

LIST OF ENGINE FAMILIES, TYPES AND VERSIONS

Range and Color	Basic Types	Bore x Stroke (mm)	Type No.	Versions	Remark and Explanation of Code Letters
B... apple green	1 B 20 up to Series 30	69 x 62	100		P.t.o. shaft, integral with crankshaft:
	1 B 20 from Series 31	69 x 65			.1 = cylinder SAE 1" with outside thread
	1 B 20 R	69 x 65	144		.2 = cylinder SAE 1" with key way
	1 B 27	74 x 65	125		.3 = tapered
	1 B 30	80 x 69	101		.4 = tapered SAE "Gen."
	1 B 40*	88 x 76	110	-1	.5 = cylinder with outside thread
	1 B 50*	93 x 76	124	-2	.6 = tapered Ital. 23 mm
	1 B 20V up to Series 20	69 x 62	111	-4	.7 = cylinder SAE ¾" with key way
	1 B 20V from Series 21	69 x 65		-6	.8 = cylinder SAE ¾" with outside thread
	1 B 30V	80 x 69	112	-7	.9 = cylinder metric with key way
	1 B 40V	88 x 76	117	-8	
	1 B 50V	93 x 76	126	-x	Semi-machined shaft SW 27 / SW 32 for special applications
	<u>NON-EPA:</u>			...V-	...x = short crankshaft, to screw in stubshaft or any other p.t.o component
	1 B 20 up to Series 30	69 X 62	300	*..T	...V = horizontal position with vertical crankshaft
	1 B 20 from Series 31	69 X 65		*..U	
	1 B 20V up to Series 20	69 x 62	301		...T = clockwise rotation without balance shaft
	1 B 20V from Series 21	69 x 65			...U = clockwise rotation with balance shaft
	1 B 27	74 x 65	308		1 B 20 R = Tamper application (R = Rammer)
	1 B 27V	74 x 65	309		
	1 B 30	80 x 69	302		
	1 B 30 V	80 x 69	303		
	1 B 40	88 x 76	304		
	1 B 40 V	88 x 76	305		
	1 B 50	93 x 76	306		
	1 B 50 V	93 x 76	307		
5/6 * blue	E 571...	71 x 57	30	)..LN(F)	E... .. = Singe cylinder
	E 671...	71 x 67	29	*	... L.. = anti-clockwise rotation
	E 572...	71 x 57	45	)..RN(F)	... R.. = clockwise rotation
	E 672...	71 x 67	46	*	...N = protruding camshaft*
	E 573...	73 x 67	57	)..LK(F)	...K = protruding crankshaft*
	E 673...	73 x 67	56	*	...F = flangeable at governor side*
				)..RK(F)	...HK = add. handstart gear (previous version for crankhandle) start*
	HE 673... (BMW-D 7)	73 x 67	58	*	...LS = short version for handcrank start & up-to-date (short version anti-clockwise only)
				)..LHK*	...LR = Recoil start
				)..RHK*	.3. = ital. Flange*
				)..LS	.4. = Flange SAE A
				)..LR*	.6. = ital. Stubshaft*
				)..L36	H. = watercooled
				)..R36	* = for p.t.o. gov. side
				)..L3N	..7. = Stubshaft cyl. SAE ¾"
				)..R47	.. N*= Tapered camshaft end
7..* yellow	E 71	71/75x80	23	)	..E = Single cyl., power-take-off on flywheel as well as on gov. end
	E 75	75 x 80	16	)	..ES = Power-take-off on flywheel side only; crankshaft not protruding on gov. end
	E 79	82 x 80	24	)E...	... U = Counter-rotating balance weight installed
	E 780.	82 x 100	27	)ES..	
	E 785.	85 x 110	28	)	
	E 786.	85 x 110	77	)	
				E 780 U	)
				E 785 U	) no "ES" – versions
				E 786 U	)
	HE 780 (U) (BMW=D12)	82 x 100	59		) H. = watercooled

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D.. pink	1 D 20 * 1 D 30.. 1 D 31.. A 1 D 35.. 1 D 40.. A 1 D 40.. 1 D 41.. A 1 D 41.. 1 D 50 1 D 60.. 1 D 80.. 1 D 81.. 1 D 90.. 1 D 90 V	86 x 65 86 x 65 86 x 65 86 x 65 86 x 65 90 x 65 90 x 65 97 x 65 88 x 85 100 x 85 100 x 85 104 x 85 104 x 85	87 92 71 93 88 62 94 95 109 89 90 73 108 113	)))) ..S)) ..T)2.) ..Z)3.) ..U) .2) ..C) .3)) .4)) .6)))))) ..V. ..W. ..X ..Y	A.. = semi-capsuled* ..S = anti-clockwise rotation, uncapsuled, no counter balance shafts T = clockwise rotation, uncapsuled, no counter balance shafts ..Z = anti-clockwise rotation, uncapsuled with counter balance shafts ..U = clockwise rotation, capsuled with counter balance shafts (only 1 D 30 – 31 – 41 – 60 – 80 – 81) ..V.= horizontal position with vertical crankshaft, no counter balance shafts, with 1D90 only X = - ditto – clockwise rotation ..W.= vertical (vertical crankshaft), anti-clockwise rotation, with counter balance shafts; with 1D90 only Y = - ditto – clockwise rotation Flange gov. side p.t.o. 2. = SAE B Ø 146, 1 mm 3. = ital. Ø 105 mm Stub. – shaft gov. side p.t.o. .2 = cyl. Shaft SAE, 1” .3 = ital. Stand, tap shaft 30 mm .4 = tap. Shaft acc. SAE .6 = ital. Stand, tap shaft 23 mm
8.. red	E 80.. E 85.. E 88.. E 89..	80 x 100 85 x 100 90 x 105 90 x 105	15 14 55 11	)) E..) ...FG)G	E = Single cylinder ..FG = Flangeable on flywheel sideG = Heavy-flywheel version; not flangeable
9.. orange	E 950	95 x 105	44	-----	E = Single cylinder, generally equipped with counter rotating balance shaft; hydr. pump directly flangeable
G.. light green	2 G 30* 2 G 40	88 X 75 92 X 75	82 91	) “H”)	2 = Two-cylinder type “H” = Prepared to fit a hydraulic pump (introduced as a separate version in '97, before included in standard build)
Z.. brown	Z 782. Z 788. Z 789. Z 790.	82 x 100 90 x 90 90 x 100 90 x 100	32 48 49 37	)) ...H))	2 = Two-cylinder type “H” = Two positions for flanging hydraulic pump
M.. green	2 M 31* 3 M 31* 4 M 31* 2 M 40* 3 M 40* 4 M 40* 2 M 41 3 M 41 4 M 41 4 M 42	102 x 90 102 x 90 102 x 90 102 x 105 102 x 105 102 x 105 102 x 105 102 x 105 102 x 105 102 x 105	84 85 86 78 79 80 105 106 107 143	))))) ..H(LS)) ..L) ..Z))))))	2 – 3 – 4-cylinder H = High swirl cylinder head + special camshaft for more power in the speed range $n \leq 2300 \text{ min}^{-1}$ (LS) = Initially named the “low speed” version L = Low swirl cylinder head + standard camshaft for operation Speed $> 2300 \text{ min}^{-1}$ Z = With counter rotating balance shafts 2 – 3 – 4 M <u>41</u> ; no versions “L” or “H”

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L..	2 L 30.* 3 L 30.* 4 L 30.*	95 x 100 95 x 100 95 x 100	51 52 53	))))	2 – 3 – 4-cylinder .S = semi-capsuled, <u>no</u> counter rotating balance shafts .Z = semi-capsuled, <u>with</u> counter rotating balance shafts .C = capsuled, <u>with</u> counter rotating balance shafts
dark blue	2 L 31.* 3 L 31.* 4 L 31.*	102 x 90 102 x 90 102 x 90	68 69 70	))))	.K = capsuled, <u>without</u> counter rotating balance shafts (with 4-cylinder versions at $n \leq 1800 \text{ min}^{-1}$ only) ..H = High swirl cylinder head + special camshaft for more power in the speed range $n \leq 2300 \text{ min}^{-1}$
	2 L 40.* 3 L 40.* 4 L 40.*	102 x 105 102 x 105 102 x 105	64 65 66	) ..S*) ..Z*) ..C) ..K	Versions S – Z: From 1993 on part of the M-range, in which semi-capsulation is available as additional equipment
	2 L 41 3 L 41 4 L 41	102 x 105 102 x 105 102 x 105	102 103 104	))...H))	2 – 3 – 4 L <u>41</u> no versions “H” (high swirl cylinder head)
	4 L 42 C	102 x 105	140	)))	H = Watercooled
	H 2 L30.* = BMW D 20/D 35 H 3 L 30.* = BMW D 50	95 x 100 95 x 100	60 61	))))	
W.. light blue	2 W 35 3 W 35 4 W 35 3 W 35 T 4 W 35 T	70 x 90 70 x 90 70 x 90 70 x 90 70 x 90	114 115 116 122 123	))))))	W = Watercooled T = Turbo