

## RS SERIES APPLICATIONS

Application	Existing System Type		
	R-12	R-22	R-502
<b>Air Conditioning</b>			
Automotive	RS-24	RS-44	
Chillers Recip/Screw/DX	RS-24	RS-44, RS-45	
Shell & Tube chiller		RS-44, RS-45	
Co-axial chiller		RS-44	
Flat plate chiller		RS-44	
Flooded systems		RS-45	
Commercial	RS-24	RS-44	
Dehumidifiers	RS-24	RS-44	
Heat Pump		RS-44	
Industrial process cooling	RS-24	RS-44, RS-45	
Split System		RS-44	
Spot Coolers		RS-44	
Roof Top		RS-44	
Window/Wall		RS-44	
<b>Refrigeration</b>			
Beverage Coolers	RS-24	RS-44	
Cold Storage	RS-24	RS-45	RS-52
Display Cases	RS-24	RS-45	RS-52
Domestic Refrigerators/Freezers	RS-24		
Frozen Drink Machines	RS-24	RS-45	RS-52
Ice Cream Dipping Cabinets	RS-24		RS-52
Ice Machines	RS-24	RS-44, RS-45	RS-52
Ice Rinks	RS-24	RS-45	RS-52
Mobile Refrigeration	RS-24	RS-44	RS-52
Flooded systems		RS-45	RS-52
Process Cooling	RS-24	RS-44, RS-45	RS-52
Water Coolers	RS-24	RS-44	
Walk-In Coolers	RS-24	RS-44	
WalkinFreezers		RS-45	RS-52

RS-24 (R426A)

RS-44 (R424A)

RS-45 (R434A)

RS-52 (R428A)

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## R22 RETROFIT REPLACEMENTS APPLICATIONS SUMMARY

AIR CONDITIONING FIXED ORIFICE SYSTEMS	RS-44
AIR CONDITIONING TXV SYSTEMS	RS-44/RS-45
CHILLERS WITH FIXED ORIFICES	RS-44
CHILLERS WITH TXVs	RS-44/RS-45
SHELL & TUBE EVAPORATORS	RS-44/RS-45
REFRIGERATION EVAPORATING DOWN TO -10 <sup>0</sup> C	RS-44
REFRIGERATION EVAPORATING DOWN TO -35 <sup>0</sup> C	RS-45
REFRIGERATION EVAPORATING DOWN TO -40 <sup>0</sup> C	RS-52

#### Notes

- (1) Do not use RS-45 or RS-52 in existing systems with a capillary tube
- (2) RS-45 & RS-52 are recommended for use with R404A TXVs
- (3) Extra capacity of RS-52 may require condenser to be replaced in systems designed for R22
- (4) When using RS-52 to replace R22, check the system can accommodate the higher pressures

#### Note

Refrigerant Solutions Ltd assumes no liability in connection with any use of this information

# PRESSURE/TEMPERATURE TABLES OF R22 REPLACEMENTS

**RS-44 (R424A)**

**RS-45 (R434A)**

**RS-52 (R428A)**

TEMPERATURE
Deg C
-60
-58
-56
-54
-52
-50
-48
-46
-44
-42
-40
-38
-36
-34
-32
-30
-28
-26
-24
-22
-20
-18
-16
-14
-12
-10
-8
-6
-4
-2
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80

BUBBLE PRESSURE (LIQUID)	DEW PRESSURE (VAPOUR)
(barg)	(barg)
-0.66	-0.80
-0.62	-0.77
-0.58	-0.74
-0.53	-0.70
-0.48	-0.66
-0.42	-0.62
-0.36	-0.58
-0.29	-0.53
-0.21	-0.47
-0.13	-0.41
-0.05	-0.34
0.05	-0.27
0.15	-0.19
0.25	-0.11
0.37	-0.02
0.49	0.08
0.62	0.18
0.76	0.30
0.91	0.42
1.07	0.55
1.24	0.69
1.42	0.84
1.61	1.00
1.81	1.17
2.03	1.35
2.25	1.54
2.49	1.74
2.74	1.96
3.01	2.19
3.29	2.43
3.58	2.69
3.89	2.96
4.21	3.24
4.55	3.55
4.91	3.86
5.28	4.20
5.67	4.55
6.08	4.91
6.51	5.30
6.95	5.71
7.42	6.13
7.90	6.58
8.41	7.04
8.93	7.53
9.48	8.04
10.05	8.57
10.64	9.12
11.26	9.70
11.90	10.30
12.56	10.93
13.25	11.58
13.96	12.26
14.71	12.97
15.47	13.71
16.27	14.48
17.09	15.27
17.94	16.10
18.83	16.96
19.74	17.85
20.68	18.78
21.66	19.74
22.66	20.74
23.70	21.78
24.78	22.86
25.89	23.98
27.03	25.14
28.22	26.35
29.44	27.61
30.69	28.91
31.99	30.28
33.32	31.71

BUBBLE PRESSURE (LIQUID)	DEW PRESSURE (VAPOUR)
(barg)	(barg)
-0.55	-0.61
-0.49	-0.57
-0.44	-0.51
-0.37	-0.46
-0.30	-0.40
-0.23	-0.33
-0.15	-0.25
-0.06	-0.17
0.04	-0.09
0.14	0.01
0.25	0.11
0.37	0.22
0.50	0.33
0.63	0.46
0.78	0.59
0.93	0.74
1.10	0.89
1.27	1.05
1.46	1.23
1.66	1.41
1.87	1.61
2.09	1.82
2.33	2.04
2.57	2.28
2.84	2.53
3.11	2.79
3.40	3.07
3.71	3.36
4.03	3.67
4.33	3.99
4.73	4.33
5.10	4.69
5.49	5.06
5.90	5.46
6.33	5.87
6.77	6.30
7.24	6.76
7.73	7.23
8.24	7.72
8.77	8.24
9.33	8.78
9.90	9.34
10.50	9.93
11.13	10.54
11.78	11.17
13.45	11.83
13.15	12.52
13.88	13.24
14.64	13.98
15.42	14.75
16.23	15.56
17.08	16.39
17.95	17.25
18.86	18.15
19.79	19.08
20.76	20.05
21.77	21.05
22.81	22.09
23.88	23.17
25.00	24.29
26.15	25.45
27.34	26.65
28.57	27.90
29.85	29.20
31.17	30.55
32.53	31.97
33.94	33.45
35.67	35.02

BUBBLE PRESSURE (LIQUID)	DEW PRESSURE (VAPOUR)
(barg)	(barg)
-0.45	-0.48
-0.39	-0.42
-0.32	-0.35
-0.24	-0.28
-0.16	-0.20
-0.07	-0.12
0.02	-0.03
0.12	0.07
0.23	0.18
0.35	0.29
0.47	0.41
0.61	0.54
0.75	0.68
0.91	0.83
1.07	1.00
1.25	1.17
1.44	1.35
1.64	1.54
1.85	1.75
2.07	1.97
2.31	2.20
2.56	2.45
2.82	2.71
3.10	2.98
3.40	3.27
3.71	3.57
4.04	3.89
4.38	4.23
4.74	4.59
5.12	4.96
5.52	5.35
5.93	5.76
6.37	6.19
6.82	6.64
7.30	7.11
7.80	7.60
8.32	8.11
8.86	8.65
9.43	9.21
10.02	9.79
10.63	10.40
11.27	11.03
11.93	11.69
12.63	12.37
13.34	13.09
14.09	13.83
14.87	14.60
15.67	15.40
16.51	16.23
17.37	17.09
18.27	17.98
19.20	18.91
20.17	19.87
21.17	20.87
22.20	21.91
23.28	22.98
24.39	24.09
25.54	25.25
26.73	26.45
27.97	27.69
29.25	28.98
30.58	30.32
31.96	31.72
33.39	33.18

Temperature  
Glide

Approximately  
3 Deg C

Approximately  
1.5 Deg C

Approximately  
0.5 Deg C