

Copeland™ YP Scroll Compressor Range for R32

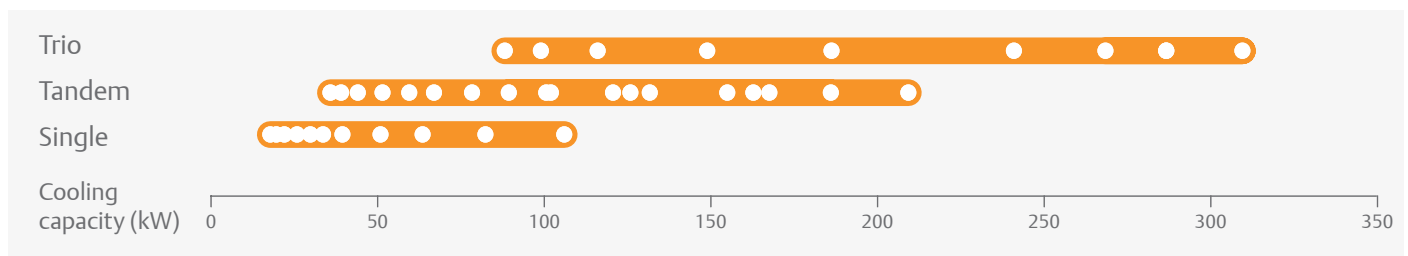
Copeland YP compressors are designed for R32. Thanks to advanced Emerson technologies, they reach the same field of application as equivalent Copeland scroll compressors with R410A. This is achieved without liquid injection or economizer. A dedicated scroll set minimizes the discharge temperature caused by the high heat of compression of the R32 refrigerant. R32 has a GWP of 675 and has been used for many years as main ingredient of R410A and is widely available.

YP compressors can be used for cooling only systems, as well as for reversible systems up to 700kW.



YP Copeland scroll compressor

YP Scroll Compressor Line-up R32



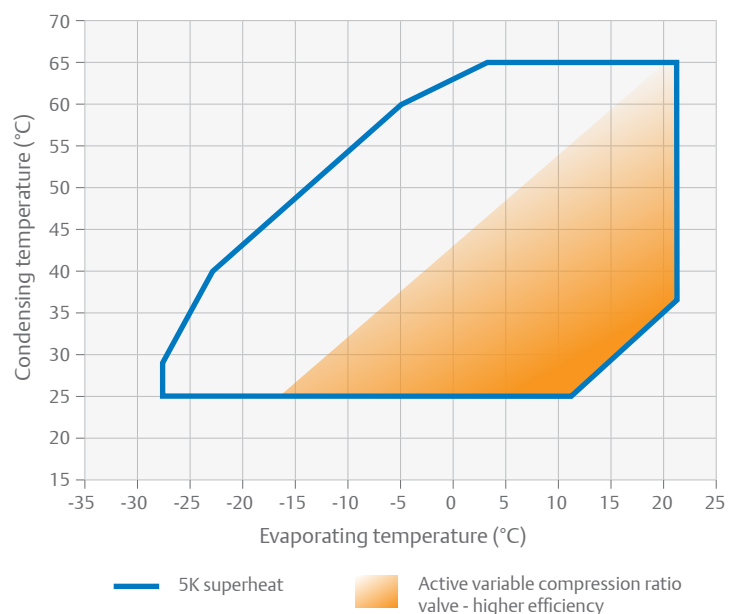
Features and Benefits

- Designed for R32
- Wide operating envelope
- Low leak discharge check valve
- High part load efficiency thanks to a variable compression ratio valve
- IP 54 terminal box
- Leak free hermetic design
- Tandem and trio capabilities
- Axial and radial compliance
- Emerson integrated solution ready

Maximum Allowable Pressure (PS)

- YP137, YP154 and YP182
Low side PS 30.4 bar(g) / High Side PS 49 bar(g)
- YP83 to YP122, YP154, YP385 and YP485
Low side PS 30.4 bar(g) / High Side PS 50 bar(g)

Operating Envelope R32



Technical Overview

Models	Nominal hp - TonR*	Cooling Capacity (kW)	COP	Stub Suction (inch)	Stub Discharge (inch)	Oil Quantity (l)	Length/ Width/ Height z(mm)	PED Category	Net Weight (kg)	Motor Version/ Code	Maximum Operating Current (A)	Locked Rotor Current (A)
										3 Ph**	3 Ph**	3 Ph**
YP83K1T	7	18.8	3.2	7/8	3/4	1.8	253/258/443	2	43	TFD	14	83
YP91K1T	8	20.1	3.1	7/8	3/4	1.8	258/263/443	2	41	TFD	16	92
YP104K1T	9	23.4	3.3	1 1/8	7/8	2.5	259/270/559	2	48	TFD	18	128
YP122K1T	10	27.1	3.3	1 1/8	7/8	2.5	259/270/559	2	49	TFD	21	139
YP137K1T	12	30.4	3.2	1 3/8	7/8	3.3	271/285/551	3	68	TFD	24	147
YP154K1T	13	34.8	3.3	1 3/8	7/8	3.3	271/285/551	3	67	TFD	26	141
YP182K1T	15	40.6	3.3	1 3/8	7/8	3.3	271/285/551	3	68	TFD	31	186
YP233K1T	20	52.1	3.3	2 1/4	1 1/8	4.4	402/407/692	3	92	TED	35	240
YP293K1T	25	65.1	3.3	2 1/4	1 1/8	4.4	402/317/692	3	92	TED	45	287
YP385K1T	30	84.1	3.3	1 5/8	1 3/8	6.3	459/423/715	3	177	TED	81	343
YP485K1T	40	108.0	3.4	1 5/8	1 3/8	6.3	459/423/746	3	190	TED	111	536

Conditions EN12900 R32: Evaporating 5°C, Condensing 50°C, Superheat 10K, Subcooling 0K

TonR* : Ton of refrigeration at 60Hz

** 3 Ph: 380-420V/ 50Hz

Capacity Data

Condensing Temperature +50℃															
R32	Cooling Capacity (kW)							R32	Power Input (kW)						
	Evaporating Temperature (℃)								Evaporating Temperature (℃)						
Model	-15	-10	-5	0	+5	+10	+15	Model	-15	-10	-5	0	+5	+10	+15
YP83K1T			13.1	15.8	18.8	22.2	26.0	YP83K1T			5.8	5.8	5.9	5.9	5.9
YP91K1T			13.9	16.8	20.1	23.9	28.2	YP91K1T			6.3	6.4	6.5	6.5	6.4
YP104K1T			16.2	19.5	23.4	27.8	32.8	YP104K1T			7.0	7.1	7.1	7.1	7.0
YP122K1T			18.9	22.7	27.1	32.1	37.8	YP122K1T			8.1	8.2	8.2	8.2	8.2
YP137K1T			21.2	25.5	30.4	36.1	42.5	YP137K1T			9.5	9.6	9.6	9.6	9.5
YP154K1T			24.3	29.2	34.8	41.2	48.4	YP154K1T			10.4	10.6	10.7	10.6	10.4
YP182K1T			28.4	34.1	40.6	48.0	56.4	YP182K1T			12.3	12.4	12.5	12.5	12.4
YP233K1T			36.8	43.9	52.1	61.4	72.0	YP233K1T			15.0	15.3	15.6	15.8	16.0
YP293K1T			45.9	54.9	65.1	76.8	90.0	YP293K1T			18.8	19.2	19.5	19.8	20.0
YP385K1T			59.6	71.0	84.1	99.7	118.5	YP385K1T			25.2	25.3	25.4	25.5	25.5
YP485K1T			75.7	90.8	108.0	128.0	150.0	YP485K1T			31.4	31.8	32.2	32.6	33.0

Conditions: Suction Superheat 10K / Subcooling 0K

Tandem Model Overview

Model	Tandem Assembly	Cooling Capacity (kW)
Even Tandem YPT		
YPT 166 K	2 x YP 83 K1T	38
YPT 182 K	2 x YP 91 K1T	40
YPT 208 K	2 x YP 104 K1T	47
YPT 244x K	2 x YP 122 K1T	54
YPT 274 K	2 x YP 137 K1T	61
YPT 308 K	2 x YP 154 K1T	70
YPT 464 K	2 x YP 182 K1T	81
YPT 446 K	2 x YP 233 K1T	104
YPT 586 K	2 x YP 293 K1T	130
YPT 770 K	2 x YP 385 K1T	168
YPT 970 K	2 x YP 485 K1T	216

Model	Tandem Assembly	Cooling Capacity (kW)
Uneven Tandem YPU		
YPU 291 K	YP137 K1T + YP154 K1T	65
YPU 336 K	YP154 K1T + YP182 K1T	75
YPU 415 K	YP182 K1T + YP233 K1T	93
YPU 526 K	YP233 K1T + YP293 K1T	117
YPU 678 K	YP293 K1T + YP385 K1T	149
YPU 870 K	YP385 K1T + YP485 K1T	192

Conditions EN 12900: Evaporating 5°C, Condensing 50°C, Superheat 10K, Subcooling 0K

Tandem assemblies by system manufacturers.
Emerson can provide full technical support.