

SUBJECT: Nominal Air Conditioning System Pressures R-12/R-134a

MODELS: All

Situation: The following chart has been provided to assist the technician in determining the operational status of a BMW vehicle with a suspected air conditioning problem. The chart provides "nominal" values that approximate typical high side pressure, low side pressure, and center vent discharge temperature for a given ambient temperature, humidity, and refrigerant type.

Note that the pressures given are directly dependent on the amount of refrigerant charge in the air conditioning system. If wide variation exists between the measured pressure values and those given on the chart, the technician should consider an overcharge/undercharge situation as a possible cause.

Warranty Status: Information only.

THIS INFORMATION IS CURRENT AND SUPERSEDES ALL OTHER SERVICE INFORMATION ON PRESSURE/TEMPERATURE/HUMIDITY RELATIONSHIPS FOR A/C SYSTEMS AS WELL AS ANY OTHER SOURCE OF SIMILAR INFORMATION.

Relative Humidity (%)	Outside Air Temp. (°S F)	R-12 Discharge Temp. (°S F)	R-12 Low Pressure (psi)	R-12 High Pressure (psi)	R-134a Discharge Temp. (°S F)	R-134a Low Pressure (psi)	R-134a High Pressure (psi)
20	70	44	24	143	44	9	69
	80	44	31	192	44	24	85
	90	50	45	232	47	40	136
	100	59	47	270	53	50	231
	110	66	57	320	64	58	308
30	70	44	23	154	44	10	80
	80	44	35	203	44	28	110
	90	54	47	239	48	42	168
	100	63	50	283	59	54	253
	110	74	60	334	69	62	328
40	70	44	34	170	45	12	93
	80	50	40	216	50	32	149
	90	58	48	246	56	45	212
	100	67	53	291	64	57	264
	110	77	63	350	74	67	348

50	70	46	37	178	45	14	102
	80	55	43	223	51	36	164
	90	61	50	252	59	54	229
	100	71	58	312	70	67	299
	110	84	66	365	80	76	368
60	70	47	40	187	45	18	133
	80	55	49	230	53	39	191
	90	64	54	266	62	57	249
	100	75	60	318	72	72	310
	110	86	68	383	83	80	384
70	70	47	41	228	46	19	168
	80	56	50	257	56	42	215
	90	66	56	278	67	61	260
	100	78	63	333	77	75	321
	110	91	72	402	87	87	390
80	70	47	43	247	46	21	178
	80	57	53	268	57	47	218
	90	69	62	287	69	67	267
	100	82	70	340	78	80	331
	110	95	76	438	90	89	405
90	70	48	44	258	46	33	183
	80	60	55	286	59	54	223
	90	72	63	307	71	69	274
	100	85	72	350	84	84	345
	110	101	80	463	97	94	424