

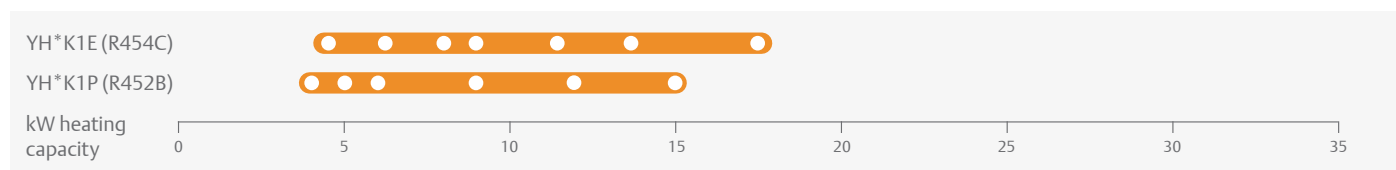
Copeland™ YH Fixed Speed Scroll Compressor Range for A2L Refrigerants R454C and R452B

Copeland YH scroll compressors are designed for multiple applications such as air-to-water and brine-to-water heat pumps, process and close control cooling, as well as air conditioning. They have a dedicated design to support the market needs of customers for medium and low-pressure refrigerants with a low GWP. They are suitable for very aggressive refrigerants containing HFO molecule. YH compressors comply with the PED class requirements related to A2L refrigerants.



YH scroll compressor

YH Scroll Compressor Line-Up R454C and R452B



Conditions: Evaporating 5°C, Condensing 50°C, Superheat 10K, Subcooling 0K

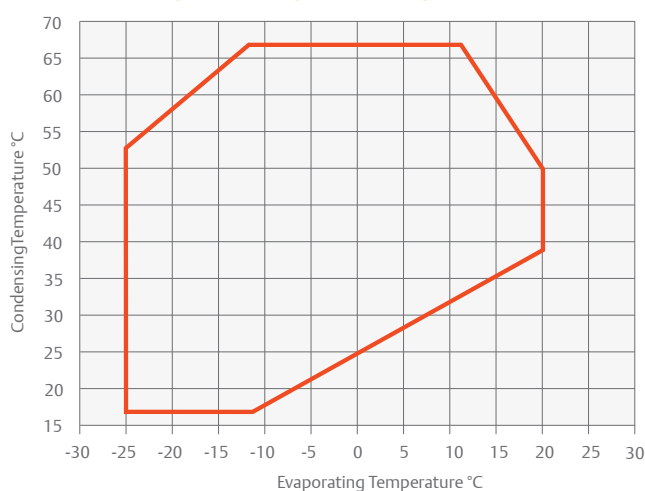
Features and Benefits

- Multi-refrigerant compressor: optimized for operation with A2L refrigerants with a low GWP R454C (148) and R452B (698) compared to R407C (1774)
- PED class II certified
- Fully hermetic compressor design
- Wide operating envelope for heat pump applications
- Low super heat
- Tandem-ready version available for all sizes
- F-gas compliant

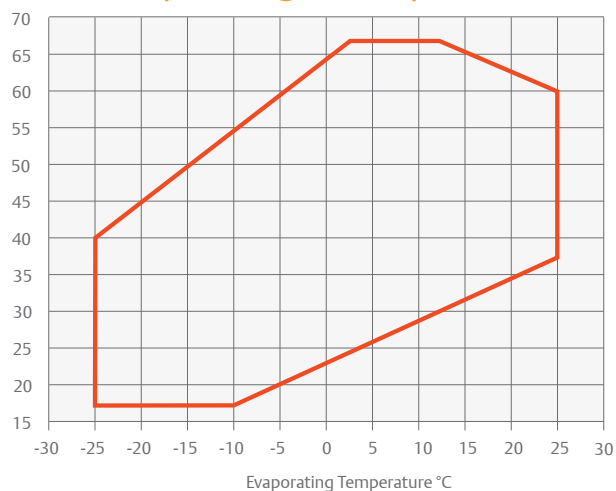
Maximum Allowable Pressure (PS)

- R454C models
Low side PS 28 bar(g) / High Side PS 49 bar(g)
- R452B models
Low side PS 28 bar(g) / High Side PS 46 bar(g)

YH*K1E Operating Envelope R454C



YH*K1P Operating Envelope R452B



Technical Overview

R454C	Nominal hp	Heating Capacity (kW)	Displacement (m³/h)	Stub Suction (inch)	Stub Discharge (inch)	Oil Quantity (l)	Length/ Width/ Height (mm)	Net Weight (kg)	Motor Version/ Code		Maximum Operating Current (A)		Locked Rotor Current (A)		Sound Pressure @1 m (dBA) ***
									1 Ph*	3 Ph**	1 Ph*	3 Ph**	1 Ph*	3 Ph**	
YH04K1E	2.0	4.4	5.8	3/4	1/2	1.3	253/248/365	24.4	PFZ	TFM	11	5	61	26	60
YH06K1E	2.5	6.1	8.0	3/4	1/2	1.5	253/248/387	27.7	PFZ	TFM	16	6	76	32	61
YH07K1E	3.5	7.7	10.0	3/4	1/2	1.5	253/248/401	28.7	PFZ	TFM	21	8	97	46	64
YH09K1E	4.0	8.7	11.4	7/8	1/2	1.5	253/248/417	28.5	PFZ	TFM	24	9	114	50	60
YH11K1E	5.0	10.9	14.3	7/8	1/2	1.9	255/261/442	37.5		TFM		11		64	65
YH13K1E	6.0	12.9	16.7	7/8	1/2	1.9	255/261/442	39.1		TFM		13		74	65
YH16K1E	8.0	16.4	21.4	7/8	7/8	1.9	255/261/442	43.5		TFM		16		102	68

Conditions: Evaporating -7°C, Condensing 50°C, Superheat 5K, Subcooling 4K
* 1ph: 230V/ 50Hz
** 3 Ph: 380-420V/ 50Hz
*** @ 1m: sound pressure level at 1m distance from the compressor, free field condition

R452B	Nominal hp	Heating Capacity (kW)	Displacement (m³/h)	Stub Suction (inch)	Stub Discharge (inch)	Oil Quantity (l)	Length/ Width/ Height (mm)	Net Weight (kg)	Motor Version/ Code		Maximum Operating Current (A)		Locked Rotor Current (A)		Sound Pressure @1 m - dB(A) ***
									1 Ph*	3 Ph**	1 Ph*	3 Ph**	1 Ph*	3 Ph**	
YH04K1P	1.9	4.0	3.4	3/4	1/2	0.7	227/194/388	21.3	PFZ	TFM	11	5	52	28	57
YH05K1P	1.9	4.7	4.0	3/4	1/2	0.7	227/194/388	21.3	PFZ	TFM	13	5	60	28	58
YH06K1P	3.5	6.3	5.1	7/8	1/2	1.2	242/242/418		PFZ	TFM	17	6	83	43	62
YH09K1P	3.5	8.5	6.9	7/8	1/2	1.2	242/242/418	33.0	PFZ	TFM	23	7	108	52	63
YH12K1P	4.5	10.9	8.9	7/8	1/2	1.2	242/242/418	35.0	PFZ	TFM	28	10	130	62	65
YH15K1P	6.0	14.4	11.7	7/8	1/2	1.9	245/249/442	39.5		TFM		13		75	67

Conditions: Evaporating -7°C, Condensing 50°C, Superheat 5K, Subcooling 4K
* 1ph: 230V/ 50Hz
** 3 Ph: 380-420V/ 50Hz
*** @ 1m: sound pressure level at 1m distance from the compressor, free field condition

Capacity Data

Condensing Temperature +50°C															
R454C	Heating Capacity (kW)							R454C	Power Input (kW)						
	Evaporating Temperature (°C)								Evaporating Temperature (°C)						
Model	-30	-15	-10	-5	0	+5	+15	Model	-30	-15	-10	-5	0	+5	+15
YH04K1E		3.4	4.0	4.7	5.5	6.4	8.6	YH04K1E	1.4	1.4	1.5	1.6	1.6	1.7	3.1
YH06K1E		4.8	5.6	6.5	7.6	8.9	12.1	YH06K1E	1.9	1.9	2.0	2.1	2.1	2.3	0.8
YH07K1E		6.0	7.0	8.2	9.5	11.1	15.1	YH07K1E	2.4	2.4	2.5	2.6	2.7	2.8	4.4
YH09K1E		6.9	8.0	9.3	10.8	12.6	17.1	YH09K1E	2.7	2.8	2.9	3.0	3.0	3.1	1.0
YH11K1E		8.5	9.9	11.6	13.6	15.8	21.3	YH11K1E	3.3	3.4	3.5	3.6	3.8	4.0	6.7
YH13K1E		10.0	11.7	13.7	16.0	18.7	25.2	YH13K1E	3.8	3.9	4.1	4.3	4.4	4.6	1.6
YH16K1E		12.8	14.9	17.4	20.3	23.6	31.9	YH16K1E	4.9	5.1	5.3	5.4	5.6	6.0	

Conditions: Suction Superheat 5K / Subcooling 4K

Condensing Temperature +50°C															
R452B	Heating Capacity (kW)							R452B	Power Input (kW)						
	Evaporating Temperature (°C)								Evaporating Temperature (°C)						
Model	-30	-15	-10	-5	0	+5	+15	Model	-30	-15	-10	-5	0	+5	+15
YH04K1P		3.2	3.7	4.2	4.9	5.6	7.5	YH04K1P		1.4	1.4	1.4	1.4	1.4	1.5
YH05K1P		3.7	4.3	5.0	5.8	6.7	8.8	YH05K1P		1.6	1.6	1.7	1.7	1.7	1.7
YH06K1P		5.0	5.8	6.6	7.6	8.8	11.6	YH06K1P		2.1	2.1	2.2	2.2	2.1	2.1
YH09K1P		6.8	7.8	9.0	10.4	11.9	15.6	YH09K1P		2.7	2.8	2.8	2.8	2.8	2.8
YH12K1P		8.5	10.0	11.5	13.3	15.3	20.1	YH12K1P		3.4	3.5	3.6	3.6	3.6	3.6
YH15K1P		11.4	13.2	15.2	17.5	20.1	26.4	YH15K1P		4.4	4.6	4.7	4.8	4.9	5.0

Conditions: Suction Superheat 5K / Subcooling 4K