



Globally reliable

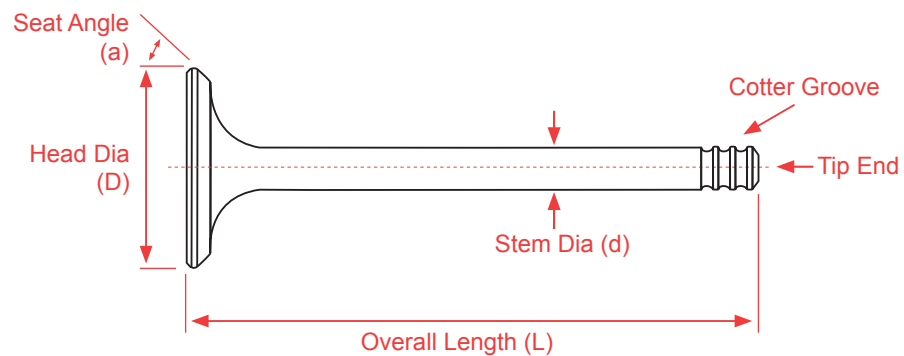
NEWSLETTER V0/4



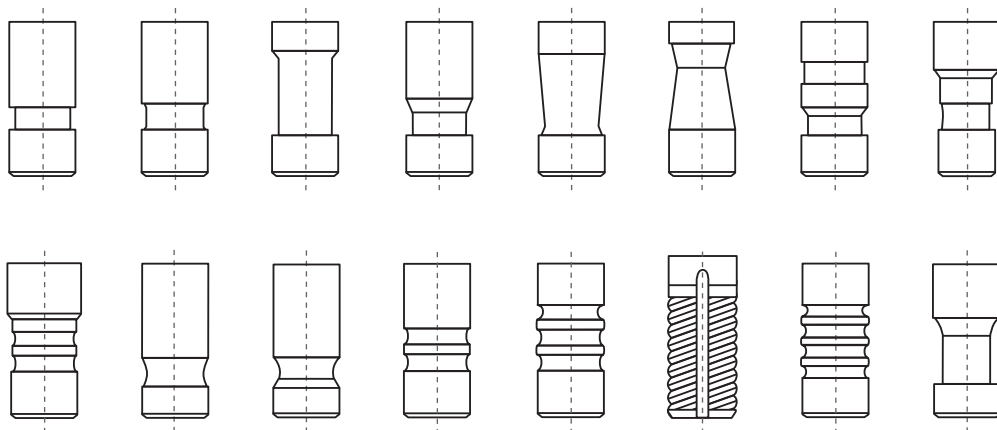
Process Codes

S	High alloyed chrome-silicium steel
A	Austenitic Cr-Ni-Mn steel for high stressed exhaust valves
A/S	Bimetal material
CR	Chromium plated stem
NT	Nitrided valves
S/H	Seat hardened
S/S	Seat stellited
TH	Tip and cotter groove hardened
H	Tip hardened
TW	Tip welded

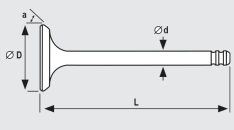
Dimensions



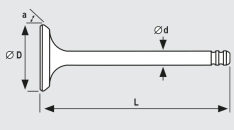
Cotter Groove Design



	ccm						IN/EX	QTY	Info	Pos.
CFB (1KR)	998	3	50-53 KW 68-72 PS	C1 1.0 C1 II 1.0 VTi 68	06/05 - 09/14 04/14 -	71,00	147 037 0019 00 148 037 0018 00	IN EX	6 6	2
NFU (TU5JP4)	1587	4	78-90 KW 106-122 PS	BERLINGO 1.6 16V C2 1.6 16V C3, C3 Picasso, C3 Pluriel, C3 AIRCROSS 1.6 16V C4 1.6 16V XSARA 1.6 16V XSARA PICASSO 1.6 16V	10/00 - 09/03 - 02/02 - 11/04 - 09/00 - 08/05 06/05 - 06/12	78,50	147 037 0018 00 148 037 0019 00	IN EX	8 8	1
RFH (EW10A)	1997	4	103 KW 140 PS	JUMPY 2.0 i	01/07 -	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8	3
RFJ (EW10A)	1997	4	103 KW 140 PS	C4 2.0 16V C5 2.0 16V C8 2.0 16V	11/04 - 08/13 09/04 - 09/05 -	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8	3
RFJ (EW10A), RFN (EW10J4)	1997	4	105 KW 143 PS	C4 PALLAS 2.0 Exclusive 16V	07/07 - 12/08	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8	3
RFN (EW10J4)	1997	4	100 KW 136 PS	C4 2.0 16V C5 2.0 16V C8 2.0 EVASION SYNERGIE 2.0 16V JUMPY 2.0 i 16V XSARA 2.0 16V	11/04 - 05/13 03/01 - 08/04 07/02 - 05/00 - 07/02 03/00 - 12/06 12/99 - 11/11	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8	3

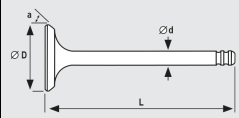
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 037 0018 00	L = 103,80 D = 31,15 d = 5,98 a = 45°	S				H
	EX	148 037 0019 00	L = 104,50 D = 24,50 d = 5,99 a = 45°	A	CR			
2								
	IN	147 037 0019 00	L = 88,35 D = 27,80 d = 4,97 a = 45°	S	NT			H
	EX	148 037 0018 00	L = 89,00 D = 23,50 d = 4,98 a = 45°	A	NT			
3								
	IN	147 037 0020 00	L = 106,20 D = 33,20 d = 5,97 a = 45°	S				H
	EX	148 037 0021 00	L = 103,70 D = 29,00 d = 5,96 a = 45°	A	CR			

	ccm							IN/EX	QTY	Info	Pos.
1KR-FE	998	3	51 KW 70 PS	CUORE VI + VII 1.0 SIRION 1.0	03/03 - 01/05 - 06/13	71,00	147 037 0019 00 148 037 0018 00	IN EX	6 6		1

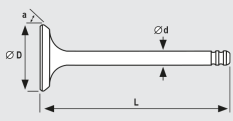
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 037 0019 00	L = 88,35 D = 27,80 d = 4,97 a = 45°	S	NT			H
	EX	148 037 0018 00	L = 89,00 D = 23,50 d = 4,98 a = 45°	A	NT			

	ccm						IN/EX	QTY	Info	Pos.
OM 611.960	2151	4	75-92 KW 102-125 PS	C-KLASSE (W202, S202) C 200 CDI, C 220 T CDI	09/97 - 03/01	88,00	147 010 0004 00 148 010 0006 00	IN EX	8 8	1
OM 611.961	2148	4	75-105 KW 102-143 PS	E-KLASSE (S210, W210) E 200 CDI, E 220 CDI, E 220 T CDI	06/98 - 03/03	88,00	147 010 0004 00 148 010 0006 00	IN EX	8 8	1
OM 611.962	2148	4	75-105 KW 102-143 PS	C-KLASSE (W203, S203, CL203) C 200 CDI, C 220 CDI	05/00 - 08/07	88,00	147 010 0004 00 148 010 0006 00	IN EX	8 8	1
OM 611.980	2151	4	60-90 KW 82-122 PS	Vito (638) 112 CDI 2.2 V-KLASSE V 220 CDI	03/99 - 07/03 03/99 - 07/03	88,00	147 010 0004 00 148 010 0006 00	IN EX	8 8	1
OM 611.981	2148	4	80-95 KW 109-129 PS	SPRINTER 2-t, 3-t, 4-t, 211 CDI, 213 CDI, 311 CDI, 313 CDI, 411 CDI, 413 CDI	04/00 - 05/06	88,00	147 010 0004 00 148 010 0006 00	IN EX	8 8	1
OM 611.987	2148	4	60 KW 82 PS	SPRINTER 2-t, 3-t, 4-t 208 CDI, 308 CDI, 408 CDI	04/00 - 05/06	88,00	147 010 0004 00 148 010 0006 00	IN EX	8 8	1
OM 612.961	2685	5	120-125 KW 163-170 PS	E-KLASSE (S210, W210, VF210) E 270 CDI	07/99 - 03/03	88,00	147 010 0004 01 148 010 0006 01	IN EX	10 10	2
OM 612.962	2685	5	120-125 KW 163-170 PS	C-KLASSE (W203, S203) C 270 CDI	12/00 - 08/07	88,00	147 010 0004 01 148 010 0006 01	IN EX	10 10	2
OM 612.963	2685	5	120 KW 163 PS	M-KLASSE ML 270 CDI	12/99 - 06/05	88,00	147 010 0004 01 148 010 0006 01	IN EX	10 10	2
OM 612.965	2685	5	115-120 KW 156-163 PS	G-KLASSE G 270 CDI	10/01 -	88,00	147 010 0004 01 148 010 0006 01	IN EX	10 10	2
OM 612.966	2685	5	115 KW 156 PS	G-KLASSE G 270 CDI	01/03 -	88,00	147 010 0004 01 148 010 0006 01	IN EX	10 10	2
OM 612.967	2685	5	120-125 KW 163-170 PS	CLK 270 CDI	02/03 - 06/05	88,00	147 010 0004 01 148 010 0006 01	IN EX	10 10	2
OM 612.981	2685	5	110-115 KW 150-156 PS	SPRINTER 2-t, 3-t, 4-t, 5-t, 216 CDI, 316 CDI, 416 CDI, 616 CDI	04/00 - 05/06	88,00	147 010 0004 01 148 010 0006 01	IN EX	10 10	2
OM 613.960, OM 613.961	3222	6	145 KW 197 PS	E-KLASSE E 320 CDI, E 320 T CDI S-Klasse (W220) S 320 CDI	07/99 - 03/02 08/99 - 09/02	88,00	147 010 0004 01 148 010 0006 01	IN EX	10 10	2
OM 651.901	1796	4	80-100 KW 109-136 PS	A-KLASSE (W176) A 180 CDI, A 200 CDI B-KLASSE (W246, W242) B 180 CDI, B 200 CDI CLA (C117) CLA 200 CDI	06/12 - 11/11 - 06/13 -	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8	3
OM 651.911	2143	4	120-150 KW 163-204 PS	E-KLASSE (C207) E 220 BlueTEC, E 220 CDI, E 250 CDI / BlueTEC / d	01/09 -	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8	3
OM 651.911	2143	4	120-150 KW 163-204 PS	E-KLASSE (A207) E 220 BlueTEC, E 220 CDI, E 250 CDI / BlueTEC / d	01/10 -	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8	3
OM 651.911	99	4	120-150 KW 163-204 PS	C-KLASSE (W204, S204, C204) C 220 CDI, C 250 CDI	08/08 -	2143,00	147 010 0005 00 148 010 0004 00	IN EX	8 8	3
OM 651.912	2143	4	120-150 KW 163-204 PS	C-KLASSE (S204, W204) C 220 CDI 4-matic, C 250 CDI 4-matic GLK-KLASSE (X204) 220 CDI 4-matic, 250 CDI 4-matic	04/10 - 08/14 12/08 - 06/15	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8	3
OM 651.930	2143	4	80-130 KW 109-177 PS	A-KLASSE (W176) A 220 d, A 220 CDI, A 200 CDI / d 4-matic B-KLASSE (W246, W242) B 200 CDI / d, B 220 CDI / d, B 220 d 4-matic CLA (C117) CLA 200 CDI / d, CLA 220 CDI / d CLA Shooting Brake (X117) CLA 200 CDI / d, CLA 220 CDI / d GLA-KLASSE (X156) GLA 200 CDI / d, GLA 220 CDI, GLA 220 d	09/12 - 11/11 - 01/13 - 01/15 - 12/13 -	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8	3
OM 651.957	2143	4	95-120 KW 129-163 PS	SPRINTER 3-t, 3,5-t, 4,6-t, 5-t 216 CDI, 315 CDI, 315 CDI 4x4, 415 CDI, 416 CDI, 515 CDI, 516 CDI	06/06 -	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8	3
OM 651.958	2143	4	105 KW 143 PS	SPRINTER 3,5-t 314 CDI	02/18 -	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8	3

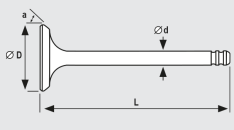
	ccm							IN/EX	QTY	Info	Pos.
OM 651.960	2143	4	150-152 KW 204-207 PS	GLE (W166) 250 d 4-matic M-KLASSE ML 250 CDI / BlueTEC 4-matic	04/15 - 06/11 - 12/15	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8		3
OM 651.961	2143	4	150 KW 204 PS	S-KLASSE S 250 CDI	01/11 - 12/13	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8		3
OM 651.980	2143	4	150 KW 204 PS	SLC (R172) 250 d SLK (R172) 250 CDI / d	01/16 - 10/17 01/12 -	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8		3

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 010 0004 00	L = 103,95 D = 30,20 d = 6,98 a = 45°	S	NT			H
	EX	148 010 0006 00	L = 104,35 D = 28,40 d = 6,97 a = 45°	A	NT			
2								
	IN	147 010 0004 01	L = 103,95 D = 30,20 d = 6,98 a = 45°	S	NT			H
	EX	148 010 0006 01	L = 104,35 D = 28,40 d = 6,97 a = 45°	A	NT			
3								
	IN	147 010 0005 00	L = 109,00 D = 28,40 d = 5,96 a = 45°	S	CR			TH
	EX	148 010 0004 00	L = 109,20 D = 24,70 d = 5,96 a = 45°	A/S	CR			TH

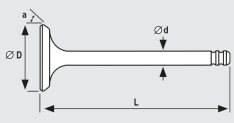
	ccm						IN/EX	QTY	Info	Pos.
176 B9.000	1242	4	63 KW 86 PS	PUNTO 1.2 16V	04/97 - 09/99	70,80	147 020 0002 00 148 020 0002 00	IN EX	8 8	1
178 B5.000	1242	4	50-55 KW 68-75 PS	FIORINO PALIO 1.2 SIENA / ALBEA STRADA 1.2	01/04 - 04/96 - 02/01 09/98 - 12/09 06/99 - 12/06	70,80	147 020 0002 00 148 020 0002 00	IN EX	8 8	1
182 B2.000	1242	4	60-64 KW 82-87 PS	BRAVA 1.2 16V BRAVO 1.2 16V 80 MAREA 1.2 16V	12/98 - 12/02 12/98 - 10/01 10/98 - 05/02	70,80	147 020 0002 00 148 020 0002 00	IN EX	8 8	1
188 A5.000	1242	4	59-60 KW 80-82 PS	BRAVA 1.2 16V 80 BRAVO I 1.2 16V 80 Idea 1.2 16V PALIO 1.2 PUNTO 1.2 16V 80 SIENA / ALBEA STILO 1.2 16V	10/00 - 10/01 10/00 - 10/01 01/04 - 06/01 - 10/07 09/99 - 12/06 06/01 - 12/09 02/02 - 11/06	70,80	147 020 0002 00 148 020 0002 00	IN EX	8 8	1
RFN (EW10J4)	1997	4	100 KW 136 PS	SCUDO 2.0 ULYSSE 2.0	05/00 - 12/06 09/00 - 06/11	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8	2

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 020 0002 00	L = 95,00 D = 26,80 d = 5,99 a = 45°	S	CR			H
	EX	148 020 0002 00	L = 96,10 D = 22,35 d = 5,98 a = 45°	A	CR			
2								
	IN	147 037 0020 00	L = 106,20 D = 33,20 d = 5,97 a = 45°	S				H
	EX	148 037 0021 00	L = 103,70 D = 29,00 d = 5,96 a = 45°	A	CR			

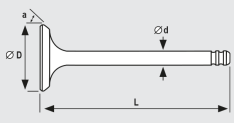
	ccm						IN/EX	QTY	Info	Pos.	
AODA, AODB, AODE	1999	4	107 KW 146 PS	FOCUS II 2.0	04/05 - 07/11	87,50	147 021 0002 00 148 021 0002 00	IN EX	8 8		1
AODA, AODB, AODE, SYDA	1999	4	107 KW 146 PS	C-MAX 2.0 FOCUS C-MAX 2.0	02/07 - 09/10 03/04 - 03/07	87,50	147 021 0002 00 148 021 0002 00	IN EX	8 8		1
AOWA, AOWB	1999	4	107 KW 146 PS	GALAXY 2.0 S-MAX 2.0	05/06 - 06/15 05/06 - 12/04	87,50	147 021 0002 00 148 021 0002 00	IN EX	8 8		1
CJBA, CJBB	1999	4	107 KW 146 PS	MONDEO III 2.0	10/00 - 03/07	87,50	147 021 0002 00 148 021 0002 00	IN EX	8 8		1

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 021 0002 00	L = 103,50 D = 35,00 d = 5,49 a = 45°	S	NT			H
	EX	148 021 0002 00	L = 104,80 D = 30,10 d = 5,49 a = 45°	A	NT			

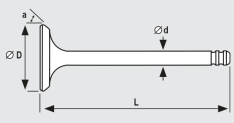
	ccm							IN/EX	QTY	Info	Pos.
G4GB	1795	4	93-98 KW 127-133 PS	ELANTRA 1.8 LANTRA 1.8	03/98 - 06/02 06/00 - 07/06	82,00	147 087 0009 00 148 087 0008 00	IN EX	8 8		1

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 087 0009 00	$L = 102,10$ $D = 32,10$ $d = 5,97$ $a = 45^\circ$	S	NT			H
	EX	148 087 0008 00	$L = 105,00$ $D = 27,50$ $d = 5,93$ $a = 45^\circ$	A	NT			

	ccm							IN/EX	QTY	Info	Pos.
176 B9.000	1242	4	63 KW 86 PS	Y 1.2 16V	04/97 - 09/03	70,80	147 020 0002 00 148 020 0002 00	IN EX	8 8		1
188 A5.000	1242	4	59 KW 80 PS	Y 1.2 16V YPSILON 1.2	10/00 - 09/03 10/03 - 12/11	70,80	147 020 0002 00 148 020 0002 00	IN EX	8 8		1
RFN (EW10J4)	1997	4	100 KW 136 PS	PHEDRA 2.0 ZETA 2.0 16V	09/02 - 11/10 07/00 - 09/02	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8		2

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 020 0002 00	L = 95,00 D = 26,80 d = 5,99 a = 45°	S	CR			H
	EX	148 020 0002 00	L = 96,10 D = 22,35 d = 5,98 a = 45°	A	CR			
2								
	IN	147 037 0020 00	L = 106,20 D = 33,20 d = 5,97 a = 45°	S				H
	EX	148 037 0021 00	L = 103,70 D = 29,00 d = 5,96 a = 45°	A	CR			

	ccm						IN/EX	QTY	Info	Pos.
LFF7	1999	4	107 KW 146 PS	Mazda 5 2.0 Mazda 6 2.0 PREMACY 2.0	02/05 - 05/10 03/05 - 08/07 02/05 - 03/05	87,50	147 021 0002 00 148 021 0002 00	IN EX	8 8	1

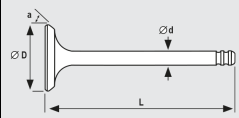
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 021 0002 00	$L = 103,50$ $D = 35,00$ $d = 5,49$ $\alpha = 45^\circ$	S	NT			H
	EX	148 021 0002 00	$L = 104,80$ $D = 30,10$ $d = 5,49$ $\alpha = 45^\circ$	A	NT			



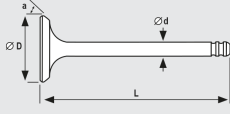
PEUGEOT

Globally reliable

	ccm						IN/EX	QTY	Info	Pos.	
CFA (384F), CFB (1KR)	998	3	50 KW 68 PS	107 1.0 108 1.0 VTi	06/05 - 05/14 -	71,00	147 037 0019 00 148 037 0018 00	IN EX	6 6		2
NFU (TU5JP4)	1587	4	78-90 KW 106-122 PS	1007 1.6 16V 206, 206 CC 1.6 16V 207 1.6 16V 208 1.6 16V 307, 307 CC 1.6 16V 308 1.6 16V 405 II 1.6 16V HOGGAR 1.6 16V PARTNER, PARTNER Tepee 1.6 16V	04/05 - 07/00 - 02/06 - 01/13 - 08/00 - 04/08 - 08/92 - 05/97 05/10 - 09/00 -	78,50	147 037 0018 00 148 037 0019 00	IN EX	8 8		1
RFH (EW10A), RFJ (EW10A)	1997	4	103 KW 140 PS	EXPERT Tepee 2.0 16V	01/07 -	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8		3
RFJ (EW10A)	1997	4	103-111 KW 140-151 PS	307, 307 CC 2.0 16V 308 2.0 407 2.0 16V 408 2.0 807 2.0 16V	12/04 - 01/08 - 09/05 - 03/11 - 09/05 -	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8		3
RFN (EW10J4)	1997	4	100-105 KW 136-143 PS	206, 206 CC 2.0 16V 307, 307 CC 2.0 16V 406 2.0 16V 407 2.0 607 2.0 806 2.0 16V 807 2.0 EXPERT 2.0	06/99 - 08/00 - 08/00 - 10/04 05/04 - 02/00 - 08/05 09/00 - 08/02 06/02 - 07/00 - 12/06	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8		3

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 037 0018 00	L = 103,80 D = 31,15 d = 5,98 a = 45°	S				H
	EX	148 037 0019 00	L = 104,50 D = 24,50 d = 5,99 a = 45°	A	CR			
2								
	IN	147 037 0019 00	L = 88,35 D = 27,80 d = 4,97 a = 45°	S	NT			H
	EX	148 037 0018 00	L = 89,00 D = 23,50 d = 4,98 a = 45°	A	NT			
3								
	IN	147 037 0020 00	L = 106,20 D = 33,20 d = 5,97 a = 45°	S				H
	EX	148 037 0021 00	L = 103,70 D = 29,00 d = 5,96 a = 45°	A	CR			

	ccm							IN/EX	QTY	Info	Pos.
1KR-FE	998	3	51 KW 69 PS	JUSTY 1.0	01/07 -	71,00	147 037 0019 00 148 037 0018 00	IN EX	6 6		1

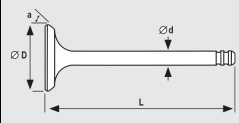
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 037 0019 00	$L = 88,35$ $D = 27,80$ $d = 4,97$ $a = 45^\circ$	S	NT			H
	EX	148 037 0018 00	$L = 89,00$ $D = 23,50$ $d = 4,98$ $a = 45^\circ$	A	NT			



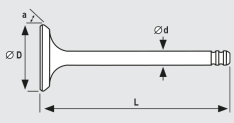
Globally reliable

TOYOTA

	ccm						IN/EX	QTY	Info	Pos.
1KR-FE	998	3	48-53 KW 65-72 PS	Aygo 1.0 IQ 1.0 YARIS/VITZ 1.0	07/05 - 01/09 - 01/05 -	71,00	147 037 0019 00 148 037 0018 00	IN EX	6 6	1
1NZ-FE	1497	4	76-110 KW 103-150 PS	ALLION I + II 1.5 AURIS 1.5 bB I 1.5 COROLLA Verso 1.5 ECHO 1.5 IST 1.5 VVTi PLATZ 1.5 PORTE 1.5 PREMIO 1.5 PROBOX / SUCCEED 1.5 VVTi 4WD RACTIS 1.5 RAUM 1.5 4WD URBAN CRUISER 1.5 VVTi VIOS / SOLUNA VIOS 1.5 VVTi WILL 1.5 VVTi 4WD YARIS, YARIS VERSO 1.5 YARIS/VITZ ECHO 1.5	06/01 - 11/12 09/09 - 09/12 03/00 - 12/05 03/01 - 03/09 08/99 - 01/06 05/04 - 07/07 04/99 - 08/05 07/04 - 07/12 12/01 - 07/02 - 08/14 09/05 - 08/10 05/03 - 07/07 - 10/02 - 10/06 03/01 - 07/05 03/00 - 01/03 - 11/05	75,00	147 096 0001 00 148 096 0001 00	IN EX	8 8	2
1NZ-FXE	1497	4	43-74 KW 58-101 PS	PRIUS 1.5 Hybrid YARIS/VITZ 1.5 Hybrid	12/97 - 03/12 -	75,00	147 096 0001 00 148 096 0001 00	IN EX	8 8	2
1SZ-FE	998	4	48-50 KW 65-68 PS	PLATZ 1.0 YARIS/VITZ ECHO 1.0	04/99 - 08/05 04/99 - 09/05	69,00	147 096 0002 00 148 096 0002 00	IN EX	8 8	3
2NZ-FE	1299	4	57-66 KW 78-90 PS	bB I 1.3 COROLLA 1.3 ECHO 1.3 IST 1.3 VVTi PLATZ 1.3 PORTE 1.3 VVTi PROBOX / SUCCEED 1.3 VVTi WILL 1.3 VVTi YARIS, YARIS VERSO 1.3	01/00 - 11/05 08/00 - 05/04 04/03 - 08/05 05/04 - 07/07 08/99 - 08/05 07/04 - 07/12 07/02 - 08/14 01/00 - 07/05 08/99 -	75,00	147 096 0001 00 148 096 0001 00	IN EX	8 8	2
4A-FE	1587	4	66-136 KW 90-185 PS	AVENSIS 1.6 COROLLA 1.6 i	09/97 - 10/00 05/87 - 10/00	81,00	147 096 0003 00 148 096 0003 00	IN EX	8 8	4
7A-FE	1762	4	78-106 KW 106-144 PS	AVENSIS 1.8	09/97 - 10/00	81,00	147 096 0003 00 148 096 0003 00	IN EX	8 8	4

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 037 0019 00	L = 88,35 D = 27,80 d = 4,97 a = 45°	S	NT			H
	EX	148 037 0018 00	L = 89,00 D = 23,50 d = 4,98 a = 45°	A	NT			
2								
	IN	147 096 0001 00	L = 89,30 D = 30,50 d = 4,98 a = 45°	S	NT			H
	EX	148 096 0001 00	L = 88,00 D = 25,50 d = 4,98 a = 45°	A	NT			
3								
	IN	147 096 0002 00	L = 88,20 D = 26,10 d = 4,99 a = 45°	S	NT			H
	EX	148 096 0002 00	L = 89,20 D = 22,60 d = 4,99 a = 45°	A	NT			
4								
	IN	147 096 0003 00	L = 87,50 D = 31,00 d = 5,98 a = 45°	S	CR			H
	EX	148 096 0003 00	L = 87,90 D = 24,50 d = 5,98 a = 45°	A	CR			

	ccm							IN/EX	QTY	Info	Pos.
B 4204 S3	1999	4	107 KW 146 PS	C30 2.0 S40 II 2.0 S80 II 2.0 V50 2.0 V70 III 2.0	10/06 - 12/12 10/06 - 12/12 01/08 - 09/12 10/06 - 12/12 10/07 - 12/11	87,50	147 021 0002 00 148 021 0002 00	IN EX	8 8		1

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 021 0002 00	L = 103,50 D = 35,00 d = 5,49 a = 45°	S	NT			H
	EX	148 021 0002 00	L = 104,80 D = 30,10 d = 5,49 a = 45°	A	NT			