capacity	(1)(2)	kW	555,5	624,8	731,7	855,0	968,9
Power consumption	(1)(2)	kW	254,3	272,2	320,2	373,5	437,5
EER	(1)(2)	-	2,2	2,3	2,3	2,3	2,2
Water flow rate	(1)(2)	kg/s	26,5	29,8	35,0	40,9	46,3
Water pressure drop	(1)(2)	kPa	40,5	44,0	58,5	42,6	53,5
Water connections		"	6" Flanged	6" Flanged	7" Flanged	7" Flanged	7" Flanged
No. of compressors			6	4	4	5	5
No. of circuits			1	1	1	1	1
Length	(7)	mm	5800	6700	6700	7500	7500
Width	(7)	mm	1550	1750	1750	1750	1750
Height	(7)	mm	2500	2500	2500	2500	2500
Weight	(7)	kg	7000	7500	7500	8500	8500
Sound power		dB(A)	88	92	93	94	95
Sound pressure	(8)	dB(A)	60	64	65	66	67
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

**Notes:**

- (1) Water temperature in/out: 12°C / 7°C. Outdoor air temperature: 35°C
- (2) Performances according to EN 14511
- (3) Water temperature in/out: -4°C / -8°C with 35% ethylene glycol. Outdoor air temperature: 35°C
- (4) Water temperature in/out: 35°C / 50°C. Outdoor air temperature: -5°C
- (5) Water temperature in/out: 30°C / 35°C. Outdoor air temperature: -5°C
- (6) Water temperature in/out: 35°C / 65°C. Outdoor air temperature: -5°C
- (7) With cladding
- (8) Sound pressure level @ 10m with directivity factor Q=2



# BRINE VERSION

Brine chiller with remote gas cooler for outlet water temperatures from +4°C to -15°C, with optional heat recovery.  
The operating principle is equivalent to the Comfort version.

## GENERAL TECHNICAL DATA

BRINE VERSION			0111	0241	0392	0512	0693
Cooling capacity	(2)(3)	kW	20	45	72	93	126
Power consumption	(2)(3)	kW	14	31	50	66	88
EER	(2)(3)	-	1,44	1,46	1,45	1,42	1,43
Water flow rate	(2)(3)	kg/s	1,21	2,69	4,31	5,58	7,53
Water pressure drop	(2)(3)	kPa	16,0	32,1	17,6	24,4	24,3
Water connections		"	1.1/4" ISO	1.1/2" ISO	2" ISO	2.1/2" ISO	2.1/2" ISO
No. of compressors			1	1	2	2	3
No. of circuits			1	1	1	1	1
Length	(7)	mm	1500	1500	3000	3000	4000
Width	(7)	mm	1060	1060	1150	1150	1250
Height	(7)	mm	1900	1900	2500	2500	2500
Weight	(7)	kg	900	950	2700	2700	3400
Sound power		dB(A)	75	78	80	81	82
Sound pressure	(8)	dB(A)	47	50	52	53	54
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

BRINE VERSION			0874	1024	1215	1385	1586
Cooling capacity	(2)(3)	kW	159	185	221	250	287
Power consumption	(2)(3)	kW	111	130	155	175	201
EER	(2)(3)	-	1,44	1,42	1,42	1,43	1,43
Water flow rate	(2)(3)	kg/s	9,49	11,05	13,18	14,91	17,12
Water pressure drop	(2)(3)	kPa	28,1	35,2	23,8	28,4	24,1
Water connections		"	3" Flanged	3" Flanged	4" Flanged	4" Flanged	4" Flanged
No. of compressors			4	4	5	5	6
No. of circuits			1	1	1	1	1
Length	(7)	mm	4500	4500	5700	5700	5800
Width	(7)	mm	1400	1400	1450	1450	1550
Height	(7)	mm	2500	2500	2500	2500	2500
Weight	(7)	kg	4000	4000	5200	5500	7000
Sound power		dB(A)	84	84	85	86	86
Sound pressure	(8)	dB(A)	56	56	57	58	58
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

Notes:

- (1) Water temperature in/out: 12°C / 7°C. Outdoor air temperature: 35°C
- (2) Performances according to EN 14511
- (3) Water temperature in/out: -4°C / -8°C with 35% ethylene glycol. Outdoor air temperature: 35°C
- (4) Water temperature in/out: 35°C / 50°C. Outdoor air temperature: -5°C
- (5) Water temperature in/out: 30°C / 35°C. Outdoor air temperature: -5°C
- (6) Water temperature in/out: 35°C / 65°C. Outdoor air temperature: -5°C
- (7) With cladding
- (8) Sound pressure level @ 10m with directivity factor Q=2

# GENERAL TECHNICAL DATA



BRINE VERSION			1826	1904	2504	2815	3105
<b>Cooling capacity</b>	(2)(3)	kW	331	356	417	488	560
<b>Power consumption</b>	(2)(3)	kW	230	241	283	330	387
<b>EER</b>	(2)(3)	-	1,44	1,48	1,47	1,48	1,45
<b>Water flow rate</b>	(2)(3)	kg/s	19,80	21,28	24,92	29,12	33,44
<b>Water pressure drop</b>	(2)(3)	kPa	29,8	33,1	42,1	29,0	35,5
<b>Water connections</b>		"	5" Flanged	5" Flanged	5" Flanged	6" Flanged	6" Flanged
<b>No. of compressors</b>			6	4	4	5	5
<b>No. of circuits</b>			1	1	1	1	1
<b>Length</b>	(7)	mm	5800	6700	6700	7500	7500
<b>Width</b>	(7)	mm	1550	1750	1750	1750	1750
<b>Height</b>	(7)	mm	2500	2500	2500	2500	2500
<b>Weight</b>	(7)	kg	7000	7500	7500	8500	8500
<b>Sound power</b>		dB(A)	88	92	93	94	95
<b>Sound pressure</b>	(8)	dB(A)	60	64	65	66	67
<b>Power supply</b>		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

Notes:

- (1) Water temperature in/out: 12°C / 7°C. Outdoor air temperature: 35°C
- (2) Performances according to EN 14511
- (3) Water temperature in/out: -4°C / -8°C with 35% ethylene glycol. Outdoor air temperature: 35°C
- (4) Water temperature in/out: 35°C / 50°C. Outdoor air temperature: -5°C
- (5) Water temperature in/out: 30°C / 35°C. Outdoor air temperature: -5°C
- (6) Water temperature in/out: 35°C / 65°C. Outdoor air temperature: -5°C
- (7) With cladding
- (8) Sound pressure level @ 10m with directivity factor Q=2



# HEAT PUMP VERSION

Heating only unit with remote evaporator

## GENERAL TECHNICAL DATA

HEAT PUMP			0111	0241	0302	0402	0533
Heating capacity 35/65	(2)(6)	kW	36	79	98	130	172
Power consumption	(2)(6)	kW	15	32	40	53	70
COP	(2)(6)	-	2,45	2,46	2,45	2,45	2,45
Water flowrate	(2)(6)	kg/s	0,28	0,63	0,78	1,03	1,37
Water pressure drop	(2)(6)	kPa	2,8	8,0	12,0	15,6	26,7
Water connections		"	1" ISO	1" ISO	1" ISO	1" ISO	1.1/4" ISO
No. of compressors			1	1	2	2	3
No. of circuits			1	1	1	1	1
Length	(7)	mm	1500	1500	2750	2750	3700
Width	(7)	mm	1060	1060	1150	1150	1250
Height	(7)	mm	1900	1900	2500	2500	2500
Weight	(7)	kg	900	950	2500	2500	3400
Sound power		dB(A)	75	78	79	80	81
Sound pressure	(8)	dB(A)	47	50	51	52	53
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

HEAT PUMP			0643	0754	0884	1055	1215
Heating capacity 35/65	(2)(6)	kW	206	243	289	339	393
Power consumption	(2)(6)	kW	84	99	118	139	162
COP	(2)(6)	-	2,44	2,46	2,45	2,44	2,42
Water flowrate	(2)(6)	kg/s	1,64	1,93	2,30	2,70	3,13
Water pressure drop	(2)(6)	kPa	21,1	28,8	21,7	29,1	27,1
Water connections		"	1.1/4" ISO	1.1/4" ISO	1.1/2" ISO	1.1/2" ISO	2" ISO
No. of compressors			3	4	4	5	5
No. of circuits			1	1	1	1	1
Length	(7)	mm	3700	4100	4100	5700	5700
Width	(7)	mm	1250	1400	1400	1450	1450
Height	(7)	mm	2500	2500	2500	2500	2500
Weight	(7)	kg	3400	4000	4000	5200	5500
Sound power		dB(A)	82	83	84	84	85
Sound pressure	(8)	dB(A)	54	55	56	56	57
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

Notes:

- (1) Water temperature in/out: 12°C / 7°C. Outdoor air temperature: 35°C
- (2) Performances according to EN 14511
- (3) Water temperature in/out: -4°C / -8°C with 35% ethylene glycol. Outdoor air temperature: 35°C
- (4) Water temperature in/out: 35°C / 50°C. Outdoor air temperature: -5°C
- (5) Water temperature in/out: 30°C / 35°C. Outdoor air temperature: -5°C
- (6) Water temperature in/out: 35°C / 65°C. Outdoor air temperature: -5°C
- (7) With cladding
- (8) Sound pressure level @ 10m with directivity factor Q=2



# GENERAL TECHNICAL DATA



HEAT PUMP			1386	1586	1744
Heating capacity 35/65	(2)(6)	kW	449	509	560
Power consumption	(2)(6)	kW	185	210	224
COP	(2)(6)	-	2,43	2,43	2,50
Water flowrate	(2)(6)	kg/s	3,58	4,05	4,46
Water pressure drop	(2)(6)	kPa	24,7	16,8	15,1
Water connections		"	2" ISO	2" ISO	2" ISO
No. of compressors			6	6	4
No. of circuits			1	1	1
Length	(7)	mm	5800	5800	6700
Width	(7)	mm	1550	1550	1750
Height	(7)	mm	2500	2500	2500
Weight	(7)	kg	6000	6000	7500
Sound power		dB(A)	86	86	91
Sound pressure	(8)	dB(A)	58	58	63
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50

Notes:

- (1) Water temperature in/out: 12°C / 7°C. Outdoor air temperature: 35°C
- (2) Performances according to EN 14511
- (3) Water temperature in/out: -4°C / -8°C with 35% ethylene glycol. Outdoor air temperature: 35°C
- (4) Water temperature in/out: 35°C / 50°C. Outdoor air temperature: -5°C
- (5) Water temperature in/out: 30°C / 35°C. Outdoor air temperature: -5°C
- (6) Water temperature in/out: 35°C / 65°C. Outdoor air temperature: -5°C
- (7) With cladding
- (8) Sound pressure level @ 10m with directivity factor Q=2



Image for illustrative purpose only



# 4 PIPES REVERSIBLE VERSION

Multi-purpose 4-pipe unit (cooling and heating)  
with remote gas cooler/evaporator.

The unit is equipped with two separate heat exchangers for the production of chilled and hot water simultaneously or independently, ensuring the maximum operating flexibility and energy efficiency. The unit can also be equipped with an additional heat exchanger for Domestic Hot Water (6-pipe version). The remote gas cooler is reversible, that is it can also work as evaporator; it is connected to the unit through 2 pipes only, greatly simplifying the installation. For the bigger models, the unit is coupled to two reversible gas cooler in parallel.

## GENERAL TECHNICAL DATA

4-PIPE REVERSIBLE			0111	0241	0302	0402	0533
Cooling capacity	(1)(2)	kW	34	75	93	122	162
Power consumption	(1)(2)	kW	15	33	40	53	70
EER	(1)(2)	-	2,29	2,30	2,33	2,30	2,34
Water flowrate	(1)(2)	kg/s	2,02	4,46	5,54	7,30	9,70
Water pressure drop	(1)(2)	kPa	17,9	36,3	10,9	18,1	30,1
Water connections		"	1.1/2" ISO	2" ISO	2.1/2" ISO	2.1/2" ISO	3" Flanged
Heating capacity 35/50	(2)(4)	kW	34	76	93	123	163
Power consumption	(2)(4)	kW	14	30	38	50	66
COP	(2)(4)	-	2,50	2,50	2,50	2,50	2,50
Water flowrate	(2)(4)	kg/s	0,54	1,20	1,49	1,97	2,60
Water pressure drop	(2)(4)	kPa	3,7	6,0	9,1	11,0	18,7
Water connections		"	1" ISO	1.1/4" ISO	1.1/4" ISO	1.1/4" ISO	1.1/2" ISO
Heating capacity 30/35	(2)(5)	kW	35	78	96	127	168
Power consumption	(2)(5)	kW	12	27	34	45	59
COP	(2)(5)	-	2,81	2,84	2,83	2,83	2,84
Water flowrate	(2)(5)	kg/s	1,67	3,71	4,58	6,06	8,02
Water pressure drop	(2)(5)	kPa	34,9	9,8	14,5	12,9	17,9
Water connections		"	1.1/4" ISO	2" ISO	2" ISO	2.1/2" ISO	2.1/2" ISO
No. of compressors			1	1	2	2	3
No. of circuits			1	1	1	1	1
Length	(7)	mm	1500	1500	3000	3000	4000
Width	(7)	mm	1060	1060	1150	1150	1250
Height	(7)	mm	1900	1900	2500	2500	2500
Weight	(7)	kg	900	950	2700	2700	3400
Sound power		dB(A)	75	78	79	80	81
Sound pressure	(8)	dB(A)	47	50	51	52	53
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

Notes:

- (1) Water temperature in/out: 12°C / 7°C. Outdoor air temperature: 35°C
- (2) Performances according to EN 14511
- (3) Water temperature in/out: -4°C / -8°C with 35% ethylene glycol. Outdoor air temperature: 35°C
- (4) Water temperature in/out: 35°C / 50°C. Outdoor air temperature: -5°C
- (5) Water temperature in/out: 30°C / 35°C. Outdoor air temperature: -5°C
- (6) Water temperature in/out: 35°C / 65°C. Outdoor air temperature: -5°C
- (7) With cladding
- (8) Sound pressure level @ 10m with directivity factor Q=2

# GENERAL TECHNICAL DATA



4-PIPE REVERSIBLE			0643	0754	0884	1055	1215
Cooling capacity	(1)(2)	kW	194	230	271	319	366
Power consumption	(1)(2)	kW	84	98	119	139	163
EER	(1)(2)	-	2,30	2,34	2,28	2,29	2,25
Water flowrate	(1)(2)	kg/s	11,57	13,71	16,20	19,04	21,86
Water pressure drop	(1)(2)	kPa	23,6	39,7	39,8	31,1	39,9
Water connections	"		4" Flanged	4" Flanged	4" Flanged	5" Flanged	5" Flanged
Heating capacity 35/50	(2)(4)	kW	196	231	275	322	373
Power consumption	(2)(4)	kW	79	93	111	131	152
COP	(2)(4)	-	2,50	2,50	2,50	2,50	2,50
Water flowrate	(2)(4)	kg/s	3,12	3,67	4,38	5,14	5,94
Water pressure drop	(2)(4)	kPa	13,8	18,9	20,8	14,7	19,4
Water connections	"		2" ISO	2" ISO	2" ISO	2.1/2" ISO	2.1/2" ISO
Heating capacity 30/35	(2)(5)	kW	201	237	283	331	383
Power consumption	(2)(5)	kW	71	84	100	117	136
COP	(2)(5)	-	2,82	2,84	2,83	2,82	2,81
Water flowrate	(2)(5)	kg/s	9,61	11,33	13,50	15,82	18,28
Water pressure drop	(2)(5)	kPa	18,7	21,8	28,3	16,9	14,4
Water connections	"		3" Flanged	4" Flanged	4" Flanged	4" Flanged	4" Flanged
No. of compressors			3	4	4	5	5
No. of circuits			1	1	1	1	1
Length	(7)	mm	4000	4500	4500	5700	5700
Width	(7)	mm	1250	1400	1400	1450	1450
Height	(7)	mm	2500	2500	2500	2500	2500
Weight	(7)	kg	3400	4000	4000	5200	5500
Sound power		dB(A)	82	83	84	84	85
Sound pressure	(8)	dB(A)	54	55	56	56	57
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

**Notes:**

- (1) Water temperature in/out: 12°C / 7°C. Outdoor air temperature: 35°C
- (2) Performances according to EN 14511
- (3) Water temperature in/out: -4°C / -8°C with 35% ethylene glycol. Outdoor air temperature: 35°C
- (4) Water temperature in/out: 35°C / 50°C. Outdoor air temperature: -5°C
- (5) Water temperature in/out: 30°C / 35°C. Outdoor air temperature: -5°C
- (6) Water temperature in/out: 35°C / 65°C. Outdoor air temperature: -5°C
- (7) With cladding
- (8) Sound pressure level @ 10m with directivity factor Q=2

# GENERAL TECHNICAL DATA



<b>4-PIPE REVERSIBLE</b>			<b>1386</b>	<b>1586</b>	<b>1744</b>
<b>Cooling capacity</b>	(1)(2)	kW	420	475	571
<b>Power consumption</b>	(1)(2)	kW	186	216	248
<b>EER</b>	(1)(2)	-	2,26	2,20	2,30
<b>Water flowrate</b>	(1)(2)	kg/s	25,10	28,39	34,09
<b>Water pressure drop</b>	(1)(2)	kPa	24,9	30,5	37,3
<b>Water connections</b>	"		5" Flanged	6" Flanged	6" Flanged
<b>Heating capacity 35/50</b>	(2)(4)	kW	427	484	544
<b>Power consumption</b>	(2)(4)	kW	174	197	216
<b>COP</b>	(2)(4)	-	2,50	2,50	2,50
<b>Water flowrate</b>	(2)(4)	kg/s	6,80	7,71	8,66
<b>Water pressure drop</b>	(2)(4)	kPa	16,3	16,3	10,2
<b>Water connections</b>	"		2.1/2" ISO	2.1/2" ISO	3" Flanged
<b>Heating capacity 30/35</b>	(2)(5)	kW	438	497	571
<b>Power consumption</b>	(2)(5)	kW	156	177	200
<b>COP</b>	(2)(5)	-	2,82	2,81	2,86
<b>Water flowrate</b>	(2)(5)	kg/s	20,95	23,75	27,27
<b>Water pressure drop</b>	(2)(5)	kPa	25,9	22,1	22,2
<b>Water connections</b>	"		5" Flanged	5" Flanged	5" Flanged
<b>No. of compressors</b>			6	6	4
<b>No. of circuits</b>			1	1	1
<b>Length</b>	(7)	mm	5800	5800	6700
<b>Width</b>	(7)	mm	1550	1550	1750
<b>Height</b>	(7)	mm	2500	2500	2500
<b>Weight</b>	(7)	kg	7000	7000	8000
<b>Sound power</b>		dB(A)	86	86	91
<b>Sound pressure</b>	(8)	dB(A)	58	58	63
<b>Power supply</b>		V/ph/Hz	400/3/50	400/3/50	400/3/50

**Notes:**

- (1) Water temperature in/out: 12°C / 7°C. Outdoor air temperature: 35°C
- (2) Performances according to EN 14511
- (3) Water temperature in/out: -4°C / -8°C with 35% ethylene glycol. Outdoor air temperature: 35°C
- (4) Water temperature in/out: 35°C / 50°C. Outdoor air temperature: -5°C
- (5) Water temperature in/out: 30°C / 35°C. Outdoor air temperature: -5°C
- (6) Water temperature in/out: 35°C / 65°C. Outdoor air temperature: -5°C
- (7) With cladding
- (8) Sound pressure level @ 10m with directivity factor Q=2

# PRODUCT SPECIFICATION

Refrigerant: natural refrigerant CO<sub>2</sub> (R744) with ODP=0, GWP=1, non toxic, non flammable;

Frame: welded steel frame painted with epoxy powder RAL5008 (other colours on request);

Evaporator: gravity fed flooded plate evaporator ensuring simple construction, extreme control stability, small temperature approach and high efficiency;

Compressors: reciprocating compressors with separate discharge headers thanks to a special casting to reduce oil temperature; robust mechanical design especially piston pin and connecting rod;

Tanks: in painted carbon steel. Cold vessels insulated with Armaflex or closed cell equivalent material, combined with fat bandage protection and vapor barrier;

Heat exchangers: stainless steel AISI316L brazed plate type. Regenerative heat exchanger shell and tube type with high pressure on tube side and external service bypass;

Oil separator: high efficiency coalescing type with service flange for periodical filter replacement;

Oil management: oil level regulator for each compressor with supply line from oil receiver;

Cladding (option): painted galvanized steel or aluminium insulated with profiled foam sheet and elastomeric barrier;

Piping: TIG welded AISI304L stainless steel. Fittings in cast stainless steel. All cold pipes (with heat recovery also hot pipes) thermally insulated and fixed to the frame with industrial-type brackets;

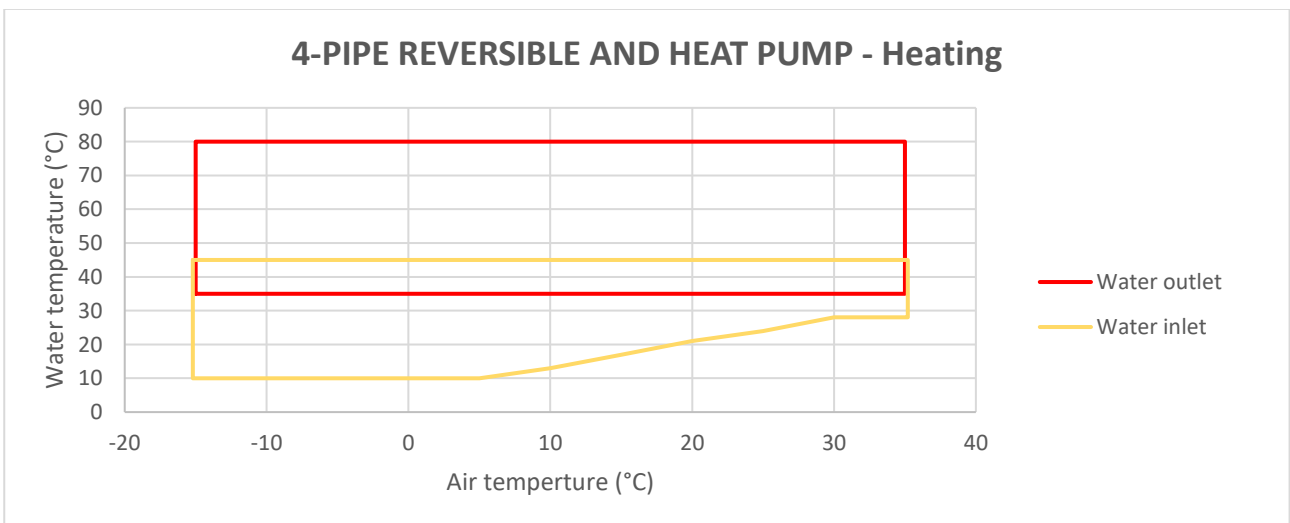
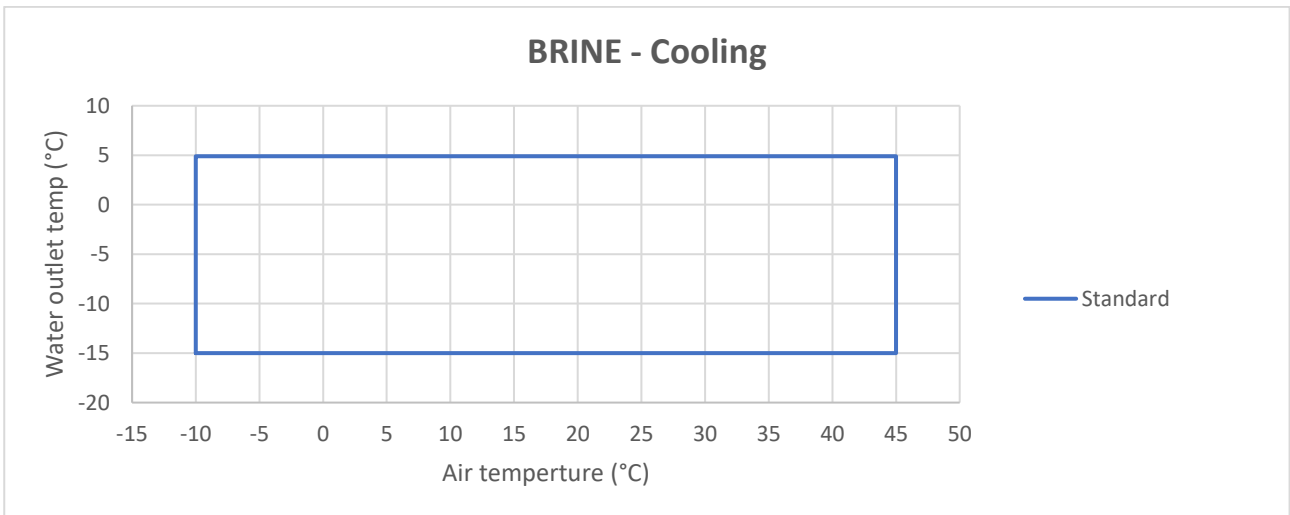
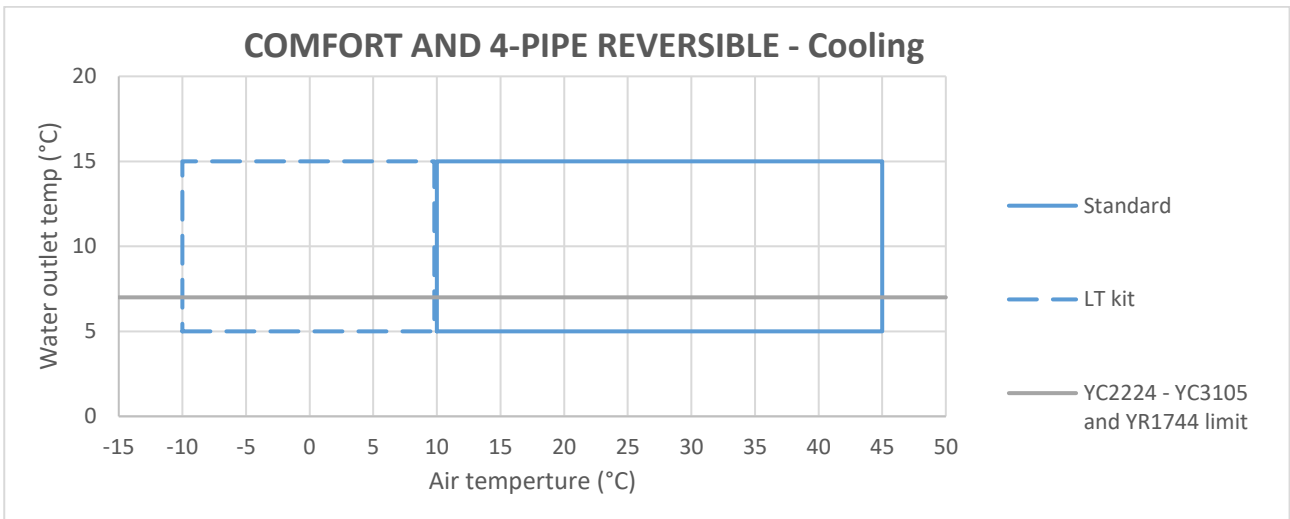
Valves: stainless steel step-motor regulation valve, mounted with shut-off cocks and with optional mechanical backup valve. Alternatively, step-motor valve combined with ejector and second evaporator in series;

Insulation of pressure vessels: coating with greasy bandage, vapor barrier and closed cell rubber insulation;

Electrical panel: IP54 protection degree (galvanized sheet painted orange peel RAL 7035) with programmable controller and proprietary Enex software. Complete with disconnecter, contactors with thermal protection, automatic switches, inverter on one compressor;

Ejector: patented ejector circuit with two evaporator in series to increase cooling efficiency. Ejector modular block in aluminium with serviceable individual ejectors and strainers.

# OPERATING LIMITS

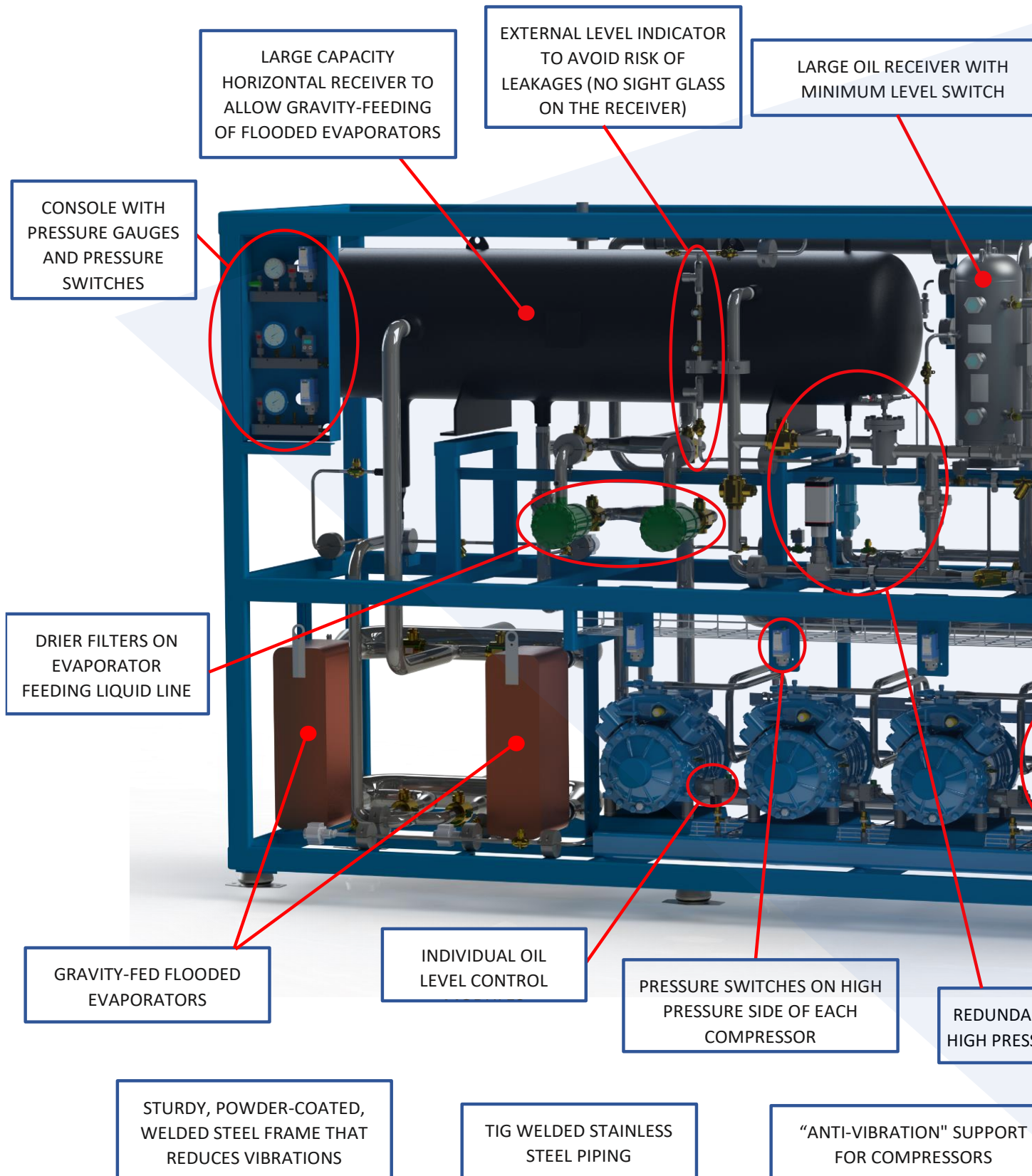


# UNIT IDENTIFICATION & NOMENCLATURE

Digit	Description
<b>1</b>	<b>Family</b>
Y	Yukon
<b>2</b>	<b>Version</b>
B	Brine
C	Comfort
R	4-pipe reversible
D	Heat pump (only heating)
<b>3-5</b>	<b>Displacement</b>
	from 010 to 310
<b>6</b>	<b>No. of compressors</b>
	from 1 to 6
<b>7</b>	<b>Source / sink</b>
A	Air
W	Water
<b>8</b>	<b>Power Supply</b>
N	400/3/50
<b>9</b>	<b>Cladding</b>
X	no
C	With Cladding
<b>10</b>	<b>Heat recovery 1</b>
X	no
L	DT = 5K
M	DT = 15K
H	DT = 30K
<b>11</b>	<b>heat recovery 2</b>
X	Non presente
L	DT = 5K
M	DT = 15K
H	DT = 30K
<b>12</b>	<b>Ejector</b>
X	no
E	with ejector
<b>13</b>	<b>Low amb. temperature (gas cooler bypass)</b>
X	no
V	with gas cooler bypass
<b>14-16</b>	<b>Customization index</b>
___	from 001 to 999

*THE  
SIMPLEST  
WAY TO  
DEFINE IN A  
CLEAR WAY  
& IN ALL  
DETAILS THE  
YUKON  
UNITS FOR  
YOUR PLANT*

# DISTINCTIVE TECHNOLOGICAL CHOICES OF THE RANGE

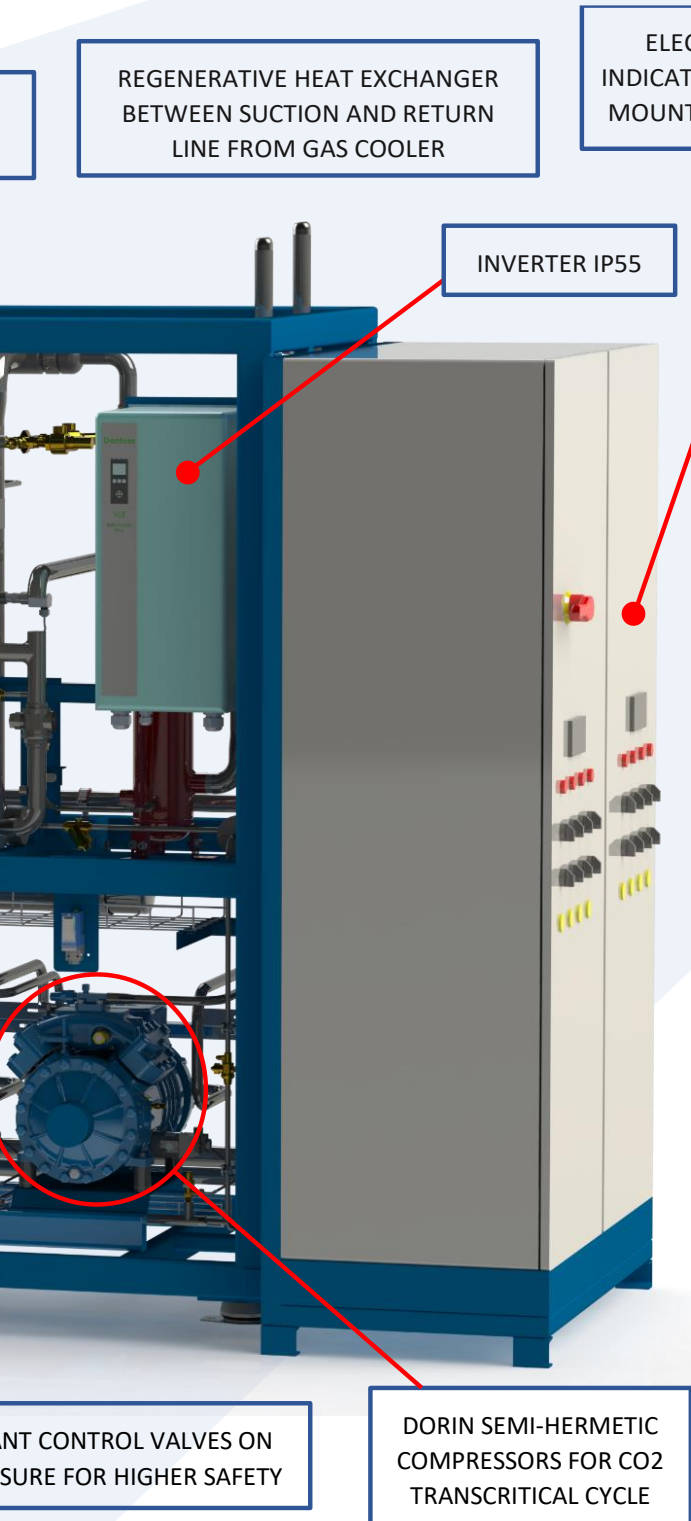




## ENEX PATENTS & INNOVATIONS

*Enex developed numerous innovations in the field of CO<sub>2</sub> refrigeration, some of which have given rise to important patents such as the "overfeeding of evaporators" and the "re-compression of flash vapor". Yukon units can be equipped with these exclusive innovations on request.*

**enJECTOR**<sup>®</sup>



REGENERATIVE HEAT EXCHANGER BETWEEN SUCTION AND RETURN LINE FROM GAS COOLER

ELECTRICAL PANEL WITH INDICATOR LIGHTS AND DISPLAY MOUNTED ON THE FRONT SIDE

INVERTER IP55

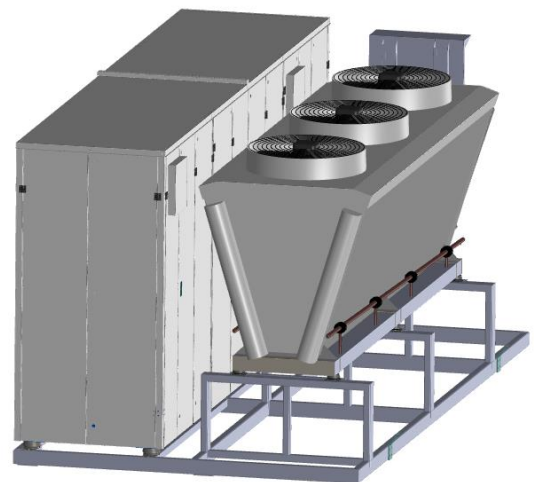
CONTROL VALVES ON SUCTION FOR HIGHER SAFETY

DORIN SEMI-HERMETIC COMPRESSORS FOR CO<sub>2</sub> TRANSCRITICAL CYCLE

HIGH EFFICIENCY OIL SEPARATION

ROBUST PIPE BRACKETS TO AVOID RISK OF BREAKAGE

Special "monoblock" configuration available on request  
Plug & play solution  
factory assembled and tested



## OPTION COMPATIBILITY YUKON C

MODEL	FEATURES													
	FLOODED EVAPORATOR	2nd HEAT RECOVERY HX	SOFT STARTER	INVERTER	LOW NOISE OPT. / CLADDING	EJECTOR	HEAT RECOVERY 5K	HEAT RECOVERY 15K	HEAT RECOVERY 30K	LOW TEMPERATURE *	GAS COOLER	GAS COOLER LN	MODBUS TCP/IP	REMOTE MONITORING
YC0111	-	-	-	●	●	-	○	○	○	○	○	○	●	●
YC0241	-	-	-	●	●	-	○	○	○	○	○	○	●	●
YC0392	●	○	-	●	○	○	○	○	○	○	○	○	●	●
YC0512	●	○	-	●	○	○	○	○	○	○	○	○	●	●
YC0693	●	○	-	●	○	○	○	○	○	○	○	○	●	●
YC0874	●	○	-	●	○	○	○	○	○	○	○	○	●	●
YC1024	●	○	-	●	○	-	○	○	○	○	○	○	●	●
YC1215	●	○	-	●	○	-	○	○	○	○	○	○	●	●
YC1385	●	○	-	●	○	-	○	○	○	○	○	○	●	●
YC1736	●	○	-	●	○	-	○	○	○	○	○	○	●	●
YC2006	●	○	-	●	○	-	○	○	○	○	○	○	●	●
YC2224	●	○	-	●	○	-	○	○	○	○	○	○	●	●
YC2504	●	○	-	●	○	-	○	○	○	○	○	○	●	●
YC2815	●	○	○	●	○	-	○	○	○	○	○	○	●	●
YC3105	●	○	○	●	○	-	-	○	○	○	○	○	●	●

Notes:  
 ● STANDARD  
 ○ OPTIONAL  
 - NOT AVAILABLE  
 \* Mandatory below 10°C of operating temperature in chiller mode  
 LN = Low Noise

## OPTION COMPATIBILITY YUKON B

MODEL	FEATURES													
	FLOODED EVAPORATOR	2nd HEAT RECOVERY HX	SOFT STARTER	INVERTER	LOW NOISE OPT. / CLADDING	EJECTOR	HEAT RECOVERY 5K	HEAT RECOVERY 15K	HEAT RECOVERY 30K	LOW TEMPERATURE *	GAS COOLER	GAS COOLER LN	MODBUS TCP/IP	REMOTE MONITORING
YB0111	-	-	-	●	●	-	○	○	○	●	○	○	●	●
YB0241	-	-	-	●	●	-	○	○	○	●	○	○	●	●
YB0392	●	○	-	●	○	○	○	○	○	●	○	○	●	●
YB0512	●	○	-	●	○	○	○	○	○	●	○	○	●	●
YB0693	●	○	-	●	○	○	○	○	○	●	○	○	●	●
YB0874	●	○	-	●	○	○	○	○	○	●	○	○	●	●
YB1024	●	○	-	●	○	-	○	○	○	●	○	○	●	●
YB1215	●	○	-	●	○	-	○	○	○	●	○	○	●	●
YB1385	●	○	-	●	○	-	○	○	○	●	○	○	●	●
YB1736	●	○	-	●	○	-	○	○	○	●	○	○	●	●
YB2006	●	○	-	●	○	-	○	○	○	●	○	○	●	●
YB2224	●	○	-	●	○	-	○	○	○	●	○	○	●	●
YB2504	●	○	-	●	○	-	○	○	○	●	○	○	●	●
YB2815	●	○	○	●	○	-	○	○	○	●	○	○	●	●
YB3105	●	○	○	●	○	-	-	○	○	●	○	○	●	●

Notes:  
 ● STANDARD  
 ○ OPTIONAL  
 - NOT AVAILABLE  
 \* Mandatory below 10°C of operating temperature in chiller mode  
 LN = Low Noise

## OPTION COMPATIBILITY YUKON R

MODEL	FEATURES													
	FLOODED EVAPORATOR	2nd HEAT RECOVERY HX	SOFT STARTER	INVERTER	LOW NOISE OPT. / CLADDING	EJECTOR	HEAT RECOVERY 5K	HEAT RECOVERY 15K	HEAT RECOVERY 30K	LOW TEMPERATURE *	GAS COOLER / EVAPORATOR	GAS COOLER / EVAPORATOR LN	MODBUS TCP/IP	REMOTE MONITORING
YR0111	-	-	-	●	●	-	○	●	○	○	○	✎	●	●
YR0241	-	-	-	●	●	-	○	●	○	○	○	✎	●	●
YR0302	●	○	-	●	○	○	○	●	○	○	○	✎	●	●
YR0402	●	○	-	●	○	○	○	●	○	○	○	✎	●	●
YR0533	●	○	-	●	○	○	○	●	○	○	○	✎	●	●
YR0643	●	○	-	●	○	○	○	●	○	○	○	✎	●	●
YR0754	●	○	-	●	○	-	○	●	○	○	○	✎	●	●
YR0884	●	○	-	●	○	-	○	●	○	○	○	✎	●	●
YR1055	●	○	-	●	○	-	○	●	○	○	○	✎	●	●
YR1215	●	○	-	●	○	-	○	●	○	○	○	✎	●	●
YR1386	●	○	-	●	○	-	○	●	○	○	○	✎	●	●
YR1586	●	○	-	●	○	-	○	●	○	○	○	✎	●	●
YR1744	●	○	-	●	○	-	○	●	○	○	○	✎	●	●

Notes:  
 ● STANDARD  
 ○ OPTIONAL  
 - NOT AVAILABLE  
 \* Mandatory below 10°C of operating temperature in chiller mode  
 LN = Low Noise  
 ✎ = On request

## OPTION COMPATIBILITY YUKON D

MODEL	FEATURES													
	FLOODED EVAPORATOR	2nd HEAT RECOVERY HX	SOFT STARTER	INVERTER	LOW NOISE OPT. / CLADDING	EJECTOR	HEAT RECOVERY 5K	HEAT RECOVERY 15K	HEAT RECOVERY 30K	LOW TEMPERATURE	EVAPORATOR	EVAPORATOR LN	MODBUS TCP/IP	REMOTE MONITORING
YD0111	-	-	-	●	●	-	○	○	●	-	○	✎	●	●
YD0241	-	-	-	●	●	-	○	○	●	-	○	✎	●	●
YD0302	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD0402	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD0533	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD0643	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD0754	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD0884	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD1055	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD1215	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD1386	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD1586	-	○	-	●	○	-	○	○	●	-	○	✎	●	●
YD1744	-	○	-	●	○	-	○	○	●	-	○	✎	●	●

Notes:  
 ● STANDARD  
 ○ OPTIONAL  
 - NOT AVAILABLE  
 \* Mandatory below 10°C of operating temperature in chiller mode  
 LN = Low Noise  
 ✎ = On request



2004 ————— >3000 ————— 25 —————

Foundation year                      Transcritical systems installed                      Countries in the world where Enex is present

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