

# Models VANOS

## Variable camshaft timing

### Overview table

Engine	Inlet VANOS	Exhaust VANOS	Fully variable valve timing	Engine management	Opening angle °cr Inlet/exhaust	Spread, inlet °cr	Spread, exhaust °cr	Start of series production	Power in bhp/kW at rpm
M50B20TU	X <sub>1</sub>	-	-	MS40.1	228°/228°	80° to 105°	-105°	09/1992	150/110 5900
M50B25TU	X <sub>1</sub>	-	-	ME3.3.1	228°/228°	85° to 110°	-101°	09/1992	191/141 5900
M52B20	X <sub>1</sub>	-	-	MS41.0	228°/228°	±40°	-105°	09/1994	150/110 5900
M52B25	X <sub>1</sub>	-	-	MS41.0	228°/228°	85° to 110°	-105°	05/1995	170/125 5500
M52B28	X <sub>1</sub>	-	-	MS41.0	228°/228°	90° to 115°	-105°	01/1995	193/142 5300
M52B20TU	X <sub>3</sub>	X <sub>3</sub>	-	MS42	228°/228°	80° to 120°	-80° to -105°	12/1997	150/110 5900
M52B25TU	X <sub>3</sub>	X <sub>3</sub>	-	MS42	228°/228°	80° to 120°	-80° to -105°	03/1998	170/125 5500
M52B28TU	X <sub>3</sub>	X <sub>3</sub>	-	MS42	228°/228°	80° to 120°	-80° to -105°	03/1998	193/142 5500
M54B22	X <sub>3</sub>	X <sub>3</sub>	-	MS43	228°/228°	80° to 120°	-80° to -105°	04/2000	170/125 6100
M54B22 (Z4)	X <sub>3</sub>	X <sub>3</sub>	-	MS45	228°/228°	80° to 120°	-80° to -105°	04/2000	170/125 6100
M54B25	X <sub>3</sub>	X <sub>3</sub>	-	MS43	228°/228°	80° to 120°	-80° to -105°	09/2000	192/141 6000
M54B25 (Z4)	X <sub>3</sub>	X <sub>3</sub>	-	MS45	228°/228°	80° to 120°	-80° to -105°	09/2000	192/141 6000
M54B30	X <sub>3</sub>	X <sub>3</sub>	-	MS43	240°/228°	86° to 126°	-80° to -105°	09/2000	231/170 5900
M54B30 (Z4)	X <sub>3</sub>	X <sub>3</sub>	-	MS45	240°/228°	86° to 126°	-80° to -105°	09/2000	231/170 5900
M62B35TU	X <sub>2</sub>	-	-	ME7.2	238°/228°	84° to 124°	-97°	09/1998	245/180 5800
M62B44TU	X <sub>2</sub>	-	-	ME7.2	238°/228°	84° to 124°	-104°	09/1998	286/210 5400
M62B46 (X5)	X <sub>2</sub>	-	-	ME7.2	249°/249°	84° to 124°	-108°	09/2001	347/255 5700



VANOS has been used on BMW vehicles since 1992. Now, all petrol engines are equipped with double VANOS.