

R-32



12 L

SPÉCIFICATIONS SELON NORME AHRI 700

CARACTÉRISTIQUE STANDARD	CONFORMITÉ EN LIMITE DE TOLÉRANCE
Pureté	≥ 99,5 % poids
Teneur en eau	≤ 10 ppm poids
Acidité (HCl)	≤ 1 ppm poids
Teneur en incondensables (phase gazeuse)	≤ 1,5 % volume
Résidus haute ébullition	≤ 0,01 % volume

PROPRIÉTÉS PHYSIQUES

Nom	Difluorométhane
Formule chimique	$\text{CH}_2\text{-CF}_2$
Température d'ébullition à 1,013 bar	-51,65 °C
Température critique	78,11 °C
Potentiel de Réchauffement Global (GWP)	675
Classe de sécurité	A2L
Potentiel d'action sur l'ozone	0
Limites d'inflammabilité dans l'air [kg/m ³]	0,306
Lubrifiant	POE (PolyolEster) PVE (Polyvinyl Ester)

SUBSTITUTION

- R-410A en installation neuve (A2L)

R-32

TABLE THERMODYNAMIQUE

Température °C)	Liquide	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur
	Pression (bar abs)	Densité (kg/m ³)	Densité (kg/m ³)	Enthalpie (kJ/kg)	Enthalpie (kJ/kg)	Entropie (kJ/kg-K)	Entropie (kJ/kg-K)
-60	0.64955	1235.7	1 969	101.38	492.11	0.59581	2.4289
-59	0.68652	1233	2.0739	102.95	492.64	0.60318	2.4229
-58	0.72517	1230.3	2.1831	104.53	493.17	0.61052	2.4169
-57	0.76555	1227.6	2.2968	106.11	493.7	0.61784	2 411
-56	0.80772	1224.9	2.4152	107.7	494.22	0.62512	2.4051
-55	0.85172	1222.1	2.5384	109.28	494.74	0.63238	2.3993
-54	0.89763	1219.4	2.6666	110.86	495.26	0.63961	2.3936
-53	0.94549	1216.7	2.7999	112.45	495.77	0.64682	2 388
-52	0.99537	1213.9	2.9384	114.04	496.27	0.65399	2.3824
-51	1.0473	1211.1	3.0822	115.63	496.78	0.66114	2.3769
-50	1.1014	1208.4	3.2316	117.22	497.27	0.66827	2.3714
-49	1.1577	1205.6	3.3867	118.81	497.77	0.67537	2 366
-48	1.2163	1202.8	3.5477	120.4	498.26	0.68244	2.3607
-47	1.2772	1200	3.7146	122	498.74	0.68949	2.3554
-46	1.3405	1197.2	3.8877	123.6	499.23	0.69652	2.3502
-45	1.4062	1194.4	4.0671	125.2	499.7	0.70352	2 345
-44	1.4745	1191.5	4 253	126.8	500.17	0.7105	2.3399
-43	1.5453	1188.7	4.4456	128.4	500.64	0.71746	2.3348
-42	1.6188	1185.9	4 645	130.01	501.11	0.72439	2.3298
-41	1.6951	1183	4.8515	131.62	501.56	0.7313	2.3249
-40	1.7741	1180.2	5.0651	133.23	502.02	0.73819	2.32
-39	1 856	1177.3	5.2861	134.84	502.47	0.74506	2.3151
-38	1.9409	1174.4	5.5147	136.45	502.91	0.75191	2.3103
-37	2.0287	1171.5	5 751	138.07	503.35	0.75874	2.3056
-36	2.1197	1168.6	5.9952	139.69	503.78	0.76554	2.3008
-35	2.2138	1165.7	6.2476	141.31	504.21	0.77233	2.2962
-34	2.3111	1162.8	6.5084	142.93	504.63	0.77909	2.2916
-33	2.4118	1159.8	6.7777	144.56	505.05	0.78584	2 287
-32	2.5159	1156.9	7.0557	146.18	505.47	0.79257	2.2824
-31	2.6234	1153.9	7.3427	147.81	505.87	0.79928	2.2779
-30	2.7344	1151	7.6389	149.45	506.27	0.80597	2.2735
-29	2.8491	1148	7.9446	151.08	506.67	0.81265	2.2691
-28	2.9675	1145	8.2598	152.72	507.06	0.8193	2.2647
-27	3.0896	1142	8.5849	154.36	507.45	0.82594	2.2604
-26	3.2157	1138.9	8.9201	156.01	507.83	0.83256	2.2561
-25	3.3456	1135.9	9.2657	157.66	508.2	0.83917	2.2518

R-32

TABLE THERMODYNAMIQUE

Température °C)	Liquide	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur
	Pression (bar abs)	Densité (kg/m ³)	Densité (kg/m ³)	Enthalpie (kJ/kg)	Enthalpie (kJ/kg)	Entropie (kJ/kg-K)	Entropie (kJ/kg-K)
-26	3.2157	1138.9	8.9201	156.01	507.83	0.83256	2.2561
-25	3.3456	1135.9	9.2657	157.66	508.2	0.83917	2.2518
-24	3.4796	1132.9	9.6218	159.31	508.57	0.84576	2.2476
-23	3.6177	1129.8	9.9887	160.96	508.93	0.85233	2.2434
-22	3.76	1126.7	10.367	162.62	509.28	0.85889	2.2392
-21	3.9066	1123.7	10.756	164.28	509.63	0.86544	2.2351
-20	4.0575	1120.6	11.157	165.94	509.97	0.87197	2.231
-19	4.2129	1117.4	11.57	167.61	510.31	0.87848	2.2269
-18	4.3728	1114.3	11.995	169.28	510.64	0.88498	2.2229
-17	4.5374	1111.2	12.433	170.95	510.96	0.89147	2.2189
-16	4.7067	1108	12.883	172.63	511.28	0.89794	2.2149
-15	4.8807	1104.9	13.346	174.31	511.58	0.9044	2.2109
-14	5.0597	1101.7	13.823	175.99	511.89	0.91085	2.207
-13	5.2437	1098.5	14.313	177.68	512.18	0.91729	2.2031
-12	5.4327	1095.2	14.818	179.37	512.47	0.92371	2.1992
-11	5.6269	1092	15.336	181.07	512.75	0.93012	2.1954
-10	5.8263	1088.8	15.87	182.76	513.02	0.93652	2.1915
-9	6.0311	1085.5	16.418	184.47	513.28	0.94291	2.1877
-8	6.2414	1082.2	16.982	186.18	513.54	0.94929	2.1839
-7	6.4572	1078.9	17.561	187.89	513.79	0.95566	2.1802
-6	6.6786	1075.6	18.157	189.6	514.03	0.96202	2.1764
-5	6.9058	1072.2	18.769	191.33	514.26	0.96838	2.1727
-4	7.1388	1068.9	19.398	193.05	514.49	0.97472	2.169
-3	7.3777	1065.5	20.044	194.78	514.7	0.98105	2.1653
-2	7.6226	1062.1	20.708	196.52	514.91	0.98737	2.1616
-1	7.8737	1058.7	21.39	198.26	515.11	0.99369	2.158
0	8.131	1055.3	22.091	200	515.3	1	2.1543
1	8.3946	1051.8	22.811	201.75	515.48	1.0063	2.1507
2	8.6647	1048.3	23.55	203.5	515.65	1.0126	2.1471
3	8.9413	1044.8	24.31	205.26	515.81	1.0189	2.1434
4	9.2245	1041.3	25.09	207.03	515.96	1.0252	2.1399
5	9.5145	1037.7	25.891	208.8	516.11	1.0314	2.1363
6	9.8113	1034.2	26.714	210.58	516.24	1.0377	2.1327
7	10.115	1030.6	27.559	212.36	516.36	1.044	2.1291
8	10.426	1027	28.426	214.15	516.47	1.0503	2.1256
9	10.744	1023.3	29.317	215.94	516.57	1.0565	2.122

R-32

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10	11 069	1019.7	30 232	217.74	516.66	1.0628	2.1185
11	11 402	1016	31 172	219.55	516.74	1 069	2.1149
12	11 742	1012.2	32 137	221.36	516.8	1.0753	2.1114
13	12 089	1008.5	33 128	223.18	516.86	1.0815	2.1078
14	12 445	1004.7	34 145	225.01	516.9	1.0878	2.1043
15	12 808	1000.9	35.19	226.84	516.93	1 094	2.1008
16	13 179	997.06	36 264	228.68	516.95	1.1003	2.0972
17	13 559	993.19	37 366	230.53	516.96	1.1065	2.0937
18	13 946	989.28	38 498	232.39	516.95	1.1128	2.0902
19	14 342	985.35	39 661	234.25	516.93	1 119	2.0866
20	14 746	981.38	40 856	236.12	516.9	1.1253	2.0831
21	15 158	977.38	42 083	238	516.85	1.1315	2.0795
22	15 579	973.34	43 344	239.89	516.79	1.1378	2 076
23	16 009	969.27	44 639	241.78	516.71	1.1441	2.0724
24	16 448	965.16	45 971	243.69	516.62	1.1503	2.0688
25	16 896	961.01	47 339	245.6	516.51	1.1566	2.0652
26	17 353	956.82	48 745	247.53	516.39	1.1629	2.0616
27	17 819	952.58	50.19	249.46	516.25	1.1692	2 058
28	18 295	948.31	51 676	251.4	516.09	1.1755	2.0544
29	18.78	943.99	53 205	253.35	515.92	1.1818	2.0507
30	19 275	939.62	54 776	255.32	515.72	1.1881	2.0471
31	19.78	935.21	56 393	257.29	515.51	1.1944	2.0434
32	20 294	930.75	58 056	259.28	515.29	1.2007	2.0397
33	20 819	926.24	59 768	261.27	515.04	1.2071	2 036
34	21 353	921.67	61.53	263.28	514.77	1.2134	2.0322
35	21 898	917.05	63 343	265.3	514.48	1.2198	2.0285
36	22 454	912.37	65 211	267.34	514.17	1.2262	2.0246
37	23.02	907.63	67 135	269.38	513.84	1.2326	2.0208
38	23 597	902.83	69 118	271.45	513.49	1.2391	2.0169
39	24 184	897.97	71 161	273.52	513.11	1.2455	2 013
40	24 783	893.04	73 268	275.61	512.71	1 252	2.0091
41	25 393	888.04	75 441	277.72	512.28	1.2585	2.0051
42	26 014	882.96	77 684	279.84	511.82	1 265	2.0011
43	26 647	877.81	79 998	281.98	511.34	1.2715	1 997
44	27 292	872.58	82 389	284.13	510.83	1.2781	1.9929
45	27 948	867.26	84 859	286.31	510.29	1.2847	1.9888

R-32

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46	28 616	861.86	87 412	288.5	509.72	1.2914	1.9845
47	29 296	856.36	90 053	290.71	509.12	1 298	1.9802
48	29 989	850.77	92 786	292.95	508.48	1.3048	1.9759
49	30 694	845.07	95 617	295.21	507.81	1.3115	1.9715
50	31 412	839.26	98.55	297.49	507.1	1.3183	1 967
51	32 143	833.33	101.59	299.79	506.36	1.3252	1.9624
52	32 887	827.28	104.75	302.12	505.57	1.3321	1.9578
53	33 644	821.1	108.03	304.48	504.74	1 339	1 953
54	34 415	814.78	111.44	306.87	503.86	1.3461	1.9482
55	35 199	808.31	114.99	309.29	502.93	1.3531	1.9432
56	35 997	801.68	118.69	311.74	501.95	1.3603	1.9382
57	36 809	794.88	122.55	314.22	500.92	1.3675	1 933
58	37 635	787.9	126.58	316.75	499.82	1.3749	1.9277
59	38 476	780.71	130.79	319.32	498.67	1.3823	1.9222
60	39 332	773.31	135.21	321.93	497.44	1.3898	1.9166
61	40 203	765.67	139.85	324.59	496.14	1.3974	1.9108
62	41 089	757.78	144.73	327.3	494.76	1.4052	1.9048
63	41 991	749.6	149.88	330.07	493.29	1.4131	1.8986
64	42 909	741.1	155.32	332.9	491.73	1.4211	1.8922
65	43 843	732.26	161.09	335.8	490.05	1.4293	1.8855
66	44 793	723.02	167.23	338.78	488.26	1.4377	1.8785
67	45 761	713.34	173.79	341.85	486.33	1.4464	1.8711
68	46 745	703.16	180.83	345.02	484.25	1.4553	1.8634
69	47 748	692.39	188.43	348.31	481.99	1.4645	1.8552
70	48 768	680.93	196.69	351.73	479.52	1 474	1.8464
71	49 808	668.66	205.75	355.32	476.8	1 484	1 837
72	50 866	655.38	215.8	359.11	473.77	1.4946	1.8268
73	51 946	640.82	227.11	363.15	470.35	1.5058	1.8155
74	53 046	624.57	240.12	367.53	466.41	1.5179	1.8027
75	54 168	605.89	255.59	372.39	461.72	1.5314	1 788
76	55 315	583.32	275	378.03	455.86	1 547	1.7699
77	56 489	552.89	302.38	385.26	447.64	1.5671	1.7452
78	57 697	484.61	367.24	400.38	428.9	1.6095	1.6907