

VENTILE
SOUPAPES
VÁLVULAS



Globally reliable



VALVES



V2



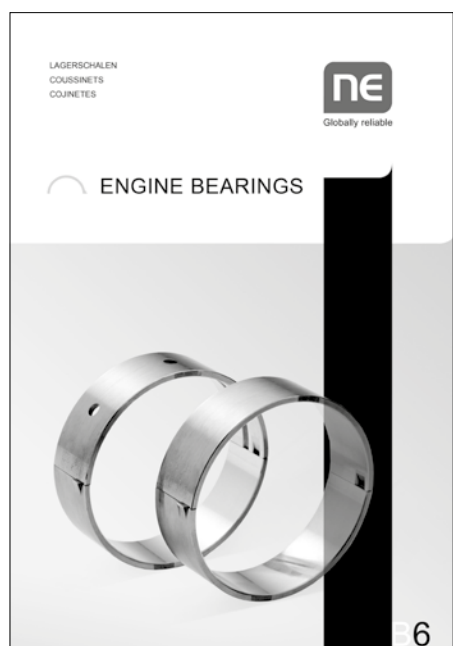
Globally reliable

V2 Valves

Einleitung	Seite	4
Introduction	page	10
Introduction	page	16
Introducción	página	22

Weitere Kataloge und Produktinformationen

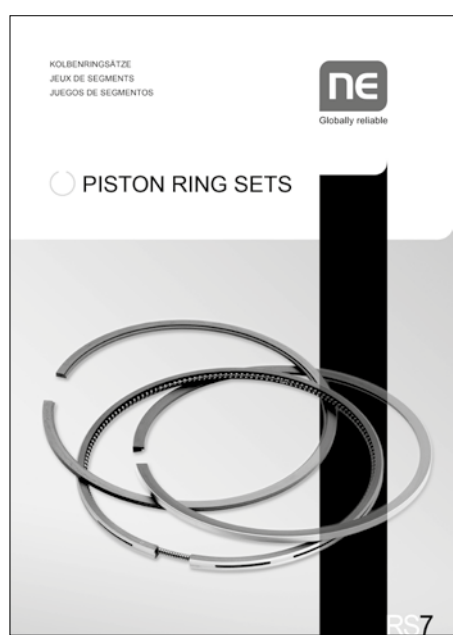
Über den vorliegenden Katalog hinaus erhalten Sie auch weitere Produkte über den Vertrieb der Firma NPR of Europe GmbH.



Katalog B6: Lagerschalen



Katalog P5: Kolben



Katalog RS7: Kolbenringsätze

Inhaltsverzeichnis

	Seite
Hinweise zum Katalog	6
Nummernschlüssel Bestellnummern	6
Fachausdrücke am Ventil	7
Hinweise zur Benutzung des Kataloges	8
Herstellerverzeichnis	9
Crossreferenzen	158
Bestimmung von Motorproblemen	176
Sicherheitsprüfung	180
Allgemeine Geschäftsbedingungen	181

Hinweise zum Katalog

Die Motorventile sind so ausgeführt, dass sie ohne jegliche Nacharbeit eingebaut werden können. Die Spezifikationen der im Satz enthaltenen Motorventile können aus der Beschreibung auf der Seite 7 entnommen werden. Namen, Beschreibungen, Referenznummern und sonstige Angaben von Fahrzeugen sowie Herstellern sind zu Vergleichszwecken angeführt. Die im Katalog aufgeführten Teile entsprechen Ersatzteilen in NE-Qualität.

Der Katalog wurde mit größter Sorgfalt erstellt und kontrolliert. Wir haften jedoch nicht für die Folgen etwaiger Irrtümer oder Auslassungen. Weiterhin behalten wir uns notwendige oder technisch vertretbare Änderungen in der Spezifikation der Motorenteile vor, da die Technologie auf dem Motorensektor einer laufenden Weiterentwicklung und Ergänzung unterliegt.

Die Auswahl an Motorventilen ist ständigen Änderungen unterworfen. Sollten Sie Motorventile suchen, die nicht in unserem Katalog aufgeführt sind, fragen Sie bitte bei unseren Mitarbeitern nach. Mit Erscheinen dieses Katalogs verlieren alle bisherigen Ausgaben ihre Gültigkeit.

Aufträge werden auf der Grundlage unserer allgemeinen Geschäftsbedingungen angenommen, die im Katalog abgedruckt sind, jederzeit im Internet eingesehen werden können und die wir Ihnen gerne zur Verfügung stellen.

Der Nachdruck oder das Kopieren dieses Katalogs ist untersagt, bildliche Darstellungen sowie der Entwurf sind urheberrechtlich geschützt.

Zertifizierung

Da wir wissen, dass sowohl unsere Produkte als auch unser Service jeder Prüfung standhalten, lassen wir uns gerne von externen Prüfern unsere Qualität bestätigen. Aus diesem Grund sind wir nach **ISO/TS 16949:2016** und nach **ISO 9001:2015** zertifiziert.

Nummernschlüssel Bestellnummern

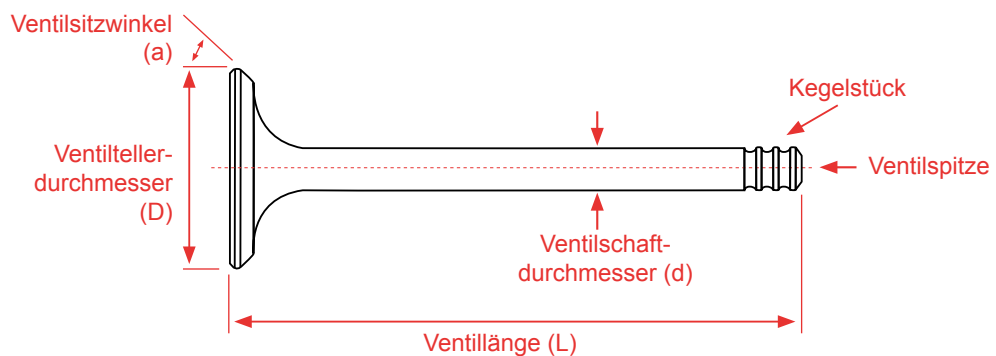
	alt		neu
Einlass-Ventil	56	→	147
Auslass-Ventil	57	→	148

Fachausdrücke am Ventil

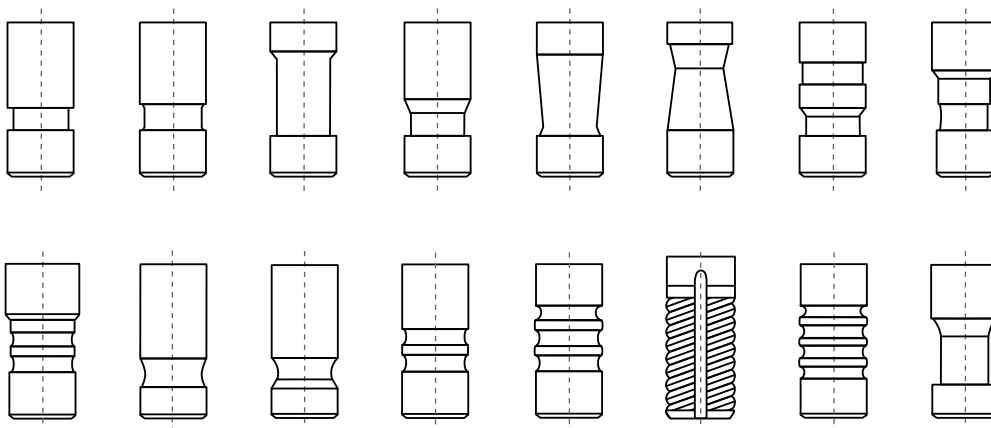
Materialspezifikation

S	Hochlegierter Chrom-Silizium-Stahl	NT	Nitriertes Ventil
A	Austenitischer Chrom-Nickel-Mangan Stahllegierung für stark beanspruchte Auslassventile	S/H	Gehärteter Ventilsitz
A/S	Bi-Metallisches Ventil	S/S	Stellit-geschweißter Ventilsitz
CR	Chrombeschichteter Ventilschaft	TH	Ventilspitze und Kegelstück gehärtet
		H	Gehärtete Ventilspitze
		TW	Geschweißte Ventilspitze

Hauptabmessungen



Kegelstück-Konstruktion



Hinweise zur Benutzung des Kataloges

Katalogteil

Zu Beginn des jeweiligen Motorenherstellers können Sie die zu Ihrem Motorcode und Fahrzeugmodell passende(n) Ventile-Artikelnummer(n) finden.

Die angegebene Positionsreihenfolge ist nach dem Bohrungsdurchmesser des Motors aufsteigend sortiert und führt Sie im späteren Kapitel zu den genaueren Produktdaten.

Motorbezeichnung (Motorcode)	Hubraum	Zylinder-Anzahl	Motorleistung	Modell	Baujahr	NE-Artikelnummer	Einbauseite	Stückzahl	Infospalte	Positionsreihenfolge
M42 B18 (184S1)	1796	4	100-103 KW 136-140 PS	3 (E30/36) 318 i, 318 is	09/89 - 12/95	84,00	147 007 0009 00 148 007 0006 00	IN EX	8 8	1
M44 B19 (194S1)	1895	4	103 KW 140 PS	3 (E36) 318 is	09/95 - 09/99	85,00	147 007 0009 00 148 007 0006 00	IN EX	8 8	1

Produktdaten

Entsprechend der Positionsreihenfolge aus dem Katalogteil finden Sie hier technische Daten und Beschreibungen zu allen relevanten Artikelnummern.

Einbauseite	Motorhersteller	NE-Artikelnummer	Ventil- abmessungen	Materialspezifikation	Ventilschaft-Beschichtung	Kegelstück-Konstruktion	Sitzbehandlung	Materialbehandlung Ventilspitze
IN/EX				Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1	IN	147 007 0009 00	L = 106,10 D = 32,90 d = 6,00 a = 45°	S				TH
	EX	148 007 0006 00	L = 105,60 D = 32,90		CR			

Positionsreihenfolge

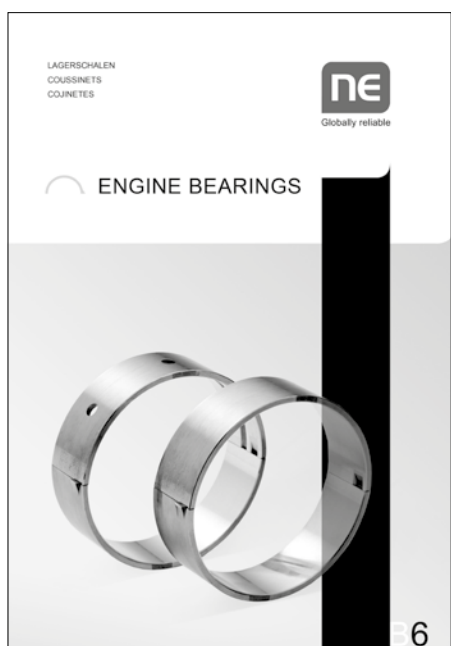
L = Ventillänge
D = Ventiltellerdurchmesser
d = Ventilschaftdurchmesser
a = Ventilsitzwinkel

Herstellerverzeichnis

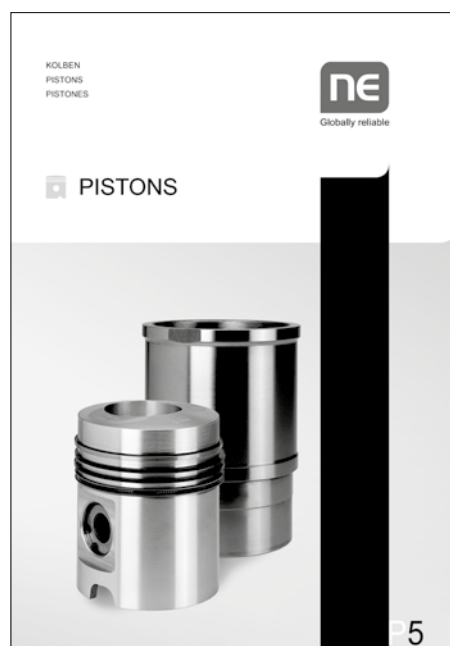
	Seite		Seite
Alfa Romeo	29	Lifan	87
Audi	32	M.A.N.	89
BMW	36	Mazda	91
Citroën	40	Mercedes-Benz	93
Daewoo - Chevrolet (GM)	45	Mitsubishi	103
Daihatsu	47	Nissan	105
DS	49	Opel	108
Fendt	51	Peugeot	115
FIAT	53	Renault	120
Ford	58	Rover	122
Geely	61	Saab	124
Great Wall	63	Seat	126
Hyundai	65	Skoda	130
Isuzu	69	Ssangyong	133
Iveco	71	Subaru	135
KHD	75	Suzuki	137
Kia	78	Toyota	139
Lancia	82	Volvo	146
Land Rover	83	VW	150
Lexus	85		

Other catalogues and product information

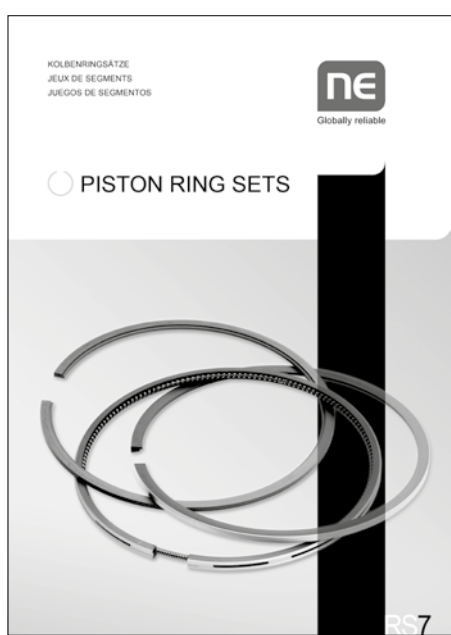
Further to the products in this catalogue NPR of Europe's sales department has also other parts at your disposal.



Catalogue B6: Engine bearings



Catalogue P5: Pistons



Catalogue RS7: Piston ring sets

Table of contents

	page
Hints to the use of this catalogue	12
Numerical code part number / order number	12
Technical terms on the valve	13
How to use this catalogue correctly	14
Index of manufacturers	15
Cross references	158
Engine trouble tracer	177
Security check	180
General Terms and Conditions	181

Hints to the use of this catalogue

The engine valves can be fitted without any reworking. The specification of the engine valves included in the kits can be found in the description on page 13. Names, descriptions, reference numbers and other data of vehicles and manufacturers are mentioned for comparison purposes only. The engine parts of this catalogue are in NE-spare part quality.

This catalogue has been compiled and controlled very carefully. Nevertheless we are not liable for any mistakes or omissions. Furthermore, we reserve the right to make technical alterations in specifications of engine parts resulting from the constant technological development in the field of engines.

The choice of engine valves offered in our catalogue is subject to constantly changing. Should you be looking for engine valves which are not mentioned in this catalogue, please ask our staff. Upon release of this catalogue all earlier versions will become invalid.

All orders are subject to our General Terms and Conditions which can be reviewed in this catalogue, on our homepage and which we will gladly put at your disposal.

It is not allowed to reprint or copy this catalogue or parts thereof. All pictures as well as the complete design are copyrighted.

Certification

As we feel sure that our products as well as our service will withstand every exam, we gladly have our quality confirmed by external auditors.

For this reason we are certified according to **ISO/TS 16949:2016** and **ISO 9001:2015**. So you may always rely on our service and the quality of our products.

Numerical code part number / order number

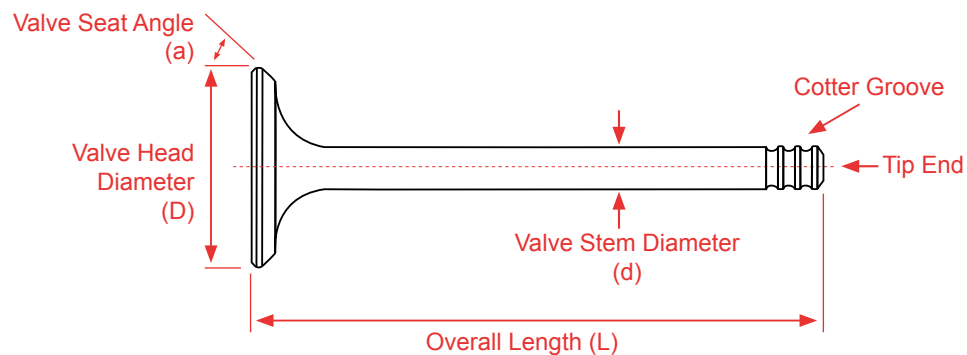
	old		new
Valve Intake	56	→	147
Valve Exhaust	57	→	148

Technical terms on the valve

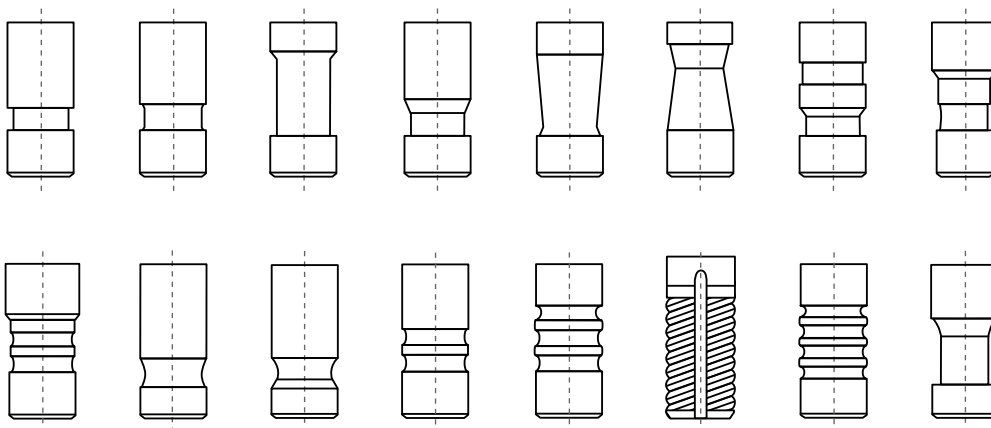
Material Specification

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

Main Dimensions



Cotter Grove Design



How to use this catalogue correctly

Catalogue part

At the beginning of the relevant engine manufacturer, you may find the valve part number (s) matching to your engine code and vehicle model. An additional note in the information column is facilitated you the exact identification of the part number(s). The position number is assorted in an alphanumeric ascending order according to the bore diameter of the engine and leads you to the correct product data on the next chapter.

engine designation (engine code)	cubic capacity of the engine	number of cylinders	power	model	year	bore	NE-number	fitting position	QTY	information	order of positions
	ccm							IN/EX		Info	Pos.
M42 B18 (184S1)	1796	4	100-103 KW 136-140 PS	3 (E30/36) 318 i, 318 is	09/89 - 12/95	84,00	147 007 0009 00 148 007 0006 00	IN EX	8 8		1
M44 B19 (194S1)	1895	4	103 KW 140 PS	3 (E36) 318 is	09/95 - 09/99	85,00	147 007 0009 00 148 007 0006 00	IN EX	8 8		1

Product data

According to the position number from the catalog part, you may find here the technical data and descriptions of all relevant part numbers.

fitting position	engine manufacturer	NE-number	valve dimension	material specification	valve stem coating	cotter design	seat treatment	tip treatment
				Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
IN/EX								
1	IN	147 007 0009 00	L = 106,10 D = 32,90 d = 6,00 a = 45°	S				TH
	EX	148 007 0006 00	L = 105,60 D = 32,90 d = 6,00 a = 45°		CR			

order of positions

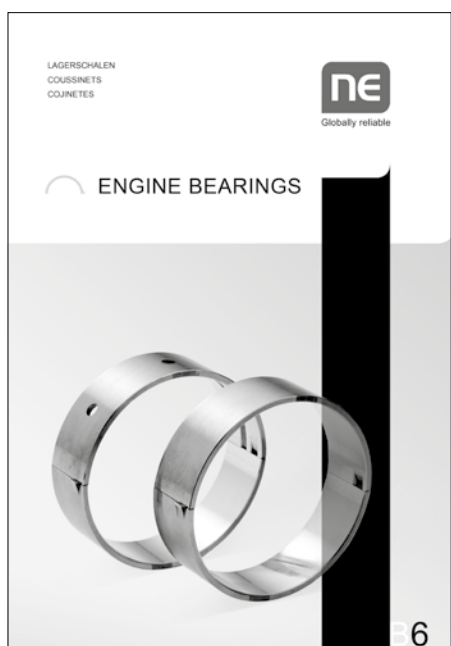
L = valve length
D = valve head diameter
d = valve stem diameter
a = valve seat angle

Index of manufacturers

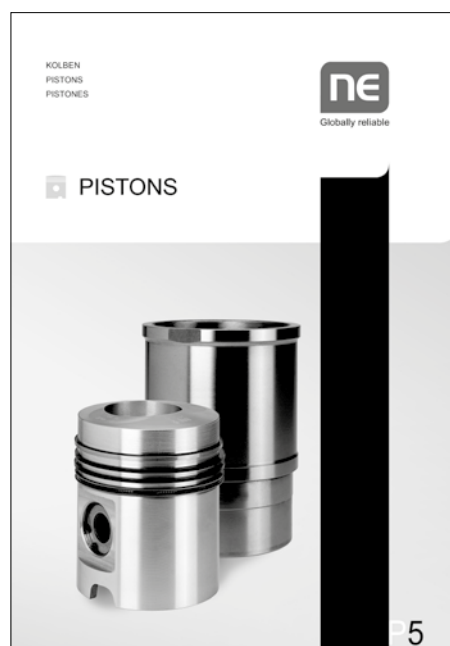
	page		page
Alfa Romeo	29	Lifan	87
Audi	32	M.A.N.	89
BMW	36	Mazda	91
Citroën	40	Mercedes-Benz	93
Daewoo - Chevrolet (GM)	45	Mitsubishi	103
Daihatsu	47	Nissan	105
DS	49	Opel	108
Fendt	51	Peugeot	115
FIAT	53	Renault	120
Ford	58	Rover	122
Geely	61	Saab	124
Great Wall	63	Seat	126
Hyundai	65	Skoda	130
Isuzu	69	Ssangyong	133
Iveco	71	Subaru	135
KHD	75	Suzuki	137
Kia	78	Toyota	139
Lancia	82	Volvo	146
Land Rover	83	VW	150
Lexus	85		

Autres catalogues et informations sur nos produits

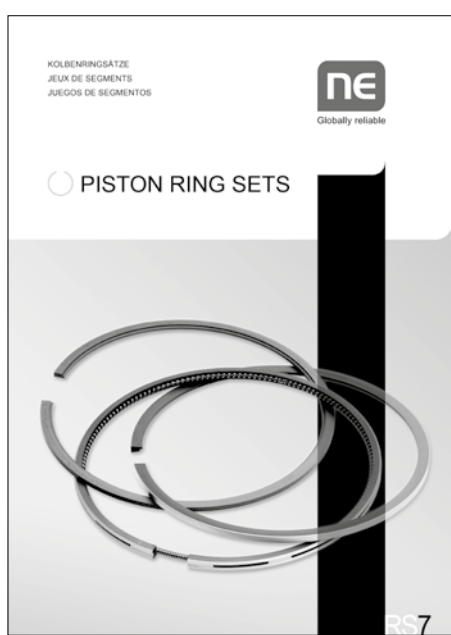
Au-delà de ce catalogue, vous pouvez également obtenir autres produits à travers le service commercial de la société NPR of Europe GmbH.



Catalogue B6: Coussinets



Catalogue P5: Pistons



Catalogue RS7: Jeux de segments

Table des matières

	page
Informations dans ce catalogue	18
Code numérique de pièce / numéro de commande	18
Termes techniques des soupapes	19
Indications sur l'utilisation du catalogue	20
Index des constructeurs	21
Tableau des correspondances	158
Indicateur de panne de moteur	178
Vérification de la sécurité	180
Conditions générales	181

Informations sur ce catalogue

Les soupapes peuvent être installés sans retouches. Vous trouvez les spécifications des soupapes à l'aide des coupes transversales et des abréviations sur la page 19. Noms, les descriptions, les numeros des références et les autres détails des véhicules et des fabricants sont cités seulement dans l'objectif de trouver la comparaison. Les pièces figurant dans le catalogue correspondent aux pièces détachées de la qualité-NE.

Le catalogue a été créé avec beaucoup de soin et de contrôle. Nous ne sommes pas responsables des conséquences de toute erreur ou omission. Nous nous réservons également les changements nécessaires technique ou en matière de la spécification des soupapes car la technologie est soumise a un développement continu.

Si vous êtes à la recherche des soupapes qui ne figurent-pas dans notre catalogue, merci de contacter notre service commercial. Ce catalogue annule et remplace toutes les éditions précédentes.

Les commandes sont acceptées sous réserve de nos termes et conditions de vente, qui peuvent être consultés à tout moment sur Internet et qu'on met à votre disposition.

La reproduction ou la copie de ce catalogue est interdite, les images graphiques ainsi que la conception sont protégés.

Certification

Puisque nous savons que nos produits et notre service résistent à tous les tests, on laisse confirmer notre qualité par des auditeurs externes.

Nous sommes certifiés selon normes **ISO/TS 16949:2016** et **ISO 9001:2015**.

Clé numérique des références

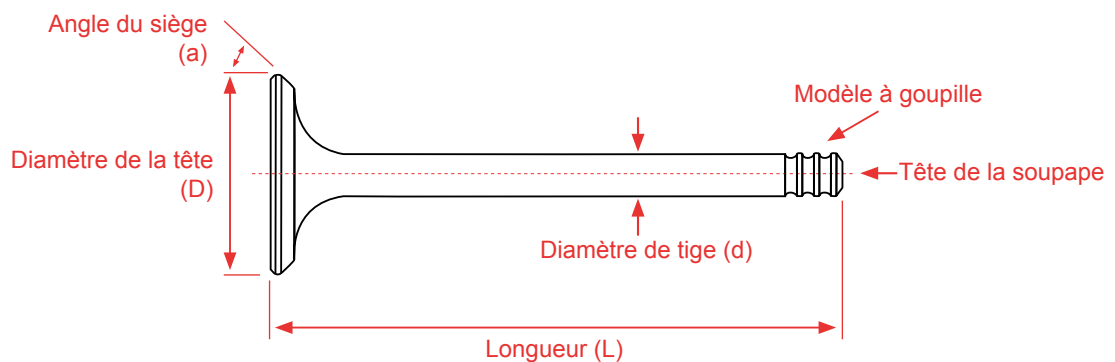
	ancienne		nouvelle
Soupape d'admission	56	→	147
Soupape d'échappement	57	→	148

Termes techniques sur les soupapes

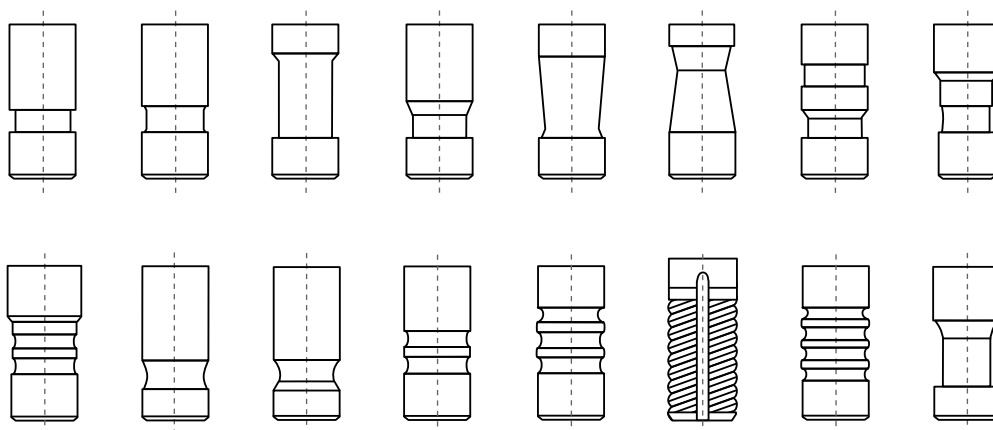
Spécification matérielle

S	Acier au chrome-silicium fortement allié	NT	Soupape laminée au tufride
A	Acier austénitique chrome-manganèse-nickel pour applications à hautes contraintes mécaniques	S/H	Siège de soupape trempé
A/S	Soupape bimétallique	S/S	Siège soudé en alliage stellité
CR	Tige de soupape chromée	TH	Tête de la soupape et goupille trempé
		H	Tête de la soupape en alliage trempé
		TW	Tête soudée en alliage

Dimensions principales



Modèle à goupille



Indications sur l'utilisation du catalogue

La partie catalogue

Au début de chaque chapitre (Constructeur de moteur), vous pouvez trouver facilement la Référence du soupape qui correspond à votre code du moteur et le type de véhicule recherché.

L'ordre des positions spécifié est trié par ordre croissant en fonction du diamètre d'alésage du moteur et vous conduit aux types de Produits plus précis dans le chapitre suivant.

code du moteur	cylindrée du moteur			nombre de cylindres	puissance	modèle	année de fabrication	alésage	référence NE	ordre de position		
	ccm								IN/EX	QTY	Info	Pos
M42 B18 (184S1)	1796	4	100-103 KW 136-140 PS	3 (E30/36) 318 i, 318 is		09/89 - 12/95	84,00	147 007 0009 00 148 007 0006 00	IN EX	8 8		1
M44 B19 (194S1)	1895	4	103 KW 140 PS	3 (E36) 318 is		09/95 - 09/99	85,00	147 007 0009 00 148 007 0006 00	IN EX	8 8		1

Données sur le produit

Selon l'ordre des positions dans le catalogue vous trouvez les données techniques et les descriptions de toutes les références.

côté montage	constructeur de moteur	référence NE	dimension de soupape	spécification matérielle	revêtement de tige de soupape	construction de cône	traitement de soupape à siège	traitement pointe de soupape
				Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1	IN	147 007 0009 00	L = 106,10 D = 32,90 d = 6,00 a = 45°	S				TH
	EX	148 007 0006 00	L = 105,60 D = 32,90 d = 6,00 a = 45°		CR			

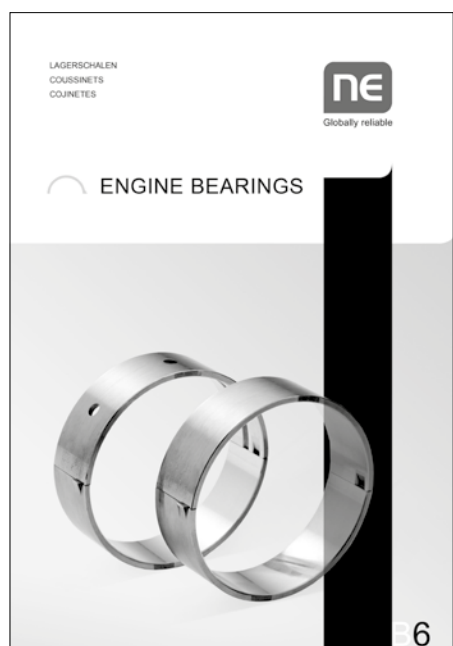
L = longueur de la soupape
 D = diamètre de la tête du soupape
 d = diamètre de tige du soupape
 a = angle du siège du soupape

Index des constructeurs

	page		page
Alfa Romeo	29	Lifan	87
Audi	32	M.A.N.	89
BMW	36	Mazda	91
Citroën	40	Mercedes-Benz	93
Daewoo - Chevrolet (GM)	45	Mitsubishi	103
Daihatsu	47	Nissan	105
DS	49	Opel	108
Fendt	51	Peugeot	115
FIAT	53	Renault	120
Ford	58	Rover	122
Geely	61	Saab	124
Great Wall	63	Seat	126
Hyundai	65	Skoda	130
Isuzu	69	Ssangyong	133
Iveco	71	Subaru	135
KHD	75	Suzuki	137
Kia	78	Toyota	139
Lancia	82	Volvo	146
Land Rover	83	VW	150
Lexus	85		

Otros catálogos e información acerca de nuestros productos

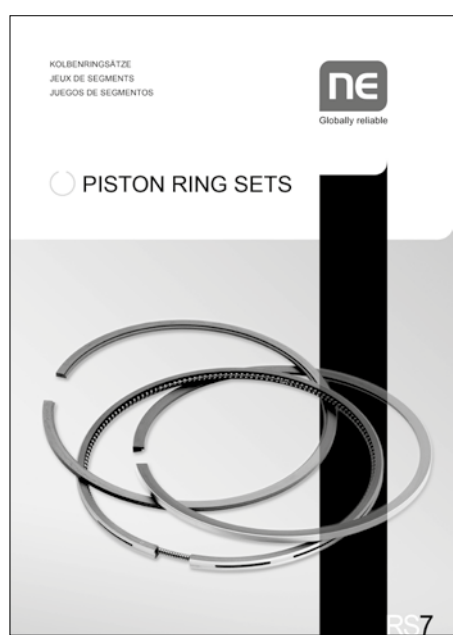
Además de los productos del presente catálogo, NPR of Europe posee otras piezas de motor a su disposición.



Catálogo B6: Cojinetes



Catálogo P5: Pistones



Catálogo RS7: Juegos de segmentos

Tabla de contenidos

	página
Indicaciones para el uso del catálogo	24
Código numérico de las piezas	24
Terminología técnica de válvulas	25
Como utilizar correctamente este catálogo	26
Índice de fabricantes	27
Tabla de referencias cruzadas	158
Indicador problemas de motor	179
Verificación de seguridad y genuinidad	180
Condiciones generales de contratación	181

Indicaciones para el uso del catálogo

Nuestras válvulas son suministradas listas para el montaje y fueron producidas de modo que no es necesario ningún retoque. Las especificaciones técnicas de las válvulas pueden ser consultadas en las aclaraciones de la página 25. Los nombres, descripciones, número de referencias, información pertinente de vehículos, como así de fabricantes son indicados solo a modo de comparación. Las piezas de motor contenidas en este catálogo poseen calidad NE.

Este catálogo fue elaborado y controlado con suma diligencia. No asumimos responsabilidad por la exactitud u omisión de los datos aquí brindados. Nos reservamos el derecho de realizar modificaciones en las especificaciones técnicas de las piezas de motor debido a la velocidad que impera en el desarrollo e innovación constante en el sector automotriz.

El repertorio de válvulas sufre constantes cambios. Si no encuentra en este catálogo la válvula precisada por favor consulte a nuestro staff. Con la publicación de este catálogo pierden validez los catálogos publicados con anterioridad.

Todas las órdenes de pedidos son aceptadas bajo nuestras Condiciones Generales de Contratación, las cuales están impresas en el presente catálogo, pueden ser también consultadas en nuestra página Web, puestas todo tiempo a su disposición.

La copia y/o reproducción total o parcial de este catálogo está prohibida, las imágenes y diseños están protegidos por las leyes de propiedad intelectual.

Certificación

Como sabemos que nuestros productos y también nuestro servicio se mantienen firmes en cada examinación, permitimos que auditores externos certifiquen nuestra calidad. Nuestra gestión de calidad está certificada según normas **ISO 9001:2015**. Asimismo nuestros clientes fabricantes de vehículos nos han llevado a cumplir requisitos extras para proveer a sus terminales automotrices y por ello poseemos la certificación **ISO/TS 16949:2016**.

Código numérico de las piezas

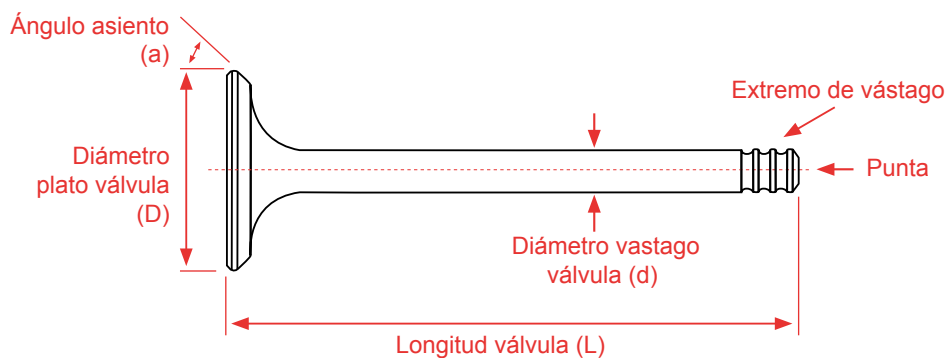
	antiguo		nuevo
Válvula de admisión	56	→	147
Válvula de escape	57	→	148

Terminología técnica de válvulas

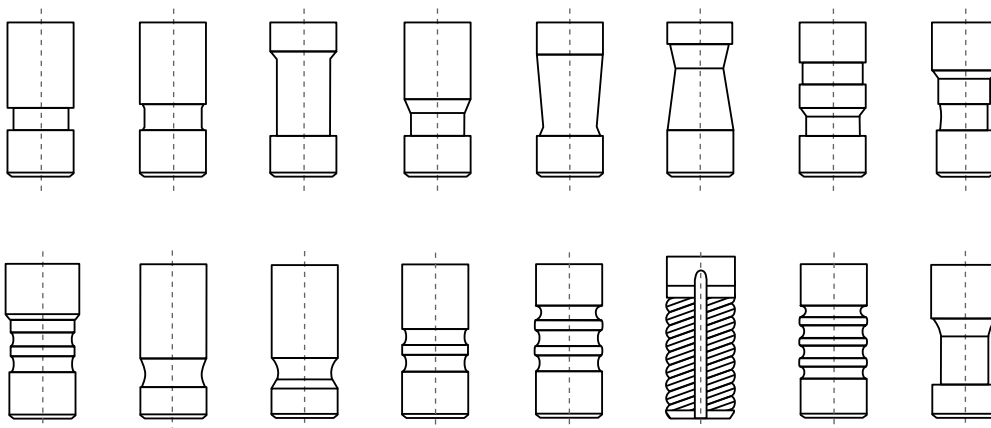
Revestimientos y tratamiento de superficies

S	Acero de alta aleación cromo-silicio	NT	Válvula nitrurada
A	Acero austenítico cromo-manganeso-níquel	S/H	Asiento de válvula endurecido
A/S	Válvula bimetálica	S/S	Asiento de estelite
CR	Capa de cromo sobre el vástago	TH	Punta y la claveta endurecida
		H	Punta de válvula endurecida
		TW	Punta de estelite

Denominaciones en una válvula



Modelos de extremo de vástago



Como utilizar correctamente este catálogo

Partes del catálogo

Al comienzo de cada capítulo dedicado a un fabricante de motor usted encontrará la referencia número de válvula correspondiente a código de motor y modelo. Otros datos en las columnas de información le facilitarán la identificación exacta de la referencia. El orden de posición en cada capítulo se rige por el criterio de diámetro del cilindro en forma ascendente, el cual en los capítulos posteriores le guiará a los datos del producto.

denominación del motor (código de motor)	desplazamiento del motor	cantidad de cilindros	potencia	modelo	año de construcción	diámetro	referencia NE	Posición de montaje	unidad embalada	información	Pos.
	ccm							IN/EX	QTY	Info	Pos.
M42 B18 (184S1)	1796	4	100-103 KW 136-140 PS	3 (E30/36) 318 i, 318 is	09/89 - 12/95	84,00	147 007 0009 00 148 007 0006 00	IN EX	8 8		1
M44 B19 (194S1)	1895	4	103 KW 140 PS	3 (E36) 318 is	09/95 - 09/99	85,00	147 007 0009 00 148 007 0006 00	IN EX	8 8		1

Datos del producto

De acuerdo al orden de posición en la parte del catálogo, usted encontrará los datos técnicos y las descripciones relevantes al número de la referencia.

posición de montaje	fabricante del motor	referencia NE	dimension válvula	especificaciones del material	revestimiento del vástago de la válvula	diseño de la chaveta	tratamiento del asiento	Tratamiento de la punta
				Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1	IN	147 007 0009 00	L = 106,10 D = 32,90 d = 6,00 a = 45°	S				TH
	EX	148 007 0006 00	L = 105,60 D = 32,90		CR			

L = longitud válvula
 D = diámetro plato válvula
 d = diámetro vástago válvula
 a = ángulo asiento válvula

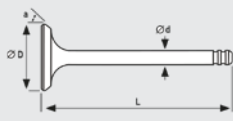
Índice de fabricantes

	página		página
Alfa Romeo	29	Lifan	87
Audi	32	M.A.N.	89
BMW	36	Mazda	91
Citroën	40	Mercedes-Benz	93
Daewoo - Chevrolet (GM)	45	Mitsubishi	103
Daihatsu	47	Nissan	105
DS	49	Opel	108
Fendt	51	Peugeot	115
FIAT	53	Renault	120
Ford	58	Rover	122
Geely	61	Saab	124
Great Wall	63	Seat	126
Hyundai	65	Skoda	130
Isuzu	69	Ssangyong	133
Iveco	71	Subaru	135
KHD	75	Suzuki	137
Kia	78	Toyota	139
Lancia	82	Volvo	146
Land Rover	83	VW	150
Lexus	85		



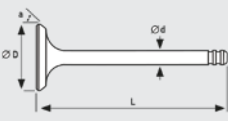
Globally reliable

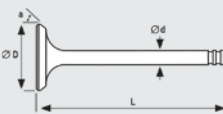
	ccm							IN/EX	QTY	Info	Pos.
350 A1.000	1368	4	57 KW 78 PS	MITO 1.4	03/11 - 10/18	72,00	147 020 0003 00 148 020 0003 00	IN EX	4 4		1
839 A6.000	2387	5	103 KW 140 PS	156, 166 2.4 JTD	10/00 - 06/07	82,00	147 020 0007 00 148 020 0007 00	IN EX	5 5		2
841 C000	2387	5	110 KW 150 PS	156, 166 2.4 JTD	03/02 - 06/07	82,00	147 020 0007 00 148 020 0007 00	IN EX	5 5		2
939 A4.000	1796	4	103 KW 140 PS	159 1.8 MPI	03/07 - 11/11	80,50	147 309 0001 00 148 309 0001 00	IN EX	8 8		3
AR 32501	2387	5	100 KW 136 PS	156 2.4 JTD	05/00 - 09/03	82,00	147 020 0007 00 148 020 0007 00	IN EX	5 5		2
AR 34202	2387	5	100 KW 136 PS	166 2.4 JTD	09/98 - 10/00	82,00	147 020 0007 00 148 020 0007 00	IN EX	5 5		2

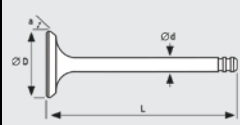
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 020 0003 00	L = 100,00 D = 33,20 d = 5,00 a = 45°	S	CR			TH
	EX	148 020 0003 00	L = 100,50 D = 28,00 d = 5,00 a = 45°	A/S	CR			TH
2								
	IN	147 020 0007 00	L = 115,00 D = 35,50 d = 8,00 a = 45°	A/S	CR			TH
	EX	148 020 0007 00	L = 115,00 D = 34,50 d = 8,00 a = 45°	A/S	CR			TH
3								
	IN	147 309 0001 00	L = 113,80 D = 31,20 d = 5,00 a = 45°	S	CR		S/H	TH
	EX	148 309 0001 00	L = 113,15 D = 27,50 d = 5,00 a = 45°	A/S	CR		S/S	TH

	ccm						IN/EX	QTY	Info	Pos.
ADP, AEH, AHL, AKL, ANA, APF, ARM	1595	4	74 KW 101 PS	A3, A4 1.6	11/94 - 05/03	81,00	147 050 0006 00 148 050 0010 00	IN EX	4 4	3
AMF, ATL, BHC	1422	3	55-66 KW 75-90 PS	A2 1.4 TDI	02/00 - 08/05	79,50	147 050 0028 00 148 050 0019 00	IN EX	3 3	13
AUA, BBY	1390	4	55 KW 75 PS	A2 1.4	02/00 - 08/05	76,50	147 050 0001 00 148 050 0001 00	IN EX	8 8	1
AWA	1984	4	110 KW 150 PS	A4 2.0 FSI	07/02 - 07/05	82,50	147 050 0024 00	IN	8	6
AXR	1896	4	74 KW 100 PS	A3 1.9 TDI	10/00 - 05/03	79,50	147 050 0028 01 148 050 0019 01	IN EX	4 4	14
AXW, BLR, BLX, BLY, BVY, BVZ	1984	4	110 KW 150 PS	A3 2.0 FSI	05/03 - 11/08	82,50	147 050 0024 00	IN	8	6
BAD	1598	4	81 KW 110 PS	A2 1.6 FSI	05/02 - 08/05	76,50	147 050 0001 00 148 050 0001 00	IN EX	8 8	1
BAG, BLF, BLP	1598	4	85 KW 115 PS	A3 1.6 FSI A3 Sportback 1.6 FSI	08/03 - 09/07 09/04 - 09/07	76,50	147 050 0001 00 148 050 0001 00	IN EX	8 8	1
BHZ, BZC	1984	4	195 KW 265 PS	S3 quattro	11/06 - 03/13	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	11
BKN	2967	6	150 KW 204 PS	A4 3.0 TDI quattro	11/04 - 03/09	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	7
BMB	1984	4	110 KW 150 PS	A3 2.0 FSI	05/03 - 06/08	82,50	147 050 0024 00	IN	8	6
BMC	4134	8	235 KW 320 PS	A8 4.2 TDI quattro	01/05 - 06/05	83,00	147 050 0025 01 148 050 0018 01	IN EX	16 16	10
BMK	2967	6	165 KW 224 PS	A6 3.0 TDI quattro	05/04 - 05/06	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	7
BNG	2967	6	155 KW 211 PS	A6 3.0 TDI quattro A8 3.0 TDI quattro	05/04 - 08/11 11/03 - 07/10	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	7
BSG, BPP	2698	6	120-132 KW 163-180 PS	A4 / A6 2.7 TDI	11/04 - 08/11	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	7
BTR	4134	8	240 KW 326 PS	Q7 4.2 TDI quattro	03/07 - 06/08	83,00	147 050 0025 01 148 050 0018 01	IN EX	16 16	10
BUG	2967	6	171 KW 232 PS	Q7 3.0 TDI quattro	03/06 - 05/08	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	8
BUN, CASB	2967	6	155 KW 211 PS	Q7 3.0 TDI quattro TOUAREG 3.0 TDI	03/06 - 05/10 04/06 - 05/10	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	8
BVN	4134	8	240 KW 326 PS	A8 4.2 TDI quattro	07/05 - 07/10	83,00	147 050 0025 01 148 050 0018 01	IN EX	16 16	10
BWA, AXX	1984	4	147 KW 200 PS	A3 (8P1) 2.0 TFSI A3 (8P1) 2.0 TFSI quattro A3 Sportback (8PA) 2.0 TFSI A3 Sportback (8PA) 2.0 TFSI quattro	09/04 - 08/12 09/04 - 08/12 09/04 - 09/04 - 09/04 -	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	11
CAGA	1968	4	105 KW 143 PS	A4 2.0 TDI A5 Sportback 2.0 TDI Q5 2.0 TDI quattro	11/07 - 05/16 09/09 - 01/17 08/09 - 05/13	81,00	147 050 0018 00 148 050 0011 00	IN EX	8 8	4
CAGB	1968	4	100 KW 136 PS	A4 2.0 TDI A5 Sportback 2.0 TDI A6 2.0 TDI Q5 2.0 TDI quattro	11/07 - 05/16 09/09 - 01/17 07/04 - 08/11 08/09 - 05/17	81,00	147 050 0018 00 148 050 0011 00	IN EX	8 8	4
CAGC	1968	4	88 KW 120 PS	A4 2.0 TDI	06/08 - 12/15	81,00	147 050 0018 00 148 050 0011 00	IN EX	8 8	4
CAPA	2967	6	176 KW 240 PS	A4 3.0 TDI quattro A5 3.0 TDI quattro	11/07 - 03/12 06/07 - 03/12	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	8
CASA	2967	6	176 KW 240 PS	Q7 3.0 TDI quattro TOUAREG 3.0 V6 TDI	11/07 - 08/15 11/07 - 03/18	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	8
CATA	2967	6	165 KW 224 PS	Q7 3.0 TDI quattro	06/09 - 05/12	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	7
CAXA, CNVA	1390	4	90 KW 122 PS	A1 1.4 TFSI A1 Sportback 1.4 TFSI	05/10 - 11/11 -	76,50	147 050 0001 00 148 050 0001 00	IN EX	8 8	1
CAXC, CMSA	1390	4	92 KW 125 PS	A3 / S3 1.4 TFSI A3 1.4 TFSI A3 Cabriolet 1.4 TFSI A3 Sportback 1.4 TFSI	09/09 - 08/12 09/07 - 08/12 02/11 - 05/13 09/07 - 03/13	76,50	147 050 0001 00 148 050 0001 00	IN EX	8 8	1
CBZA	1197	4	63 KW 86 PS	A1 1.2 TFSI A1 Sportback 1.2 TFSI	05/10 - 04/15 01/12 - 04/15	71,00	147 050 0023 00 148 050 0016 00	IN EX	4 4	5
CBZB	1197	4	77 KW 105 PS	A3 1.2 TSI	03/10 - 05/13	71,00	147 050 0023 00 148 050 0016 00	IN EX	4 4	5
CCFA, CCFC	4134	8	250 KW 340 PS	Q7 4.2 TDI quattro	03/07 - 08/15	83,00	147 050 0025 01	IN	16	9
CCWA	2967	6	176 KW 240 PS	A4 3.0 TDI quattro A5 3.0 TDI quattro Q5 3.0 TDI quattro	11/07 - 03/12 03/09 - 03/12 11/08 - 04/13	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	8
CCWB	2967	6	155 KW 211 PS	A4 3.0 TDI quattro A5 3.0 TDI quattro Q5 3.0 TDI quattro	06/08 - 05/10 03/08 - 05/10 11/08 - 09/12	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	8
CDLA	1984	4	195 KW 265 PS	S3 quattro TT 2.0 TTS quattro	11/06 - 03/13 05/08 - 06/14	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	11

	ccm						IN/EX	QTY	Info	Pos.
CJZA	1197	4	77 KW 105 PS	A3 1.2 TFSI	02/13 -	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	2
CYVB	1197	4	81 KW 110 PS	A3 1.2 TFSI	05/14 -	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	2
DAXB, DJYA	1984	4	185 KW 252 PS	Q5 2.0 TFSI quattro	06/16 -	82,50	147 050 0027 00	IN	8	12
DAXC	1984	4	183 KW 249 PS	Q5 2.0 TFSI quattro	01/17 - 11/20	82,50	147 050 0027 00	IN	8	12
DAYB	1984	4	185 KW 252 PS	Q5 2.0 TFSI quattro	06/16 -	82,50	147 050 0027 00	IN	8	12
DGKB, DNTA	1984	4	180 KW 245 PS	Q5 45 TFSI Mild Hybrid quattro	12/18 -	82,50	147 050 0027 00	IN	8	12
DNJA	1984	4	162 KW 220 PS	TIGUAN ALLSPACE 2.0 TSI 4motion	07/17 -	82,50	147 050 0027 00	IN	8	12

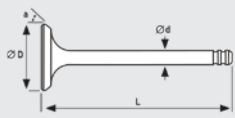
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 050 0001 00	L = 101,00 D = 29,50 d = 6,00 a = 45°	S				TH
	EX	148 050 0001 00	L = 100,60 D = 26,00 d = 6,00 a = 45°	A/S				TH
2								
	IN	147 050 0005 00	L = 110,15 D = 26,50 d = 5,00 a = 45°	S				H
	EX	148 050 0024 00	L = 110,10 D = 23,50 d = 5,00 a = 30°	A/S	CR			
3								
	IN	147 050 0006 00	L = 91,90 D = 39,40 d = 7,00 a = 45°	S			S/H	TH
	EX	148 050 0010 00	L = 91,00 D = 33,00 d = 7,00 a = 45°	A/S	CR			TH
4								
	IN	147 050 0018 00	L = 99,20 D = 28,00 d = 6,00 a = 45°	S			S/H	TH
	EX	148 050 0011 00	L = 99,20 D = 26,00 d = 6,00 a = 45°	A/S			S/S	TH
5								
	IN	147 050 0023 00	L = 98,60 D = 35,50 d = 6,00 a = 45°	S			S/H	TH
	EX	148 050 0016 00	L = 98,40 D = 30,00 d = 6,00 a = 45°	A/S	CR			TH

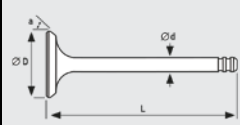
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 050 0024 00	L = 104,10 D = 33,90 d = 6,00 a = 45°	S				TH
7								
	IN	147 050 0025 00	L = 99,35 D = 28,60 d = 6,00 a = 45°	S				TH
	EX	148 050 0018 00	L = 99,35 D = 26,70 d = 6,00 a = 45°	A/S				TH
8								
	IN	147 050 0025 00	L = 99,35 D = 28,60 d = 6,00 a = 45°	S				TH
	EX	148 050 0018 00	L = 99,35 D = 26,70 d = 6,00 a = 45°	A/S				TH
9								
	IN	147 050 0025 01	L = 99,35 D = 28,60 d = 6,00 a = 45°	S				TH
10								
	IN	147 050 0025 01	L = 99,35 D = 28,60 d = 6,00 a = 45°	S				TH
	EX	148 050 0018 01	L = 99,35 D = 26,70 d = 6,00 a = 45°	A/S				TH
11								
	IN	147 050 0026 00	L = 103,95 D = 33,80 d = 6,00 a = 45°	S	CR			TH
	EX	148 050 0017 00	L = 102,00 D = 28,00 d = 6,00 a = 45°	A/S	CR			TH

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
12								
	IN	147 050 0027 00	L = 104,00 D = 33,85 d = 6,00 a = 45°					
13								
	IN	147 050 0028 00	L = 89,50 D = 36,00 d = 7,00 a = 45°	S				TH
	EX	148 050 0019 00	L = 89,00 D = 31,50 d = 7,00 a = 45°	A/S				TH
14								
	IN	147 050 0028 01	L = 89,50 D = 36,00 d = 7,00 a = 45°	S				TH
	EX	148 050 0019 01	L = 89,00 D = 31,50 d = 7,00 a = 45°	A/S				TH

	ccm						IN/EX	QTY	Info	Pos.
M42 B18 (184S1)	1796	4	100-103 KW 136-140 PS	3 (E30/36) 318 i, 318 is	09/89 - 12/95	84,00	147 007 0009 00 148 007 0006 00	IN EX	8 8	4
M43 B16 (164E2)	1596	4	75 KW 102 PS	3 (E36) 316 i	09/93 - 98/00	84,00	147 007 0002 00 148 007 0002 00	IN EX	4 4	2
M43 B16 (164E3)	1596	4	77 KW 105 PS	3 (E46) 316 i, 316 Ci	04/00 - 07/06	84,00	147 007 0002 00 148 007 0002 00	IN EX	4 4	2
M43 B18 (184E2)	1796	4	85 KW 115 PS	3 (E36) 318 i 5 (E34) 518 i Z3 (E36) 1.8 i	09/93 - 04/99 05/94 - 07/96 10/95 - 10/98	84,00	147 007 0002 00 148 007 0002 00	IN EX	4 4	2
M43 B19 (194E1)	1895	4	77-87 KW 105-118 PS	3 (E36) 318 i 3 (E46) 318 i, 318 Ci Z3 (E36) 1.9 i	01/99 - 08/00 12/97 - 02/02 07/98 - 01/03	85,00	147 007 0002 00 148 007 0002 00	IN EX	4 4	2
M44 B19 (194S1)	1895	4	103 KW 140 PS	3 (E36) 318 is	09/95 - 09/99	85,00	147 007 0009 00 148 007 0006 00	IN EX	8 8	4
M47 D20 (204D1)	1951	4	85-100 KW 115-129 PS	3 (E46) 318d, 320d 5 (E39) 520 d	02/98 - 03/03 02/00 - 09/03	84,00	147 007 0010 00 148 007 0010 00	IN EX	8 8	6
M47 D20 (204D4)	1995	4	85-120 KW 115-163 PS	1 (E87) 118d, 120d 3 (E46) 318d, 18td, 320d, 320 Cd, 320td 3 (E90) 318d, 320d 3 (E91) 318d, 320d 5 (E60) 520 d 5 (E61) 520 d X3 (E83) 2.0 d	06/04 - 06/11 09/01 - 05/05 12/04 - 10/11 12/04 - 06/12 09/05 - 12/09 04/05 - 05/10 09/04 - 08/07	84,00	147 007 0010 00 148 007 0010 00	IN EX	8 8	6
M52 B25 (256S3), M52 B25 (256S4)	2494	6	120-125 KW 163-170 PS	3 (E36) 323 i, 323 ti 3 (E46) 323 i, 323 Ci 5 (E39) 523 i	05/95 - 08/00 03/98 - 12/00 09/95 - 08/00	84,00	147 007 0009 01 148 007 0006 01	IN EX	12 12	5
M52 B28 (286S1), M52 B28 (286S2)	2793	6	142-143 KW 193-194 PS	3 (E36) 328 i 3 (E46) 328 i 5 (E39) 528 i 7 (E38) 728 i, iL, 728i X Z3 (E36) 2.8 i	01/95 - 11/99 02/98 - 06/00 09/95 - 08/00 08/95 - 11/01 01/96 - 07/00	84,00	147 007 0009 01 148 007 0006 01	IN EX	12 12	5
M54 B25 (256S5)	2494	6	137-141 KW 186-192 PS	3 (E46) 325 Ci, 325 i, 325 xi, 325 ti 5 (E39) 525 i 5 (E60) 525 i 5 (E61) 525 i X3 (E83) 2.5 i Z3 (E36) 2.5 i Z4 (E85) 2.5 i Z4 (E86) 2.5 i	09/00 - 08/06 09/00 - 06/03 09/03 - 02/05 06/04 - 12/10 03/04 - 07/06 10/00 - 02/02 12/02 - 12/05 11/06 - 04/08	84,00	147 007 0009 01 148 007 0006 01	IN EX	12 12	5
M54 B30 (306S3)	2979	6	168-170 KW 228-231 PS	3 (E46) 330 i, 330 Ci, 330 Xi	06/00 - 08/06	84,00	147 007 0009 01 148 007 0006 01	IN EX	12 12	5
M54 B30 (306S3)	2979	6	170 KW 231 PS	5 (E39) 530 i 5 (E60) 530 i 7 (E65, E66, E67) 730 i, Li X3 (E83) 3.0 i xDrive X5 (E53) 3.0 i Z3 (E36) 3.0 i Z4 (E85) 3.0 i	09/00 - 12/03 12/01 - 02/05 03/03 - 07/08 09/03 - 07/06 04/00 - 10/06 06/00 - 06/03 12/02 - 12/05	84,00	147 007 0009 01 148 007 0006 01	IN EX	12 12	5
M57 D25 (256D1)	2497	6	120 KW 163 PS	5 (E39) 525 d	02/00 - 05/04	80,00	147 007 0010 01 148 007 0010 01	IN EX	12 12	7
M57 D25 (256D2)	2497	6	120-130 KW 163-177 PS	5 (E60) 525 d 5 (E61) 525 d	06/04 - 03/10 03/04 - 03/07	80,00	147 007 0010 01 148 007 0010 01	IN EX	12 12	7
M57 D30 (306D2)	2993	6	150 KW 204 PS	3 (E46) 330d, 330xd, 330Cd 5 (E60) 530d 5 (E61) 530d 7 (E65, E66, E67) 730d X3 (E83) 3.0 d X5 (E53) 3.0 d	08/02 - 12/07 09/02 - 12/09 03/04 - 05/10 06/02 - 08/08 01/04 - 08/05 10/03 - 09/06	84,00	147 007 0010 01 148 007 0010 01	IN EX	12 12	7
M57 D30 (306D3)	2993	6	145-173 KW 197-235 PS	3 (E90) 325d, 330d, 330xd 3 (E91) 325d, 330d, 330xd 3 (E92) 325d, 330d, 330xd 3 (E93) 325d, 330d 5 (E60) 525d, 525d xDrive, 525xd, 530d, 530d xDrive, 530xd 5 (E61) 525d, 525d xDrive, 525xd, 530d, 530d xDrive, 530xd 7 (E65, E66, E67) 730d, 730Ld X3 (E83) 3.0d, xDrive 30d X5 (E70) 3.0d, xDrive 30d X6 (E71, E72) xDrive 30d	09/05 - 12/11 12/04 - 06/12 03/06 - 02/10 03/07 - 12/13 09/02 - 03/10 03/04 - 05/10 09/03 - 08/08 09/05 - 08/10 12/06 - 07/13 04/08 - 03/10	84,00	147 007 0010 01 148 007 0010 01	IN EX	12 12	7
M57 D30 (306D4)	2993	6	200 KW 272 PS	5 (E60) 535d 5 (E61) 535 d	09/04 - 03/10 09/04 - 12/10	84,00	147 007 0010 01 148 007 0010 01	IN EX	12 12	7

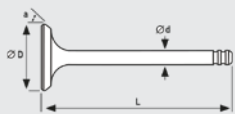
	ccm						IN/EX	QTY	Info	Pos.
M57 D30 (306D5)	2993	6	210 KW 286 PS	3 (E90) 335 d 3 (E91) 335 d 3 (E92) 335 d 5 (E60) 535 d 5 (E61) 535 d 6 (E63) 635 d 6 (E64) 635 d X3 (E83) 3.0 sd, xDrive 35 d X5 (E70) 3.0 sd X6 (E71, E72) xDrive 35 d	09/06 - 12/11 09/06 - 06/12 03/06 - 03/13 01/07 - 03/10 01/07 - 12/10 07/07 - 07/10 07/07 - 07/10 09/06 - 08/11 10/07 - 07/13 01/08 - 03/10	84,00	147 007 0010 01 148 007 0010 01	IN EX	12 12	7
M73 B54	5379	12	240 KW 326 PS	7 (E38) 750 i, iL 8 (E31) 850 Ci	11/94 - 07/01 09/94 - 12/99	85,00	147 007 0003 00 148 007 0003 00	IN EX	12 12	3
N12 B14 A	1397	4	55-70 KW 75-95 PS	MINI (R56) / MINI CLUBMAN (R55) One	11/06 - 03/10	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8	8
N16 B16 A	1598	4	55-75 KW 90-122 PS	MINI (R56) One, Cooper MINI Cabriolet (R57) One, Cooper MINI CLUBMAN (R55) One, Cooper MINI CLUBVAN (R55) One, Cooper MINI COUNTRYMAN (R60) One, Cooper MINI Coupe (R58) Cooper MINI PACEMAN (R61) Cooper, Cooper ALL4 MINI Roadster (R59) Cooper	09/06 - 11/13 12/08 - 06/15 10/07 - 06/14 12/12 - 06/14 08/10 - 10/16 12/10 - 05/15 04/12 - 09/16 11/11 - 04/15	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8	8
N47 C16 A	1598	4	66-82 KW 90-112 PS	MINI CLUBMAN (R55) One D, Cooper D MINI (R56) One D, Cooper D MINI Cabriolet (R57) Cooper D MINI COUNTRYMAN (R60) One D, Cooper D MINI PACEMAN (R61) Cooper D	03/10 - 06/14 06/10 - 11/13 05/09 - 11/13 08/10 - 10/16 04/12 - 09/16	78,00	147 007 0001 00 148 007 0001 00	IN EX	8 8	1
N47 D16 A	1598	4	70-85 KW 95 PS	1 (F20), 1 (F21) 114 d, 116 d	12/11 -	78,00	147 007 0001 00 148 007 0001 00	IN EX	8 8	1

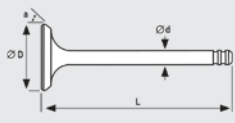
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 007 0001 00	L = 94,00 D = 24,80 d = 5,00 a = 45°	S	CR			TH
	EX	148 007 0001 00	L = 94,00 D = 21,20 d = 5,00 a = 45°	A/S	CR			TH
2								
	IN	147 007 0002 00	L = 104,00 D = 42,00 d = 7,00 a = 45°	S				TH
	EX	148 007 0002 00	L = 103,00 D = 36,00 d = 7,00 a = 45°	A/S	CR			TH
3								
	IN	147 007 0003 00	L = 104,00 D = 42,00 d = 7,00 a = 45°	S				TH
	EX	148 007 0003 00	L = 103,00 D = 36,00 d = 7,00 a = 45°	A/S				TH
4								
	IN	147 007 0009 00	L = 106,10 D = 32,90 d = 6,00 a = 45°	S				TH
	EX	148 007 0006 00	L = 105,70 D = 30,50 d = 6,00 a = 45°	A/S	CR		S/S	TH
5								
	IN	147 007 0009 01	L = 106,10 D = 32,90 d = 6,00 a = 45°	S				TH
	EX	148 007 0006 01	L = 105,70 D = 30,50 d = 6,00 a = 45°	A/S	CR		S/S	TH

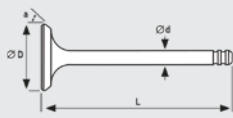
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 007 0010 00	L = 100,00 D = 26,00 d = 6,00 a = 45°					
	EX	148 007 0010 00	L = 100,00 D = 26,00 d = 6,00 a = 45°					
7								
	IN	147 007 0010 01	L = 100,00 D = 26,00 d = 6,00 a = 45°					
	EX	148 007 0010 01	L = 100,00 D = 26,00 d = 6,00 a = 45°					
8								
	IN	147 011 0001 00	L = 97,00 D = 30,00 d = 5,00 a = 45°	S				TH
	EX	148 011 0001 00	L = 110,50 D = 25,00 d = 5,00 a = 45°	A/S				TH

	ccm						IN/EX	QTY	Info	Pos.
4HH (P22DTE)	2198	4	96 KW 130 PS	JUMPER 2.2 HDi 130	07/11 -	86,00	147 037 0026 00 148 037 0027 00	IN EX	8 8	8
4HL (DW12C)	2179	4	150 KW 204 PS	C5 III 2.2 HDi 200	07/10 -	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HN (DW12MTED4)	2179	4	115 KW 156 PS	C-CROSSER 2.2 HDi	02/07 -	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HP (DW12BTED4)	2179	4	120 KW 163 PS	C5 III 2.2 HDi C6 2.2 HDi	05/06 - 06/07 -	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HR (DW12BTED4)	2179	4	120 KW 163 PS	C5 II 2.2 HDi C8 2.2 HDi	05/06 - 12/11 06/07 -	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HS (DW12BTED4)	2179	4	125 KW 170 PS	C5 III 2.2 HDi C6 2.2 HDi C8 2.2 HDi	02/08 - 12/11 06/06 - 12/12 06/06 - 12/12	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HS (DW12BTED4), 4HT (DW12BTED4)	2179	4	125 KW 170 PS	C5 II 2.2 HDi C5 III Break 2.2 HDi C6 2.2 HDi C8 2.2 HDi	04/06 - 08/08 02/08 - 12/11 06/06 - 12/12 06/06 - 12/12	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HU (P22DTE)	2198	4	88 KW 120 PS	JUMPER 2.2 HDi 120	04/06 -	86,00	147 037 0026 00 148 037 0027 00	IN EX	8 8	8
4HV (P22DTE)	2198	4	74 KW 101 PS	JUMPER 2.2 HDi 100	04/06 -	86,00	147 037 0026 00 148 037 0027 00	IN EX	8 8	8
4N13	1798	4	85 KW 116 PS	C4 AIRCROSS 1.8 HDi 150	04/12 -	83,00	147 088 0003 00 148 088 0003 00	IN EX	8 8	12
5FK (EP6CB)	1598	4	72 KW 98 PS	BERLINGO 1.6 VTi 95	07/10 -	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8	1
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	5
EP6, 5FS (EP6C)	1598	4	81-88 KW 110-120 PS	BERLINGO 1.6 VTi 120 C3 II 1.6 VTi 120 C3 PICASSO 1.6 VTi 120 C4 GRAND PICASSO I+II 1.6 VTi 120 C4 II 1.6 VTi 120 C4 PICASSO II 1.6 VTi 120 C5 III 1.6 VTi 120 DS3 1.6 VTi 120 DS4 1.6 VTi 120	11/09 - 11/09 - 02/09 - 07/08 - 11/09 - 02/13 - 07/10 - 04/10 - 07/15 04/11 - 07/15	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8	1
F1CE0481D (F30DT)	2999	4	116 KW 157 PS	JUMPER 3.0 HDi 160	09/06 -	95,80	147 020 0008 00 148 020 0008 00	IN EX	8 8	2
HMU (EB2D)	1199	3	55 KW 75 PS	C4 CACTUS 1.2 VTi 75	09/14 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMY (EB2M)	1199	3	53 KW 72 PS	C-ELYSEE 1.2 VTi 72	11/12 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	C1 II 1.2 VTi 82	04/14 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	C-ELYSEE 1.2 VTi 82	12/14 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	C4 CACTUS 1.2 VTi 82	09/14 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	DS3 1.2 VTi 82	01/13-03/15 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	C3 II 1.2 VTi 82	06/12 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
KFU (ET3J4)	1360	4	65 KW 88 PS	C2 1.4 16V C3 I 1.4 16V C4 I 1.4 16V	06/06 - 12/03 - 11/04 - 07/11	75,00	147 037 0021 00 148 037 0022 00	IN EX	8 8	7
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	4
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	6
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	6
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	6
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	6
YHR (DV5RUCd)	1499	4	75 KW 102 PS	JUMPY 1.5 BlueHDi 100 SPACETOURER 1.5 BlueHDi 100	06/18 - 06/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHS (DV5RCE)	1499	4	81 KW 110 PS	C3 AIRCROSS II 1.5 BlueHDi 110	10/20 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHV (DV5RUC)	1499	4	88 KW 120 PS	JUMPY 1.5 BlueHDi 120 SPACETOURER 1.5 BlueHDi 120	06/18 - 06/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9

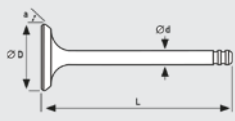
	ccm						IN/EX	QTY	Info	Pos.
YHW (DV5RE)	1499	4	55 KW 75 PS	BERLINGO 1.5 BlueHDi 75	06/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHX (DV5RC)	1499	4	88 KW 120 PS	C3 AIRCROSS II 1.5 BlueHDi 120 C4 CACTUS 1.5 BlueHDi 120	08/18 - 09/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHY (DV5RD)	1499	4	75 KW 102 PS	BERLINGO 1.5 BlueHDi 100 C3 AIRCROSS II 1.5 BlueHDi 100 C3 III 1.5 BlueHDi 100 C4 CACTUS 1.5 BlueHDi 100 C-ELYSEE 1.5 BlueHDi 100	06/18 - 08/18 - 05/18 - 06/18 - 05/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHZ (DV5RC)	1499	4	96 KW 131 PS	BERLINGO 1.5 BlueHDi 130 C4 III 1.5 BlueHDi 130 C4 SPACETOURER 1.5 BlueHDi 130 C5 AIRCROSS 1.5 BlueHDi 130 GRAND C4 SPACETOURER 1.5 BlueHDi 130	06/18 - 10/20 - 05/18 - 11/18 - 05/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
ZMZ (EB0)	999	3	50 KW 68 PS	C3 II 1.0 VTi 68	08/12 -	71,00	147 037 0029 00 148 037 0030 00	IN EX	3 3	10

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 011 0001 00	L = 97,00 D = 30,00 d = 5,00 a = 45°	S				TH
	EX	148 011 0001 00	L = 110,50 D = 25,00 d = 5,00 a = 45°	A/S				TH
2								
	IN	147 020 0008 00	L = 120,00 D = 32,50 d = 6,00 a = 60°	S	CR			TH
	EX	148 020 0008 00	L = 120,00 D = 32,50 d = 6,00 a = 60°	A/S	CR			TH
3								
	IN	147 037 0001 00	L = 92,55 D = 29,15 d = 5,00 a = 45°	S				H
	EX	148 037 0001 00	L = 91,85 D = 26,00 d = 5,00 a = 45°	A	NT			
4								
	IN	147 037 0018 00	L = 103,80 D = 31,15 d = 6,00 a = 45°	S				H
	EX	148 037 0019 00	L = 104,50 D = 24,50 d = 6,00 a = 45°	A	CR			
5								
	IN	147 037 0019 00	L = 88,35 D = 27,80 d = 5,00 a = 45°	S	NT			H
	EX	148 037 0018 00	L = 89,00 D = 23,50 d = 5,00 a = 45°	A	NT			

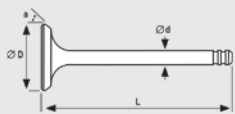
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 037 0020 00	L = 106,20 D = 33,20 d = 6,00 a = 45°	S				H
	EX	148 037 0021 00	L = 103,70 D = 29,00 d = 6,00 a = 45°	A	CR			
7								
	IN	147 037 0021 00	L = 100,80 D = 28,30 d = 5,50 a = 45°	S				TH
	EX	148 037 0022 00	L = 100,80 D = 24,30 d = 5,50 a = 45°	A	CR			
8								
	IN	147 037 0026 00	L = 122,30 D = 29,80 d = 7,00 a = 60°	S	CR			TH
	EX	148 037 0027 00	L = 122,00 D = 25,80 d = 7,00 a = 45°	A	CR			
9								
	IN	147 037 0028 00	L = 95,30 D = 25,30 d = 5,50 a = 45°	S	CR			TH
	EX	148 037 0029 00	L = 94,80 D = 22,00 d = 5,50 a = 45°	A/S	CR		S/S	TH
10								
	IN	147 037 0029 00	L = 92,60 D = 27,00 d = 5,00 a = 45°	S				TH
	EX	148 037 0030 00	L = 93,00 D = 24,20 d = 5,00 a = 45°	A	NT			

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
11								
	IN	147 037 0030 00	L = 95,80 D = 27,25 d = 6,00 a = 45°	S	CR			
	EX	148 037 0031 00	L = 95,00 D = 25,20 d = 6,00 a = 45°	A/S	CR		S/S	TH
12								
	IN	147 088 0003 00	L = 121,70 D = 28,20 d = 6,00 a = 45°	S	NT			TH
	EX	148 088 0003 00	L = 112,90 D = 23,70 d = 6,00 a = 45°	A/S	NT			TH

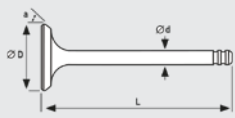
	ccm						IN/EX	QTY	Info	Pos.	
B12D1, LMU	1206	4	53-62 KW 72-84 PS	AVEO 1.2 SPARK 1.2	01/08 - 03/10 -	69,70	147 309 0002 00 148 309 0002 00	IN EX	8 8		2
F14D3	1399	4	70 KW 95 PS	KALOS, LACETTI 1.4 16V	06/02 -	77,90	147 309 0008 00 148 309 0008 00	IN EX	8 8		5
F14S3	1399	4	61 KW 83 PS	KALOS 1.4	09/02 -	77,90	147 309 0004 00 148 309 0004 00	IN EX	4 4		4
F16D3, LXT	1598	4	78 KW 106 PS	OPTRA 1.6	08/03 -	79,00	147 309 0003 00 148 309 0003 00	IN EX	8 8		3
F16D3, LXT	1598	4	77 KW 105 PS	AVEO 1.6 NUBIRA 1.6	09/03 - 01/10 -	79,00	147 309 0003 00 148 309 0003 00	IN EX	8 8		3
F16D3, LXT	1598	4	80 KW 109 PS	LACETTI 1.6	03/05 -	79,00	147 309 0003 00 148 309 0003 00	IN EX	8 8		3
L14	1399	4	69 KW 94 PS	AVEO 1.4 LACETTI 1.4 16V	03/06 - 12/07 03/05 -	77,90	147 309 0003 00 148 309 0003 00	IN EX	8 8		3
L95	1399	4	69 KW 44 PS	AVEO 1.4 CNG	01/08 -	77,90	147 309 0003 00 148 309 0003 00	IN EX	8 8		3
M13A	1328	4	61 KW 83 PS	CRUZE 1.3	07/00 - 09/08	78,00	147 094 0005 00 148 094 0005 00	IN EX	8 8		1

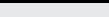
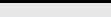
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 094 0005 00	L = 100,70 D = 30,00 d = 5,50 a = 45°	S	NT			H
	EX	148 094 0005 00	L = 99,00 D = 25,00 d = 5,50 a = 45°	A	NT		S/S	
2								
	IN	147 309 0002 00	L = 99,20 D = 25,90 d = 5,00 a = 45°	S	NT			H
	EX	148 309 0002 00	L = 100,00 D = 23,50 d = 5,00 a = 45°	A	NT			
3								
	IN	147 309 0003 00	L = 101,65 D = 28,55 d = 6,00 a = 45°	S	NT			H
	EX	148 309 0003 00	L = 101,25 D = 27,30 d = 6,00 a = 45°	A	CR			
4								
	IN	147 309 0004 00	L = 104,00 D = 38,00 d = 6,00 a = 45°	S	NT			TH
	EX	148 309 0004 00	L = 103,90 D = 31,00 d = 6,00 a = 45°	A/S	NT		S/S	TH
5								
	IN	147 309 0008 00	L = 101,60 D = 28,50 d = 6,00 a = 45°	S	NT			H
	EX	148 309 0008 00	L = 101,25 D = 27,30 d = 6,00 a = 45°	A/S	NT			H

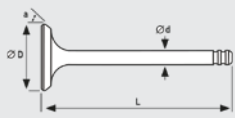
	ccm						IN/EX	QTY	Info	Pos.
1KR-FE	998	3	51 KW 70 PS	CUORE VI + VII 1.0 SIRION 1.0	03/03 - 01/05 - 06/13	71,00	147 037 0019 00 148 037 0018 00	IN EX	6 6	1
1NR-FE	1329	4	73 KW 99 PS	CHARADE VIII 1.33 16V	05/11 -	72,50	147 096 0004 00 148 096 0005 00	IN EX	8 8	3
HC-E	1295	4	48-66 KW 65-90 PS	CHARADE 1.3 i HIJET 1.3 i 16V	06/88 - 11/99 05/98 -	76,00	147 070 0001 00 148 070 0001 00	IN EX	8 8	2
HD-E	1590	4	69-77 KW 94-105 PS	APPLAUSE 1.6 16V CHARADE IV 1.6 GTi	06/89 - 03/93 - 11/99	76,00	147 070 0001 00 148 070 0001 00	IN EX	8 8	2

	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 = 5,00 a = 45°	S	NT			H
	EX	148 037 0018 00	L = 89,00 D = 23,50 d = 5,00 a = 45°	A	NT			
2								
	IN	147 070 0001 00	L = 112,80 D = 30,00 d = 6,60 a = 45°	S				H
	EX	148 070 0001 00	L = 114,50 D = 26,00 d = 6,60 a = 45°	A	NT			
3								
	IN	147 096 0004 00	L = 103,30 D = 29,00 d = 5,50 a = 45°	S	NT			H
	EX	148 096 0005 00	L = 104,50 D = 24,20 d = 5,50 a = 45°	A	NT		S/S	

	ccm							IN/EX	QTY	Info	Pos.
5FS (EP6C)	1598	4	88 KW 120 PS	DS 3 1.6 Vti DS 4 / DS 4 CROSSBACK 1.6 VTi	07/15 - 07/19 07/15 - 12/18	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8		1
YHS (DV5RCE)	1499	4	81 KW 110 PS	DS 3 CROSSBACK 1.5 BlueHDi 110	01/21 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8		2
YHY (DV5RD)	1499	4	75 KW 102 PS	DS 3 CROSSBACK 1.5 BlueHDi 100	10/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8		2
YHZ (DV5RC)	1499	4	96 KW 131 PS	DS 7 Crossback 1.5 BlueHDi 130	09/17 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8		2

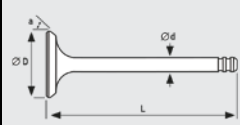
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 011 0001 00	L = 97,00 D = 30,00 d = 5,00 a = 45°	S				TH
	EX	148 011 0001 00	L = 110,50 D = 25,00 d = 5,00 a = 45°	A/S				TH
2								
	IN	147 037 0028 00	L = 95,30 D = 25,30 d = 5,50 a = 45°	S	CR			TH
	EX	148 037 0029 00	L = 94,80 D = 22,00 d = 5,50 a = 45°	A/S	CR		S/S	TH

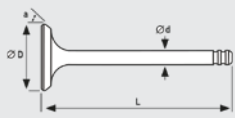
	ccm							IN/EX	QTY	Info	Pos.
BF 4M 2012 C	4038	4	68-82 KW 92-112 PS	Farmer 307 Ci, 308 Ci, 309 Ci	01/03 - 12/08	101,00	147 015 0003 00 148 015 0003 00	IN EX	2 2		1

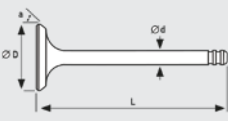
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 015 0003 00	L = 119,50 D = 41,70 d = 8,00 a = 30°	S	CR			TH
	EX	148 015 0003 00	L = 119,50 D = 36,00 d = 8,00 a = 45°	A/S	CR			TH

	ccm						IN/EX	QTY	Info	Pos.
169 A4.000	1242	4	51 KW 69 PS	500, 500 C 1.2 Panda 1.2 Punto, Punto EVO, Grande Punto 1.2	07/07 - 03/10 - 10/09 -	70,80	147 020 0003 00 148 020 0003 00	IN EX	4 4	4
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	3
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	3
182 A1.000	1998	5	108 KW 147 PS	BRAVO I 2.0 HGT 20V COUPE 2.0 20V MAREA 2.0 150 20V	10/95 - 07/98 08/96 - 09/98 09/96 - 04/99	82,00	147 001 0002 00 148 001 0002 00	IN EX	10 10	2
182 A2.000	1747	4	82 KW 113 PS	BRAVA 1.8 GT 16V BRAVO I 1.8 GT MAREA 1.8 115 16V	10/95 - 08/01 10/95 - 10/01 09/96 - 05/02	82,00	147 001 0001 00 148 001 0001 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	3
182 B7.000	1998	5	113 KW 154 PS	BRAVO I 2.0 HGT 20V MAREA 2.0 155 20V	07/98 - 10/01 04/99 - 02/03	82,00	147 001 0002 00 148 001 0002 00	IN EX	10 10	2
183 A1.000, 188 A6.000	1747	4	96 KW 131 PS	BARCETTA 1.8 16V BRAVA 1.8 16V COUPE 1.8 16V MAREA 1.8 16V PUNTO 1.8 130 HGT	04/95 - 05/05 02/00 - 06/03 03/96 - 08/00 09/96 - 12/07 09/99 - 03/12	82,00	147 001 0001 00 148 001 0001 00	IN EX	8 8	1
185 A2.000	2387	5	91 KW 125 PS	MAREA 2.4 TD 125	09/96 - 04/99	82,00	147 020 0012 00 148 020 0012 00	IN EX	5 5	7
185 A6.000	2387	5	96 KW 130 PS	MAREA 2.4 JTD 130	04/99 - 05/02	82,00	147 020 0007 00 148 020 0007 00	IN EX	5 5	5
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	3
192 A2.000	2446	5	125 KW 170 PS	STILO 2.4 20V	10/01 - 04/07	83,00	147 001 0002 00 148 001 0002 00	IN EX	10 10	2
192 A4.000	1747	4	90-98 KW 122-133 PS	STILO 1.8 16V	10/01 - 08/08	82,00	147 001 0001 00 148 001 0001 00	IN EX	8 8	1
199 A4.000	1242	4	48-51 KW 65-69 PS	GRANDE PUNTO 1.2 PUNTO EVO 1.2	10/05 - 10/09 - 02/12	70,80	147 020 0003 00 148 020 0003 00	IN EX	4 4	4
199 A7.000	1368	4	55 KW 75 PS	GRANDE PUNTO 1.4 PUNTO 1.4 PUNTO EVO 1.4	10/05 - 07/07 03/12 - 07/09 - 02/12	72,00	147 020 0003 00 148 020 0003 00	IN EX	4 4	4
350 A1.000	1368	4	51-63 KW 69-86 PS	Doblo, Fiorino 1.4 Idea 1.4 Linea 1.4 Palio 1.4 Panda 1.4 Punto, Grande Punto 1.4 QUBO 1.4 Siena, Albea 1.4	10/05 - 10/05 - 06/07 - 10/02 - 10/09 - 06/05 - 10/09 - 01/07 - 12/09	72,00	147 020 0003 00 148 020 0003 00	IN EX	4 4	4
4HP, 4HR	2179	4	120 KW 163 PS	ULYSSE 2.2 JTD	03/08 - 06/11	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	10
4HS, 4HT (DW12BTED4)	2179	4	125 KW 170 PS	ULYSSE 2.2 D Multijet	03/08 - 06/11	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	10
4HV	2198	4	74 KW 101 PS	DUCATO 100 Multijet 2,2 D	07/06 -	86,00	147 037 0026 00 148 037 0027 00	IN EX	8 8	9
839 A5.000	2387	5	96 KW 130 PS	MAREA 2.4 JTD 130	04/99 - 05/02	82,00	147 020 0007 00 148 020 0007 00	IN EX	5 5	5
939 A4.000	1796	4	96-103 KW 131-140 PS	CROMA 1.8 16V	12/05 -	80,50	147 309 0001 00 148 309 0001 00	IN EX	8 8	14
F1AE0481C	2286	4	81 KW 110 PS	DUCATO 2.3 JTD	04/02 -	88,00	147 121 0000 00 148 121 0000 00	IN EX	8 8	13
F1AE0481D	2287	4	88 KW 120 PS	DUCATO 120 Multijet 2,3 D	07/06 -	88,00	147 121 0000 00 148 121 0000 00	IN EX	8 8	13
F1AE0481N	2287	4	96 KW 131 PS	DUCATO 130 Multijet 2,3 D	07/06 -	88,00	147 121 0000 00 148 121 0000 00	IN EX	8 8	13
F1CE0481D	2999	4	115 KW 156 PS	DUCATO 160 Multijet 3,0 D	07/06 -	95,80	147 020 0008 00 148 020 0008 00	IN EX	8 8	6
M16A	1586	4	79-88 KW 107-120 PS	SEDICI 1.6 16V	06/06 - 10/14	78,00	147 094 0005 00 148 094 0005 00	IN EX	8 8	12

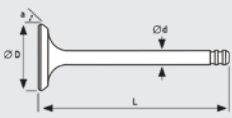
	ccm							IN/EX	QTY	Info	Pos.
R9M.408, R9M.413, R9M.452	1598	4	70-107 KW 95-145 PS	TALENTO 1.6 D	06/16 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8		11
RFN (EW10J4)	1997	4	100 KW 136 PS	SCUDO 2.0 ULYSSE 2.0	05/00 - 12/06 09/00 - 06/11	85,00	147 037 0020 00 148 037 0021 00	IN EX	8 8		8

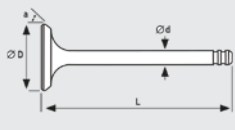
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 001 0001 00	L = 113,00 D = 33,50 d = 7,00 a = 45°	S	CR			TH
	EX	148 001 0001 00	L = 108,50 D = 28,00 d = 7,00 a = 45°	A/S	CR		S/S	TH
2								
	IN	147 001 0002 00	L = 113,00 D = 33,50 d = 7,00 a = 45°	S	CR			TH
	EX	148 001 0002 00	L = 108,50 D = 28,00 d = 7,00 a = 45°	A/S	CR		S/S	TH
3								
	IN	147 020 0002 00	L = 95,00 D = 26,80 d = 6,00 a = 45°	S	CR			H
	EX	148 020 0002 00	L = 96,10 D = 22,35 d = 6,00 a = 45°	A	CR			
4								
	IN	147 020 0003 00	L = 100,00 D = 33,20 d = 5,00 a = 45°	S	CR			TH
	EX	148 020 0003 00	L = 100,50 D = 28,00 d = 5,00 a = 45°	A/S	CR			TH
5								
	IN	147 020 0007 00	L = 115,00 D = 35,50 d = 8,00 a = 45°	A/S	CR			TH
	EX	148 020 0007 00	L = 115,00 D = 34,50 d = 8,00 a = 45°	A/S	CR			TH

	IN/EX	NE		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 020 0008 00	L = 120,00 D = 32,50 d = 6,00 a = 60°	S	CR			TH
	EX	148 020 0008 00	L = 120,00 D = 32,50 d = 6,00 a = 60°	A/S	CR			TH
7								
	IN	147 020 0012 00	L = 114,30 D = 37,50 d = 8,00 a = 45°	A/S	CR			TH
	EX	148 020 0012 00	L = 114,30 D = 31,00 d = 8,00 a = 45°	A/S	CR			TH
8								
	IN	147 037 0020 00	L = 106,20 D = 33,20 d = 6,00 a = 45°	S				H
	EX	148 037 0021 00	L = 103,70 D = 29,00 d = 6,00 a = 45°	A	CR			
9								
	IN	147 037 0026 00	L = 122,30 D = 29,80 d = 7,00 a = 60°	S	CR			TH
	EX	148 037 0027 00	L = 122,00 D = 25,80 d = 7,00 a = 45°	A	CR			
10								
	IN	147 037 0030 00	L = 95,80 D = 27,25 d = 6,00 a = 45°	S	CR			
	EX	148 037 0031 00	L = 95,00 D = 25,20 d = 6,00 a = 45°	A/S	CR		S/S	TH

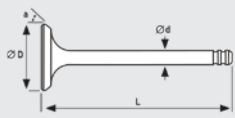
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
11								
	IN	147 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	S				TH
	EX	148 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	A/S	NT			TH
12								
	IN	147 094 0005 00	L = 100,70 D = 30,00 d = 5,50 a = 45°	S	NT			H
	EX	148 094 0005 00	L = 99,00 D = 25,00 d = 5,50 a = 45°	A	NT		S/S	
13								
	IN	147 121 0000 00	L = 120,40 D = 30,00 d = 6,00 a = 45°	S	CR		S/H	TH
	EX	148 121 0000 00	L = 120,40 D = 30,00 d = 6,00 a = 45°	A/S	CR			TH
14								
	IN	147 309 0001 00	L = 113,80 D = 31,20 d = 5,00 a = 45°	S	CR		S/H	TH
	EX	148 309 0001 00	L = 113,15 D = 27,50 d = 5,00 a = 45°	A/S	CR		S/S	TH

	ccm						IN/EX	QTY	Info	Pos.
169A4000, FP4	1242	4	51 KW 69 PS	KA 1.2	10/08 - 05/16	70,80	147 020 0003 00 148 020 0003 00	IN EX	4 4	1
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	3
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	3
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	3
B3DA, B7DA	999	3	74-92 KW 100-125 PS	C-MAX II 1.0 EcoBoost FOCUS IV 1.0 EcoBoost GRAND C-MAX 1.0 EcoBoost	07/18 - 06/19 01/18 - 07/18 - 06/19	71,90	147 021 0011 00 148 021 0011 00	IN EX	6 6	6
B7JA, B7JB, B7JC, B7JE	999	3	92 KW 125 PS	FIESTA VII 1.0 EcoBoost mHEV Active PUMA 1.0 EcoBoost mHEV	11/19 - 09/19 -	71,90	147 021 0011 00 148 021 0011 00	IN EX	6 6	6
BCCC	1995	4	140 KW 190 PS	EDGE 2.0 EcoBlue AWD GALAXY III 2.0 EcoBlue S-MAX 2.0 EcoBlue	08/18 - 07/18 - 07/18 -	84,00	147 021 0012 00 148 021 0012 00	IN EX	8 8	7
BCCD	1995	4	88 KW 120 PS	MONDEO V 2.0 EcoBlue	01/19 -	84,00	147 021 0012 00 148 021 0012 00	IN EX	8 8	7
BCFA, BCFB	1995	4	136 KW 185 PS	TOURNEO CUSTOM 2.0 EcoBlue TRANSIT CUSTOM 2.0 EcoBlue	05/19 - 05/19 -	84,00	147 021 0012 00 148 021 0012 00	IN EX	8 8	7
BCFC, BCFD	1995	4	136 KW 185 PS	TOURNEO CUSTOM V362 2.0 EcoBlue mHEV TRANSIT CUSTOM V362 2.0 EcoBlue mHEV	05/19 - 05/19 -	84,00	147 021 0012 00 148 021 0012 00	IN EX	8 8	7
BCRA	1995	4	136 KW 185 PS	TRANSIT V363 2.0 EcoBlue RWD	05/19 -	84,00	147 021 0012 00 148 021 0012 00	IN EX	8 8	7
BHDA, BHDB	1753	4	55 KW 75 PS	FOCUS I 1.8 DI / TDDi	08/99 - 03/05	82,50	147 021 0006 00 148 021 0006 00	IN EX	4 4	5
BHPA, P7PA, P7PB, R2PA	1753	4	55 KW 75 PS	TOURNEO CONNECT 1.8 TDCi / TDDi / DI	06/02 - 12/13	82,50	147 021 0006 00 148 021 0006 00	IN EX	4 4	5
BJFA	1995	4	77 KW 105 PS	TRANSIT CUSTOM V362 2.0 EcoBlue TRANSIT V363 2.0 EcoBlue	12/15 - 03/16 -	84,01	147 021 0012 00 148 021 0012 00	IN EX	8 8	7
C9DA, C9DB, C9DC	1753	4	66 KW 90 PS	FOCUS I 1.8 Turbo DI / TDDi	08/88 - 03/05	82,50	147 021 0006 00 148 021 0006 00	IN EX	4 4	5
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	3
EDDC, EDDD, EDBD	1998	4	96 KW 131 PS	COUGAR 2.0 16V FOCUS I 2.0 16V	08/98 - 12/01 10/98 - 11/04	84,80	147 021 0004 00 148 021 0004 00	IN EX	8 8	4
EYDC, EYDB, EYPA	1796	4	85 KW 115 PS	FOCUS I 1.8 16V TOURNEO / TRANSIT CONNECT 1.8 16V	10/98 - 03/05 06/02 - 12/13	80,60	147 021 0004 00 148 021 0004 00	IN EX	8 8	4
F9DA, F9DB	1753	4	85 KW 115 PS	FOCUS I 1.8 TDCi	03/01 - 03/05	82,50	147 021 0006 00 148 021 0006 00	IN EX	4 4	5
FFDA	1753	4	74 KW 100 PS	FOCUS I 1.8 TDCi	08/02 - 03/05	82,50	147 021 0006 00 148 021 0006 00	IN EX	4 4	5
KKDA	1753	4	85 KW 115 PS	FOCUS II 1.8 TDCi	07/04 - 09/12	82,50	147 021 0006 00 148 021 0006 00	IN EX	4 4	5
KKDA, KKDB	1753	4	85 KW 115 PS	FOCUS C-MAX 1.8 TDCi FOCUS II 1.8 TDCi	01/05 - 09/10 07/04 - 09/12	82,50	147 021 0006 00 148 021 0006 00	IN EX	4 4	5
M0JA	999	3	70 KW 95 PS	FIESTA VII 1.0 EcoBoost PUMA 1.0 EcoBoost	12/19 - 09/19 -	71,90	147 021 0011 00 148 021 0011 00	IN EX	6 6	6
Q4BA	2179	4	129 KW 175 PS	Mondeo IV 2.2 TDCi	03/08 - 10/10	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	9
QQDA, QQDB	1798	4	92 KW 125 PS	FOCUS C-MAX 1.8	04/04 - 03/07	83,00	147 021 0001 00 148 021 0001 00	IN EX	8 8	2
QQDA, QQDB, QQDC	1798	4	90-92 KW 122-125 PS	C-MAX 1.8	02/07 - 09/10	83,00	147 021 0001 00 148 021 0001 00	IN EX	8 8	2
QQDC	1798	4	90 KW 122 PS	FOCUS C-MAX 1.8	09/05 - 03/07	83,00	147 021 0001 00 148 021 0001 00	IN EX	8 8	2
RTN, RTP, RTQ	1753	4	55 KW 75 PS	FIESTA IV 1.8 DI	03/00 - 08/03	82,50	147 021 0006 00 148 021 0006 00	IN EX	4 4	5
UNDA, Y1DA, YZDA, YZDB (Dragon Engine)	1496	3	88-134 KW 120-183 PS	KUGA III 1.5 Ecoboost	07/19 -	84,00	147 021 0013 00 148 021 0013 00	IN EX	6 6	8
WL-T	2499	4	62-80 KW 84-109 PS	RANGER 2.5 TD	10/99 - 06/06	93,00	147 085 0001 00 148 085 0001 00	IN EX	8 4	10
Y1DA, YZDA (Dragon Engine)	1496	3	110-134 KW 150-182 PS	FOCUS IV 1.5 EcoBoost	09/18 -	84,00	147 021 0013 00 148 021 0013 00	IN EX	6 6	8
YLF6, YLFS	1995	4	77-96 KW 105-130 PS	TOURNEO CUSTOM 2.0 EcoBlue TRANSIT 2.0 EcoBlue	12/15 - 12/15 -	84,01	147 021 0012 00 148 021 0012 00	IN EX	8 8	7

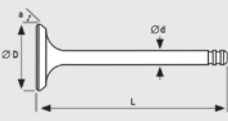
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 020 0003 00	L = 100,00 D = 33,20 d = 5,00 a = 45°	S	CR			TH
	EX	148 020 0003 00	L = 100,50 D = 28,00 d = 5,00 a = 45°	A/S	CR			TH
2								
	IN	147 021 0001 00	L = 103,50 D = 32,50 d = 5,50 a = 45°	S	NT			H
	EX	148 021 0001 00	L = 104,50 D = 28,00 d = 5,50 a = 45°	A	NT			
3								
	IN	147 021 0002 00	L = 103,50 D = 35,00 d = 5,50 a = 45°	S	NT			H
	EX	148 021 0002 00	L = 104,80 D = 30,10 d = 5,50 a = 45°	A	NT			
4								
	IN	147 021 0004 00	L = 98,10 D = 33,00 d = 6,00 a = 45°	S				TH
	EX	148 021 0004 00	L = 97,50 D = 28,00 d = 6,00 a = 45°	A	CR			
5								
	IN	147 021 0006 00	L = 107,00 D = 36,50 d = 8,00 a = 45°	S	CR			TH
	EX	148 021 0006 00	L = 108,70 D = 32,00 d = 8,00 a = 45°	A/S	CR		S/S	TH

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 021 0011 00	L = 121,00 D = 26,20 d = 5,50 a = 45°	S	NT			TH
	EX	148 021 0011 00	L = 122,30 D = 22,50 d = 5,50 a = 45°	A/S	NT		S/S	TH
7								
	IN	147 021 0012 00	L = 99,80 D = 28,00 d = 5,50 a = 45°	S	CR			TH
	EX	148 021 0012 00	L = 99,80 D = 25,50 d = 5,50 a = 45°	A/S	CR			TH
8								
	IN	147 021 0013 00	L = 104,70 D = 31,00 d = 5,50 a = 45°	S	NT			TH
	EX	148 021 0013 00	L = 99,75 D = 26,50 d = 5,50 a = 45°	A/S	NT			TH
9								
	IN	147 037 0030 00	L = 95,80 D = 27,25 d = 6,00 a = 45°	S	CR			
	EX	148 037 0031 00	L = 95,00 D = 25,20 d = 6,00 a = 45°	A/S	CR		S/S	TH
10								
	IN	147 085 0001 00	L = 112,00 D = 32,50 d = 7,00 a = 45°	S	NT			H
	EX	148 085 0001 00	L = 111,80 D = 35,50 d = 7,00 a = 45°	A/S	NT		S/S	H

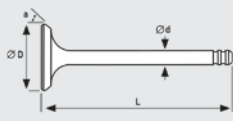
	ccm						IN/EX	QTY	Info	Pos.	
JL4G18	1792	4	93-102 KW 127-139 PS	EMGRAND (GEELY) EC7 1.8	07/09 -	79,00	147 734 0001 00 148 734 0001 00	IN EX	8 8		1

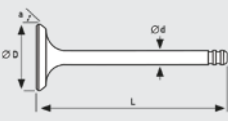
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 734 0001 00	L = 88,80 D = 31,15 d = 5,50 a = 45°	S	NT			H
	EX	148 734 0001 00	L = 88,70 D = 25,90 d = 5,50 a = 45°	A	NT			

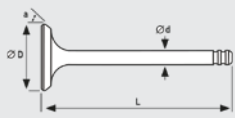
	ccm							IN/EX	QTY	Info	Pos.
GW4G15	1497	4	71-78 KW 97 PS	C30 1.5 FLORID 1.5	09/14 - 09/08 -	75,00	147 739 0002 00 148 739 0002 00	IN EX	8 8		1

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 739 0002 00	L = 89,20 D = 30,50 d = 5,00 a = 45°	S	NT			H
	EX	148 739 0002 00	L = 87,70 D = 25,50 d = 5,00 a = 45°	A	NT			

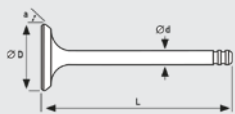
	ccm						IN/EX	QTY	Info	Pos.
D3EA	1493	3	60 KW 82 PS	ACCENT II 1.5 CRDi ELANTRA LAVITA 1.5 CRDi GETZ 1.5 CRDi MATRIX 1.5 CRDi VERNA II 1.5 CRDi	01/02 - 11/05 10/01 - 08/10 03/03 - 09/05 10/01 - 08/10 04/02 - 11/05	83,00	147 087 0002 00 148 087 0002 00	IN EX	8 8	4
D4BB	2607	4	57-79 KW 78-107 PS	H100 2.6 TD	07/93 - 12/07	91,10	147 087 0004 00 148 087 0004 00	IN EX	4 4	6
D4BB	2607	4	57-79 KW 78-107 PS	H-1 2.6 CRDi	10/97 - 12/07	91,10	147 087 0004 00 148 087 0004 00	IN EX	4 4	7 Till 07/01
D4CB	2497	4	81-125 KW 110-170 PS	H-1 2.5 CRDi H350 2.5 CRDi	07/01 - 04/15 -	91,00	147 053 0003 00 148 053 0003 00	IN EX	8 8	1
D4EA	1991	4	83-85 KW 113-115 PS	SANTA FÉ I 2.0 CRDi TRAJET 2.0 CRDi TUCSON 2.0 CRDi	04/01 - 12/12 04/01 - 07/08 08/04 - 03/10	83,00	147 087 0002 00 148 087 0002 00	IN EX	8 8	4
D4EA-F	1991	4	100-103 KW 136-140 PS	i30 2.0 CRDi SANTA FÉ I 2.0 CRDi SONATA V 2.0 CRDi TUCSON 2.0 CRDi	10/07 - 06/12 11/03 - 02/06 10/01 - 12/10 01/05 - 03/10	83,00	147 087 0002 00 148 087 0002 00	IN EX	8 8	4
D4EA-V	1991	4	92 KW 125 PS	SANTA FÉ I 2.0 CRDi 4x4 TRAJET 2.0 CRDi	08/03 - 03/06 08/05 - 07/08	83,00	147 087 0002 00 148 087 0002 00	IN EX	8 8	4
D4EB	2188	4	102-114 KW 139-155 PS	GRANDEUR 2.2 CRDi SANTA FÉ II 2.2 CRDi	06/06 - 12/11 03/06 - 12/12	87,00	147 087 0002 00 148 087 0002 00	IN EX	8 8	4
G4CS	2351	4	82-101 KW 111-137 PS	H-1 / STAREX 2.4 H100 2.4 TD	06/97 - 07/93 - 12/04	86,50	147 087 0018 00 148 087 0017 00	IN EX	4 4	10
G4EA	1341	4	55-63 KW 75-86 PS	GETZ 1.3	09/02 - 06/09	71,50	147 087 0003 00 148 087 0003 00	IN EX	8 4	5
G4EH	1341	4	40-62 KW 54-84 PS	ACCENT 1.3 VERNA 1.3	10/94 - 01/00 10/94 - 01/00	71,50	147 087 0003 00 148 087 0003 00	IN EX	8 4	5
G4EK	1495	4	65-69 KW 88-94 PS	ACCENT 1.5 i 12V LANTRA II 1.5 12V/ S COUPE 1.5	10/94 - 01/00 12/96 - 10/00 04/92 - 05/96	75,50	147 087 0003 00 148 087 0003 00	IN EX	8 4	5
G4FA	1396	4	66-80 KW 90-109 PS	ACCENT IV 1.4 i20 1.4 i30 1.4 ix20 1.4	11/10 - 09/08 - 12/15 12/11 - 12/15 11/10 -	77,00	147 087 0001 00 148 087 0001 00	IN EX	8 8	3
G4FC	1591	4	84-93 KW 114-126 PS	ACCENT IV 1.6 ELANTRA 1.6 CVVT i20 1.6 i30 1.6 ix20 1.6	10/11 - 06/06 - 06/11 09/08 - 12/12 01/12 - 12/06 11/10 -	77,00	147 087 0001 00 148 087 0001 00	IN EX	8 8	3
G4FD	1591	4	97-103 KW 132-140 PS	i30 1.6 GDI i40 1.6 GDI ix35 1.6 TUCSON 1.6 GDI VELOSTER 1.6 GDI	12/11 - 12/16 07/11 - 11/10 - 06/15 - 03/11 -	77,00	147 087 0001 00 148 087 0001 00	IN EX	8 8	3
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	9
G4HC	999	4	40 KW 54 PS	ATOS 1.0 i ATOS PRIME 1.0 i	02/98 - 03/02 08/99 - -	66,00	147 087 0005 00 148 087 0005 00	IN EX	8 4	8
G4HG	1086	4	45-51 KW 61-69 PS	ATOS PRIME (MX) 1.1 GETZ (TB) 1.1 i10 (PA) 1.1 SANTRO (MX) 1.1	09/05 - 05/02 - 01/11 12/07 - 11/10 04/05 - 05/05	67,00	147 053 0004 00 148 053 0004 00	IN EX	8 4	2
G4JS	2351	4	99-107 KW 135-146 PS	H-1 / STAREX 2.4 SANTA FÉ I 2.4 16V	06/01 - 04/04 08/00 - 03/06	86,50	147 087 0018 01 148 087 0017 01	IN EX	8 8	11

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 053 0003 00	L = 110,60 D = 31,80 d = 7,00 a = 45°	S	NT			TH
	EX	148 053 0003 00	L = 110,55 D = 28,10 d = 7,00 a = 45°	A/S	NT			TH
2								
	IN	147 053 0004 00	L = 99,70 D = 23,55 d = 5,50 a = 45°	S	NT			H
	EX	148 053 0004 00	L = 99,20 D = 27,00 d = 5,50 a = 45°	A	NT			H, TW
3								
	IN	147 087 0001 00	L = 93,20 D = 31,50 d = 5,50 a = 45°	S	NT			H
	EX	148 087 0001 00	L = 92,60 D = 26,00 d = 5,50 a = 45°	A	NT			
4								
	IN	147 087 0002 00	L = 95,75 D = 28,50 d = 6,00 a = 45°	S	NT			H
	EX	148 087 0002 00	L = 95,45 D = 24,40 d = 6,00 a = 45°	A/S	NT			H
5								
	IN	147 087 0003 00	L = 99,30 D = 27,40 d = 6,00 a = 45°	S	NT			H
	EX	148 087 0003 00	L = 98,50 D = 32,00 d = 6,00 a = 45°	A	NT			

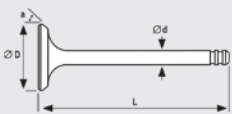
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 087 0004 00	L = 132,00 D = 42,00 d = 8,00 a = 45°	S	NT			H
	EX	148 087 0004 00	L = 132,00 D = 36,00 d = 8,00 a = 45°	A/S	NT			H
7								
	IN	147 087 0004 00	L = 132,00 D = 42,00 d = 8,00 a = 45°	S	NT			H
	EX	148 087 0004 00	L = 132,00 D = 36,00 d = 8,00 a = 45°	A/S	NT			H
8								
	IN	147 087 0005 00	L = 100,30 D = 23,00 d = 5,50 a = 45°	S	NT			H
	EX	148 087 0005 00	L = 100,10 D = 27,00 d = 5,50 a = 45°	A/S	NT			H
9								
	IN	147 087 0009 00	L = 102,10 D = 32,10 d = 6,00 a = 45°	S	NT			H
	EX	148 087 0008 00	L = 105,00 D = 27,50 d = 6,00 a = 45°	A	NT			
10								
	IN	147 087 0018 00	L = 109,60 D = 34,00 d = 6,60 a = 45°	S				H
	EX	148 087 0017 00	L = 109,80 D = 30,50 d = 6,60 a = 45°	A				

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
11								
	IN	147 087 0018 01	L = 109,60 D = 34,00 d = 6,60 a = 45°	S				H
	EX	148 087 0017 01	L = 109,80 D = 30,50 d = 6,60 a = 45°	A				

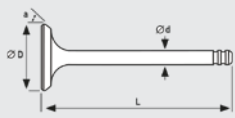
	ccm							IN/EX	QTY	Info	Pos.
4JJ1-TC, 4JJ1-TCS, 4JJ1-TCX, 4JJ1-X	2999	4	107-130 KW 146-177 PS	D-MAX I+II 3.0 CRDi KB 3.0 D-TEQ 4WD MU-X SUV 3.0 CRDi	01/04 - 08/10 - 02/13 -	95,40	147 079 0000 00 148 079 0000 00	IN EX	8 8		2
4JK1-TC, 4JK1-TCX	2499	4	56-100 KW 76-136 PS	D-MAX I+II 2.5 CRDi KB VI KB250 D-TEQ MU-X SUV 2.5 CRDi	10/06 - 11/07 - 10/18 11/13 -	95,40	147 079 0000 00 148 079 0000 00	IN EX	8 8		2
6VD1 (DOHC)	3165	6	08/98 KW 08/04 PS	TROOPER III 3.2	08/98 - 08/04	93,40	147 035 0002 00 148 035 0002 00	IN EX	12 12		1
TD27	2663	4	63 KW 86 PS	ELF 2.7 TD	10/99 - 09/01	96,00	147 089 0004 00 148 089 0004 00	IN EX	4 4		3

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 035 0002 00	L = 103,90 D = 34,00 d = 6,00 a = 45°	S	NT			H
	EX	148 035 0002 00	L = 103,55 D = 29,00 d = 6,00 a = 45°	A	NT			
2								
	IN	147 079 0000 00	L = 107,60 D = 33,00 d = 7,00 a = 45°	S	CR			H
	EX	148 079 0000 00	L = 107,50 D = 30,00 d = 7,00 a = 45°	A	CR			
3								
	IN	147 089 0004 00	L = 117,10 D = 43,50 d = 8,00 a = 45°	A/S	NT			H
	EX	148 089 0004 00	L = 117,10 D = 38,00 d = 8,00 a = 45°	A/S	NT			H

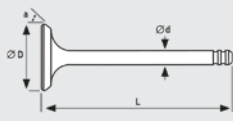
	ccm						IN/EX	QTY	Info	Pos.
F1AE0481A	2287	4	70 KW 95 PS	DAILY III 29 L 10, 29 L 10 V, 35 C 10 V , 35 S 10 V, 35 C 10 V , 35 S 10 V, 40 C 10	09/02 - 07/07	88,00	147 121 0000 00 148 121 0000 00	IN EX	8 8	1
F1AE0481B	2287	4	85 KW 116 PS	DAILY III 29 L 12 V DAILY III Bus 35 S 12, 35 C 12, 40 C 12	09/02 - 07/07 01/03 - 05/06	88,00	147 121 0000 00 148 121 0000 00	IN EX	8 8	1
F1AE0481H	2287	4	100 KW 136 PS	DAILY IV 35S14 C, 35S14 C/P, 35S14 V, 35S14 V/P, 35C14 V, 35S14 K, 35S14 DK DAILY IV 35S14, 35S14 /P, 29L14, 29L14 C, 29L14 C/P, 29L14 V, 29L14 V/P	05/06 - 08/11 05/06 - 08/11	88,00	147 121 0000 00 148 121 0000 00	IN EX	8 8	1
F1AE0481M	2287	4	100 KW 136 PS	DAILY III 29 L 14, 35 C 14, 35 S 14	01/05 - 04/06	88,00	147 121 0000 00 148 121 0000 00	IN EX	8 8	1
F1AE0481R	2287	4	85 KW 116 PS	DAILY IV 35C12, 35S12, 35C12 V, 35C12 V/P, 35S12 V, 35S12 V/P	05/06 - 08/11	88,00	147 121 0000 00 148 121 0000 00	IN EX	8 8	1
F1AE0481V	2287	4	93 KW 126 PS	DAILY IV 35C13 K, 35C13 DK, 35S13 K, 35S13 DK DAILY IV 35C13 V, 35C13 V/P, 35S13 V, 35S13 V/P DAILY IV 40C13 V, 40C13 V/P	07/07 - 08/11 07/07 - 08/11 07/07 - 08/11	88,00	147 121 0000 00 148 121 0000 00	IN EX	8 8	1

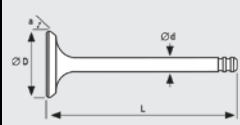
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 121 0000 00	L = 120,40 D = 30,00 d = 6,00 a = 45°	S	CR		S/H	TH
	EX	148 121 0000 00	L = 120,40 D = 30,00 d = 6,00 a = 45°	A/S	CR			TH

	ccm						IN/EX	QTY	Info	Pos.	
224DT(DW12C)	2179	4	120-147 KW 163-200 PS	XF I 2.2 D XF SPORTBRAKE 2.2 D	04/11 - 04/15 09/12 - 04/14	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8		1

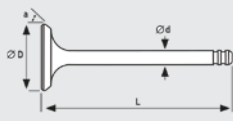
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 037 0030 00	L = 95,80 D = 27,25 d = 6,00 a = 45°	S	CR			
	EX	148 037 0031 00	L = 95,00 D = 25,20 d = 6,00 a = 45°	A/S	CR		S/S	TH

	ccm						IN/EX	QTY	Info	Pos.
BF 4 L 913	4086	4	60-74 KW 82-100 PS	DEUTZ-FAHR AGROPRIMA DX 4.51, DX 4.56 DEUTZ-FAHR AGROSTAR DX 4.61, DX 4.68, DX 4.71, DX 4.78 DEUTZ-FAHR AGROXTRA DX 4.47, DX 4.57	01/89 - 12/95 01/90 - 12/93 01/91 - 12/95	102,00	147 015 0007 00 148 015 0005 00	IN EX	2 2	7
BF 4M 2012, BF 4M 2012 C	4038	4	68-93 KW 92-126 PS	DEUTZ-FAHR, AGROTRON K	09/05 - 12/07	101,00	147 015 0003 00 148 015 0003 00	IN EX	2 2	3
BF 6 L 913, F 6 L 913	6128	6	96-118 KW 130-160 PS	D-Series, M-series	01/71 - 12/87	102,00	147 015 0004 00 148 015 0004 00	IN EX	2 2	4
BF 6M 1012, BF 6M 1012 C, BF 6M 1012 E, BF 6M 1012 EC	4788	6	70-125 KW 95-170 PS	DEUTZ-FAHR AGROTRON 105 MK2/MK3, 106 MK2/MK3, 110 MK2/MK3, 115 MK2/MK3, 6.00 MK1, 6.01 MK1, 6.05 MK1, 6.15 MK1	01/95 - 12/04	94,00	147 015 0008 00 148 015 0007 00	IN EX	2 2	8
BF 6M 1013, BF 6M 1013 E, BF 6M 1013 EC, BF 6M 1013 FC	7146	6	85-191 KW 115-260 PS	DEUTZ-FAHR AGROTRON 200 MK2/MK3, 205 MK3, 230 MK2/MK3, 260 MK2/M3, 6.20 MK1, 6.30 MK1, 6.45 MK1	01/95 - 12/07	108,00	147 015 0006 00 148 015 0006 00	IN EX	2 2	6
F 2L 1011, F 2L 1011 F	1366	2	18-22 KW 24-30 PS	DEUTZ ENGINE	06/89 -	91,00	147 015 0001 00 148 015 0001 00	IN EX	4 4	1
F 3L 1011, F 3L 1011 F	2049	3	16-33 KW 22-45 PS	DEUTZ ENGINE	06/89 -	91,00	147 015 0001 00 148 015 0001 00	IN EX	4 4	1
F 4 L 1011, F 4 L 1011 F	2731	4	28-56 KW 38-76 PS	Deutz Engine	-	91,00	147 015 0001 00 148 015 0001 00	IN EX	4 4	1
F 4 L 913	4086	4	66 KW 90 PS	D-Series, M-series	01/75 - 12/87	102,00	147 015 0004 00 148 015 0004 00	IN EX	2 2	4
F 5L 912	4712	5	59 KW 80 PS	Deutz-Fahr DX 85/90	01/78 - 12/82	100,00	147 015 0005 00 148 015 0005 00	IN EX	2 2	5
TCD 2012 L4 2V	4038	4	73-80 KW 99-109 PS	Deutz-Fahr Tractor	-	101,00	147 015 0002 00 148 015 0002 00	IN EX	4 4	2
TCD 2012 L6 2V	6057	6	147-165 KW 200-224 PS	Deutz Engine	-	101,00	147 015 0002 00 148 015 0002 00	IN EX	4 4	2
TCD 2013 L4 4V	4764	4	140-161 KW 190-219 PS	DEUTZ ENGINE	04/07 -	108,00	147 015 0009 00 148 015 0008 00	IN EX	2 2	9
TCD 2013 L6 4V	7146	6	147-243 KW 200-330 PS	DEUTZ ENGINE, AGROTRON X	01/06 -	108,00	147 015 0009 00 148 015 0008 00	IN EX	2 2	9

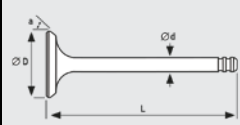
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 015 0001 00	L = 124,70 D = 40,10 d = 8,00 a = 45°	S	CR			TH
	EX	148 015 0001 00	L = 124,75 D = 34,90 d = 8,00 a = 45°	A/S	CR			TH
2								
	IN	147 015 0002 00	L = 121,20 D = 41,70 d = 8,00 a = 30°	S	CR			TH
	EX	148 015 0002 00	L = 121,20 D = 35,90 d = 8,00 a = 45°	A/S	CR			TH
3								
	IN	147 015 0003 00	L = 119,50 D = 41,70 d = 8,00 a = 30°	S	CR			TH
	EX	148 015 0003 00	L = 119,50 D = 36,00 d = 8,00 a = 45°	A/S	CR			TH
4								
	IN	147 015 0004 00	L = 133,00 D = 43,00 d = 8,00 a = 45°	S			S/H	TH
	EX	148 015 0004 00	L = 133,00 D = 37,00 d = 8,00 a = 45°	A/S	CR			H
5								
	IN	147 015 0005 00	L = 133,00 D = 43,00 d = 8,00 a = 45°	S	CR			TH
	EX	148 015 0005 00	L = 133,00 D = 37,00 d = 8,00 a = 45°	A/S	CR			H

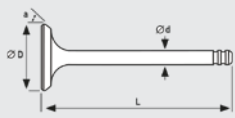
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 015 0006 00	L = 139,00 D = 48,00 d = 9,00 a = 30°	S	CR			TH
	EX	148 015 0006 00	L = 139,00 D = 42,00 d = 9,00 a = 45°	A/S	CR			TH
7								
	IN	147 015 0007 00	L = 133,00 D = 43,00 d = 8,00 a = 30°	A/S	CR			TH
	EX	148 015 0005 00	L = 133,00 D = 37,00 d = 8,00 a = 45°	A/S	CR			H
8								
	IN	147 015 0008 00	L = 124,75 D = 41,70 d = 8,00 a = 30°	S	CR			TH
	EX	148 015 0007 00	L = 124,70 D = 35,90 d = 8,00 a = 45°	A/S	CR			TH
9								
	IN	147 015 0009 00	L = 145,80 D = 38,20 d = 8,00 a = 60°	S	CR			TH
	EX	148 015 0008 00	L = 145,80 D = 35,80 d = 8,00 a = 45°	A/S	CR			TH

	ccm						IN/EX	QTY	Info	Pos.
A5D	1493	4	72 KW 98 PS	RIO 1.5 16V	08/00 - 02/05	75,50	147 053 0002 00 148 053 0002 00	IN EX	8 8	2
D4CB	2497	4	95-131 KW 129-178 PS	K2500 (SD) 2.5 CRDi SORENTO I (JC) 2.5 CRDi	01/10 - 09/06 - 08/09	91,00	147 053 0003 00 148 053 0003 00	IN EX	8 8	3
G4FA	1396	4	73-80 KW 10-109 PS	CEE'D 1.4 PRO CEE'D 1.4 CVVT RIO III 1.4 CVVT	10/10 - 12/12 02/08 - 09/12 09/11 -	77,00	147 087 0001 00 148 087 0001 00	IN EX	8 8	5
G4FC	1591	4	77-97 KW 105-132 PS	CARENS III 1.6 CVVT CEE'D 1.6 CVVT CERATO 1.6 PRO CEE'D 1.6 SOUL 1.6 CVVT VENGA 1.6 CVVT	08/09 - 12/06 - 05/06 - 02/08 - 02/09 - 02/10 -	77,00	147 087 0001 00 148 087 0001 00	IN EX	8 8	5
G4FD	1591	4	97-103 KW 132-140 PS	CARENS 1.6 GDi CEE'D 1.6 GDi K3 1.6 GDi RIO III 1.6 SOUL 1.6 GDi SPORTAGE 1.6 GDi	03/13 - 05/12 - 09/12 - 09/11 - 02/11 - 02/11 -	77,00	147 087 0001 00 148 087 0001 00	IN EX	8 8	5
G4HG	1086	4	48 KW 65 PS	Picanto (BA) 1.1	04/04 -	67,00	147 053 0004 00 148 053 0004 00	IN EX	8 4	4
J2	2665	4	59-61 KW 80-83 PS	BESTA 2.7 D K2700 2.7 D PREGIO (TB) 2.7 D	- - -	94,50	147 053 0001 00 148 053 0001 00	IN EX	4 4	1

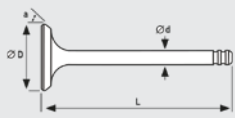
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 053 0001 00	L = 112,80 D = 44,00 d = 8,50 a = 45°	S	NT			TH
	EX	148 053 0001 00	L = 112,85 D = 37,20 d = 8,50 a = 45°	A/S	NT		S/S	TH
2								
	IN	147 053 0002 00	L = 96,40 D = 27,80 d = 5,50 a = 45°	S	NT			H
	EX	148 053 0002 00	L = 95,50 D = 24,90 d = 5,50 a = 45°	A	NT			
3								
	IN	147 053 0003 00	L = 110,60 D = 31,80 d = 7,00 a = 45°	S	NT			TH
	EX	148 053 0003 00	L = 110,55 D = 28,10 d = 7,00 a = 45°	A/S	NT			TH
4								
	IN	147 053 0004 00	L = 99,70 D = 23,55 d = 5,50 a = 45°	S	NT			H
	EX	148 053 0004 00	L = 99,20 D = 27,00 d = 5,50 a = 45°	A	NT			H, TW
5								
	IN	147 087 0001 00	L = 93,20 D = 31,50 d = 5,50 a = 45°	S	NT			H
	EX	148 087 0001 00	L = 92,60 D = 26,00 d = 5,50 a = 45°	A	NT			

	ccm						IN/EX	QTY	Info	Pos.
169 A4.000	1242	4	49-51 KW 67-69 PS	Ypsilon 1.2	08/10 -	70,80	147 020 0003 00 148 020 0003 00	IN EX	4 4	4
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	3
182 A2.000	1747	4	83 KW 113 PS	DEDRA 1.8 16V LE DELTA II 1.8 i.e. 16V	03/96 - 07/99 03/96 - 08/99	82,00	147 001 0001 00 148 001 0001 00	IN EX	8 8	1
182 B7.000	1998	5	113 KW 154 PS	LYBRA 2.0 20V	07/99 - 09/00	82,00	147 001 0002 00 148 001 0002 00	IN EX	10 10	2
183 A1.000	1747	4	96 KW 131 PS	DEDRA 1.8 GT 16V DELTA II 1.8 i.e. 16V GT	03/96 - 07/99 03/96 - 08/99	82,00	147 001 0001 00 148 001 0001 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	3
192 A2.000	2446	5	125 KW 170 PS	LYBRA 2.4 20V	10/01 - 10/05	83,00	147 001 0002 00 148 001 0002 00	IN EX	10 10	2
350 A1.000	1368	4	57 KW 78 PS	MUSA 1.4 YPSILON 1.4	09/05 - 09/12 02/06 - 12/11	72,00	147 020 0003 00 148 020 0003 00	IN EX	4 4	4
4HP, 4HR	2179	4	120 KW 163 PS	PHEDRA 2.2 JTD	04/06 - 11/10	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	7
4HS, 4HT	2179	4	125 KW 170 PS	PHEDRA 2.2 D Multijet	03/08 - 11/10	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	7
839 A5.000, AR 32501	2387	5	99 KW 135 PS	LYBRA 2.4 JTD	07/99 - 02/01	82,00	147 020 0007 00 148 020 0007 00	IN EX	5 5	5
839 A6.000	2387	5	103 KW 140 PS	LYBRA 2.4 JTD	09/00 - 10/05	82,00	147 020 0007 00 148 020 0007 00	IN EX	5 5	5
841 C.000	2387	5	110 KW 150 PS	THESIS, LYBRA 2.4 JTD	05/02 - 07/09	82,00	147 020 0007 00 148 020 0007 00	IN EX	5 5	5
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	6

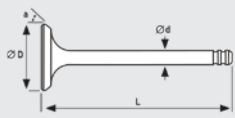
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 001 0001 00	L = 113,00 D = 33,50 d = 7,00 a = 45°	S	CR			TH
	EX	148 001 0001 00	L = 108,50 D = 28,00 d = 7,00 a = 45°	A/S	CR		S/S	TH
2								
	IN	147 001 0002 00	L = 113,00 D = 33,50 d = 7,00 a = 45°	S	CR			TH
	EX	148 001 0002 00	L = 108,50 D = 28,00 d = 7,00 a = 45°	A/S	CR		S/S	TH
3								
	IN	147 020 0002 00	L = 95,00 D = 26,80 d = 6,00 a = 45°	S	CR			H
	EX	148 020 0002 00	L = 96,10 D = 22,35 d = 6,00 a = 45°	A	CR			
4								
	IN	147 020 0003 00	L = 100,00 D = 33,20 d = 5,00 a = 45°	S	CR			TH
	EX	148 020 0003 00	L = 100,50 D = 28,00 d = 5,00 a = 45°	A/S	CR			TH
5								
	IN	147 020 0007 00	L = 115,00 D = 35,50 d = 8,00 a = 45°	A/S	CR			TH
	EX	148 020 0007 00	L = 115,00 D = 34,50 d = 8,00 a = 45°	A/S	CR			TH

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 037 0020 00	L = 106,20 D = 33,20 d = 6,00 a = 45°	S				H
	EX	148 037 0021 00	L = 103,70 D = 29,00 d = 6,00 a = 45°	A	CR			
7								
	IN	147 037 0030 00	L = 95,80 D = 27,25 d = 6,00 a = 45°	S	CR			
	EX	148 037 0031 00	L = 95,00 D = 25,20 d = 6,00 a = 45°	A/S	CR		S/S	TH

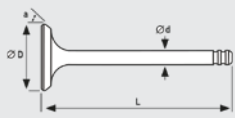
	ccm						IN/EX	QTY	Info	Pos.
224DT(DW12BTED4)	2179	4	110-140 KW 150-190 PS	DISCOVERY SPORT 2.2 D 4x4 FREELANDER 2 2.2 SD4 4x4 RANGE ROVER EVOQUE 2.2 D 4x4	09/14 - 10/06 - 10/14 06/11 - 12/19	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	1

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 037 0030 00	L = 95,80 D = 27,25 d = 6,00 a = 45°	S	CR			
	EX	148 037 0031 00	L = 95,00 D = 25,20 d = 6,00 a = 45°	A/S	CR		S/S	TH

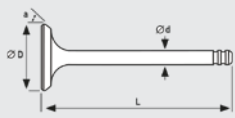
	ccm							IN/EX	QTY	Info	Pos.
2AZ-FXE	2362	4	110 KW 150 PS	HS 250h	07/09 - 01/18	88,50	147 096 0009 00 148 096 0009 00	IN EX	8 8		1

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 096 0009 00	L = 101,70 D = 34,00 d = 5,50 a = 45°	S	NT			H
	EX	148 096 0009 00	L = 101,10 D = 29,50 d = 5,50 a = 45°	A	NT			

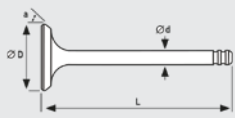
	ccm							IN/EX	QTY	Info	Pos.
LF479Q1	1342	4	65 KW 88 PS	LIFAN 520 1.3	07/06 - 12/15	1,00	147 768 0001 00 148 768 0001 00	IN EX	8 8		1

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 768 0001 00	L = 88,00 D = 31,00 d = 6,00 a = 45°	S	NT			
	EX	148 768 0001 00	L = 88,00 D = 24,50 d = 6,00 a = 45°	S	NT			

	ccm						IN/EX	QTY	Info	Pos.	
DASA, DASB	1968	4	90 KW 122 PS	TGE 2.0 TDI	08/17 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8		1
DAUA, DAUB	1968	4	103 KW 140 PS	TGE 2.0 TDI	11/16 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8		1
DAVA	1968	4	130 KW 177 PS	TGE 2.0 TDI	11/16 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8		1
DAWA	1968	4		TGE 2.0 TDI RWD	02/17 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8		1

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 050 0029 00	L = 99,30 D = 28,00 d = 5,00 a = 45°	S			S/H	TH
	EX	148 050 0020 00	L = 99,30 D = 25,00 d = 5,00 a = 45°	A/S			S/S	TH

	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
WL-T	2499	4	61-92 KW 83-125 PS	B-SERIE / B-SERIE 2.5 TD	06/95 - 10/01	93,00	147 085 0001 00 148 085 0001 00	IN EX	8 4	2
ZJ-VE	1349	4	55-67 KW 75-91 PS	MAZDA 2 1.3 MAZDA 3 1.3	04/03 - 06/15 10/03 - 06/09	74,00	147 085 0002 00 148 085 0002 00	IN EX	8 8	3

	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 = 5,50 a = 45°	S	NT			H
	EX	148 021 0002 00	L = 104,80 D = 30,10 d = 5,50 a = 45°	A	NT			
2								
	IN	147 085 0001 00	L = 112,00 D = 32,50 d = 7,00 a = 45°	S	NT			H
	EX	148 085 0001 00	L = 111,80 D = 35,50 d = 7,00 a = 45°	A/S	NT		S/S	H
3								
	IN	147 085 0002 00	L = 98,30 D = 27,70 d = 5,50 a = 45°	S	NT			H
	EX	148 085 0002 00	L = 98,80 D = 24,00 d = 5,50 a = 45°	A	NT			

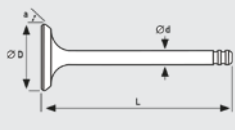
	ccm						IN/EX	QTY	Info	Pos.
M 104.941	2799	6	142 KW 193 PS	C-KLASSE C 280	05/93 - 05/00	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12	10
M 104.942	2799	6	142-145 KW 193-197 PS	E-KLASSE E 280 / E 280 T	10/92 - 06/96	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12	10
M 104.943	2799	6	142 KW 193 PS	SL 280	08/93 - 10/01	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12	10
M 104.944	2799	6	142-145 KW 193-197 PS	S-KLASSE S 280 / 300 SE 2.8	01/93 - 10/98	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12	10
M 104.990	3199	6	162-170 KW 220-231 PS	S-KLASSE 300 SE, SEL/S320	03/91 - 10/98	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12	10
M 104.991	3199	6	170 KW 231 PS	SL 320	09/93 - 10/01	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12	10
M 104.992	3199	6	162 KW 220 PS	124 320 E E-KLASSE E 320	10/92 - 05/93 10/92 - 03/98	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12	10
M 104.995	3199	6	162 KW 220 PS	E-KLASSE E 320	06/95 - 06/97	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12	10
M 104.996	3199	6	155 KW 211 PS	G-KLASSE G 320	09/94 - 12/97	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12	10
M 132.910	999	3	45-52 KW 61-71 PS	SMART FORTWO 1.0	01/07 -	72,00	147 110 0002 00 148 110 0003 00	IN EX	6 6	24
M 132.930	999	3	62-75 KW 84-102 PS	SMART FORTWO 1.0 Brabus SMART FORTWO 1.0 Turbo SMART FORTWO 1.0 Turbo Brabus	01/08 - 01/07 - 07/10 -	72,00	147 110 0002 00 148 110 0003 00	IN EX	6 6	24
M 166.990	1898	4	92 KW 125 PS	A-KLASSE A 190	03/99 - 08/04	84,00	147 010 0008 00 148 010 0009 00	IN EX	4 4	6
M 166.991	1898	4	92 KW 125 PS	VANEO 1.9	02/02 - 07/05	84,00	147 010 0008 00 148 010 0009 00	IN EX	4 4	6
M 166.995	2084	4	103 KW 140 PS	A-KLASSE A 210	12/01 - 08/04	84,00	147 010 0008 00 148 010 0009 00	IN EX	4 4	6
M 266.920	1498	4	70 KW 95 PS	A-KLASSE A 150 / A 160 B-KLASSE B 150 / B 160	09/04 - 06/12 03/05 - 11/11	83,00	147 010 0008 00 148 010 0009 00	IN EX	4 4	6
M 266.940	1699	4	85 KW 116 PS	A-KLASSE A 170 / A 180 B-KLASSE B 170 / B 180	09/04 - 06/12 03/05 - 11/11	83,00	147 010 0008 00 148 010 0009 00	IN EX	4 4	6
M 266.960	2034	4	100 KW 136 PS	A-KLASSE A 200 B-KLASSE B 170 NGT / B 180 NGT / B 200	09/04 - 06/12 04/08 - 11/11	83,00	147 010 0008 00 148 010 0009 00	IN EX	4 4	6
M 266.980	2034	4	142 KW 193 PS	A-KLASSE A 200 TURBO B-KLASSE B 200 TURBO	09/05 - 06/12 03/05 - 11/11	83,00	147 010 0008 00 148 010 0009 00	IN EX	4 4	6
M 271.820	1796	4	115-137 KW 156-186 PS	C-KLASSE C 180 / C 180 CGI / C 200 / C 200 CGI E-KLASSE E 200 CGI	01/07 - 08/09 - 12/16	82,00	147 010 0020 00 148 010 0024 00	IN EX	8 8	15
M 271.860	1796	4	135-150 KW 184-204 PS	C-KLASSE C 200 CGI / C 250 / C 250 CGI E-KLASSE E 200 CGI / E 250 CGI	07/09 - 01/09 - 12/16	82,00	147 010 0020 00 148 010 0024 00	IN EX	8 8	15
M 271.860, M 271.861	1796	4	135-150 KW 184-204 PS	SLK 200 / 250	02/11 -	82,00	147 010 0020 00 148 010 0024 00	IN EX	8 8	15
M 271.910	1597	4	115 KW 156 PS	C-KLASSE C 180 Kompressor	01/08 - 08/14	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.911	1597	4	95 KW 129 PS	CLC 160	02/09 - 06/11	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.921	1796	4	90 KW 122 PS	C-KLASSE C 160 Kompressor	05/02 - 05/08	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.940	1796	4	120 KW 163 PS	C-KLASSE C 220 / C 200 Kompressor CLK 200 Kompressor	05/02 - 05/08 09/02 - 03/10	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.941	1796	4	120 KW 163 PS	E-KLASSE E 200 Kompressor / E 200 NGT	11/02 - 07/09	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.942	1796	4	125 KW 170 PS	C-KLASSE C 200 CGI Kompressor CLK 200 CGI	03/03 - 05/08 07/03 - 03/10	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.944	1796	4	120 KW 163 PS	SLK 200 Kompressor	03/04 - 02/11	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.946	1796	4	105 KW 143 PS	C-KLASSE C 180 Kompressor CLC 180 Kompressor	05/02 - 05/08 05/08 - 06/11	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.948	1796	4	141 KW 192 PS	C-KLASSE C 230 Kompressor	05/02 - 05/08	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.950	1796	4	135 KW 184 PS	C-KLASSE C 200 Kompressor	01/07 - 08/14	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16

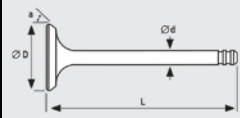
	ccm						IN/EX	QTY	Info	Pos.
M 271.951	1796	4	115 KW 156 PS	SPRINTER 3.5-t 316 / 316 NGT / 316 LGT SPRINTER 3-t 216 SPRINTER 5-t 516 NGT	09/08 - 09/08 - 09/08 -	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.952	1796	4	115 KW 156 PS	C-KLASSE C 180 Kompressor	01/07 - 08/14	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.954	1796	4	135 KW 184 PS	SLK 200 Kompressor	01/08 - 02/11	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.955	1796	4	135 KW 184 PS	CLK 200 Kompressor	10/06 - 03/10	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.956	1796	4	135 KW 184 PS	E-KLASSE E 200 Kompressor	04/06 - 12/12	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.957	1796	4	120 KW 163 PS	CLC 200 Kompressor	05/08 - 06/11	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
M 271.958	1796	4	120 KW 163 PS	E-KLASSE E 200 NGT	03/11 - 12/15	82,00	147 010 0021 00 148 010 0023 00	IN EX	8 8	16
OM 314/340/343	3780	4	35-66 KW 48-90 PS	LP 608, LPL 608, LP 709, LPL 709, LP 808, LPL 808 UNIMOG U 800	09/63 - 01/87 04/66 - 03/90	97,00	147 100 0000 00 148 100 0000 00	IN EX	4 4	18
OM 341/344/352/353/356/357/362/3	5675	6	62-150 KW 84-204 PS	MB-TRAC 1000, 1100, 1300, 1500 T2/L LA 911 Unimog U 100, U 110, U 1100L, U 1300, U 1300L	03/76 - 12/87 01/72 - 12/95 05/69 - 09/88	97,00	147 100 0000 01 148 100 0000 01	IN EX	6 6	19
OM 354.900/901/902/903/920/921/9	3972	4	77-103 KW 105-140 PS	T2/LN1 609 D, 711 D, 714 D, 811 D, 611 D, 611 DK, 814 D	04/86 - 12/94	97,50	147 100 0001 00	IN	4	20
OM 364.900/906/907/911/912/913/9	3972	4	63-100 KW 86-136 PS	T2/LN1 609 D, 609 DK, 709 D, 709 DK, 711 D, 809 D, 809 DK, 809 DT, 811 D, 811 DK, 814 D	04/86 - 12/94	97,50	147 100 0001 00	IN	4	20
OM 386.951/952/981	5958	6	125 KW 170 PS	MERCEDES-BENZ OH,OF	01/70 -	97,50	147 100 0001 01	IN	6	21
OM 401.905/907/909/912/914/91	9570	6	141-144 KW 192-196 PS	NG Models, O 303	08/73 -	125,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 402.906/907/910/911/912/91	12760	8	176-188 KW 240-256 PS	NG Models, O 303	08/73 -	125,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 403.916/931	15950	10	235 KW 320 PS	NG Models	08/73 -	125,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 407.905/907/909/913/915	11413	6	132-206 KW 180-280 PS	O 305, O 307	04/73 -	125,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 421.905/906/908/910/951	10964	6	159-184 KW 216-250 PS	NG Models, O 303	11/64 -	128,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 422.905/906/907/908/909/91	14618	8	184-276 KW 250-375 PS	NG Models, O 303	01/70 -	128,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 423.905/907/908/909	18273	10	261 KW 355 PS	NG Models	08/73 -	128,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 427.905/910/911	11967	6	150-206 KW 204-280 PS	O 405	12/84 -	128,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 441.905/908/912/913/914/91	11304	6	151-200 KW 205-272 PS	MK Models, SK Models	08/73 -	128,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 442.906/906/907/909/910/91	15078	8	191-218 KW 260-296 PS	MK Models, SK Models	08/73 -	130,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 447.906/908/913	11967	6	150-184 KW 204-250 PS	O 405, O 407, O 408	12/84 -	128,00	147 100 0002 00 148 100 0001 00	IN EX	2 2	22
OM 457.914/915/916/917/918/92	11967	6	185-355 KW 252-455 PS	AXOR, AXOR 2, TRAVEGO, TOURISMO, INTEGRO, CONECTO	01/98 -	128,00	147 100 0003 00 148 100 0002 00	IN EX	2 2	23
OM 457.960/961/962/964/965/96	11967	6	185-355 KW 252-455 PS	AXOR, AXOR 2, TRAVEGO, TOURISMO, INTEGRO, CONECTO	01/98 -	128,00	147 100 0003 00 148 100 0002 00	IN EX	2 2	23

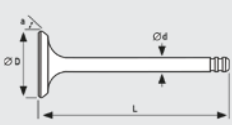
	ccm						IN/EX	QTY	Info	Pos.	
OM 460.921/.922/.923/.925/.926/.927	12816	6	261-390 KW 350-530 PS	ACTROS MP4 / MP5	01/12 -	128,00	147 100 0003 00 148 100 0002 00	IN EX	2 2		23
OM 541.920/.921/.922/.923/.924/.925	11946	6	230-355 KW 313-483 PS	ACTROS, ACTROS MP2 / MP3, Series 400, ACTROS MP4 / MP5	04/96 -	130,00	147 100 0003 00 148 100 0002 00	IN EX	2 2		23
OM 541.950/.951/.952/.953/.955/.956	11946	6	230-355 KW 313-483 PS	ACTROS, ACTROS MP2 / MP3, Series 400, ACTROS MP4 / MP5	04/96 -	130,00	147 100 0003 00 148 100 0002 00	IN EX	2 2		23
OM 541.980/.981/.982/.990/.991/.992	11946	6		ACTROS, ACTROS MP2 / MP3, Series 400, ACTROS MP4 / MP5	04/96 -	130,00	147 100 0003 00 148 100 0002 00	IN EX	2 2		23
OM 542.920/.921/.922/.923/.925/.926	15928	8	320-480 KW 435-653 PS	ACTROS MP2 / MP3, ACTROS MP4 / MP5, TOURISMO, TRAVEGO	10/99 -	130,00	147 100 0003 00 148 100 0002 00	IN EX	2 2		23
OM 542.956/.957/.958/.960/.961/.962	15928	8	320-480 KW 435-653 PS	ACTROS MP2 / MP3, ACTROS MP4 / MP5, TOURISMO, TRAVEGO	10/99 -	130,00	147 100 0003 00 148 100 0002 00	IN EX	2 2		23
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		3
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		3
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		3
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		3
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		3
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		3
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		4
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		4
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		4
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		4
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		4
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		4
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		4
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		4
OM 616.910	2404	4	48-53 KW 65-72 PS	T2/L L 407 D	01/75 - 12/88	91,00	147 010 0001 00 148 010 0001 00	IN EX	4 4		1
OM 616.911, OM 616.932	2404	4	38 KW 52 PS	UNIMOG U 52, U 60, U 600,U 600L UNIMOG U 60T, U 600T	01/77 - 05/88 01/77 - 05/88	90,90	147 010 0001 00 148 010 0001 00	IN EX	4 4		1
OM 616.912	2399	4	48-53 KW 65-72 PS	(S123, W123) 240 T D	02/76 - 12/85	90,90	147 010 0001 00 148 010 0001 00	IN EX	4 4		1
OM 616.913, OM 616.939	2398	4	53 KW 72 PS	T1/TN 407 D	07/81 - 01/89	91,00	147 010 0001 00 148 010 0001 00	IN EX	4 4		1
OM 616.914	2399	4	53 KW 72 PS	T2/LN1 507 D	04/86 - 04/89	91,00	147 010 0001 00 148 010 0001 00	IN EX	4 4		1

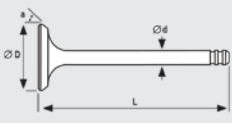
	ccm						IN/EX	QTY	Info	Pos.
OM 616.916	2404	4	48 KW 65 PS	/8 (W115) 240 D	08/73 - 01/77	91,00	147 010 0001 00 148 010 0001 00	IN EX	4 4	1
OM 616.917, OM 616.934	2399	4	48 KW 65 PS	T1 (601) 207 D 2.4	01/77 - 12/82	91,00	147 010 0001 00 148 010 0001 00	IN EX	4 4	1
OM 616.936	2399	4	53 KW 72 PS	G-Klasse (W460) 240 GD	03/79 - 08/87	90,90	147 010 0001 00 148 010 0001 00	IN EX	4 4	1
OM 616.937, OM 616.939	2399	4	48-53 KW 65-72 PS	T1 (601) 207 D 2.4 T1 (601, 611) 407 D 2.4 T1 (602) 307 D 2.4	06/82 - 01/90 04/81 - 07/82 04/77 - 01/90	91,00	147 010 0001 00 148 010 0001 00	IN EX	4 4	1
OM 616.942, OM 616.943	2399	4	38 KW 52 PS	UNIMOG U 600 UNIMOG U 650, U 650L	05/88 - 05/88 -	90,90	147 010 0001 00 148 010 0001 00	IN EX	4 4	1
OM 617.910	2998	5	59 KW 80 PS	/8 (W115) 240 D 3.0	08/74 - 11/76	90,90	147 010 0002 00 148 010 0002 00	IN EX	8 8	2
OM 617.912	2998	5	59-65 KW 80-88 PS	(S123) 300 T D (W123) 300 D	09/77 - 11/85 02/76 - 11/85	90,90	147 010 0002 00 148 010 0002 00	IN EX	8 8	2
OM 617.913	2998	5	65 KW 88 PS	T1 (601, 611) 209 D 2.9 T1 (602) 309 D 3.0 T1/TN 409 D	12/82 - 01/90 10/82 - 01/90 04/82 - 01/89	91,00	147 010 0002 00 148 010 0002 00	IN EX	8 8	2
OM 617.931	2998	5	65 KW 88 PS	G-Klasse (W460) 300 GD	12/79 - 12/91	90,90	147 010 0002 00 148 010 0002 00	IN EX	8 8	2
OM 622.951, OM 626.951	1598	4	65-100 KW 88-136 PS	C-CLASS C 180/200 BlueTEC / d MARCO POLO Camper 160 CDI / 180 CDI VITO 109 CDI / 111 CDI	05/14 - 05/18 03/15 - 10/14 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	17
OM 628.960	3996	8	184-191 KW 250-260 PS	S-KLASSE S 400 CDI	06/00 - 08/05	86,00	147 010 0009 03 148 010 0010 03	IN EX	16 16	9
OM 628.961	3996	8	191 KW 260 PS	E-KLASSE E 400 CDI	02/03 - 12/08	86,00	147 010 0009 03 148 010 0010 03	IN EX	16 16	9
OM 628.962	3996	8	184 KW 250 PS	G-KLASSE G 400 CDI	12/00 -	86,00	147 010 0009 03 148 010 0010 03	IN EX	16 16	9
OM 628.963	3996	8	184 KW 250 PS	M-KLASSE ML 400 CDI	09/01 - 06/05	86,00	147 010 0009 03 148 010 0010 03	IN EX	16 16	9
OM 647.961	2685	5	120-130 KW 163-177 PS	E-KLASSE E 270 CDI / E 270 T CDI	03/02 - 07/09	88,00	147 010 0009 01 148 010 0010 01	IN EX	10 10	7
OM 647.981	2685	5	115 KW 156 PS	SPRINTER 3-t 316 CDI SPRINTER 4-t 416 CDI	04/00 - 05/06 04/00 - 05/06	88,00	147 010 0009 01 148 010 0010 01	IN EX	10 10	7
OM 648.960 / OM 648.961	3222	6	130-150 KW 177-204 PS	E-KLASSE E 280 CDI E-KLASSE E 280 T CDI E-KLASSE E 320 CDI E-KLASSE E 320 T CDI S-KLASSE S 320 CDI	05/04 - 12/08 05/04 - 07/09 11/02 - 12/08 03/03 - 07/09 09/02 - 08/05	88,00	147 010 0009 02 148 010 0010 02	IN EX	12 12	8
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	5
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	5
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	5
OM 651.911	2143	4	120-150 KW 163-204 PS	C-KLASSE (W204, S204, C204) C 220 CDI, C 250 CDI	08/08 -	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8	5
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	5
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	5
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	5
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	5

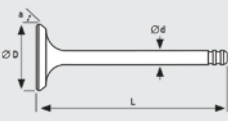
	ccm						IN/EX	QTY	Info	Pos.	
OM 651.960	2143	4	150-152 KW 204-207 PS	GLE (W166) 250 d 4-matic M-KLASSE ML 250 CDI / BlueTEC 4-matic	04/15 - 06/11 - 12/15	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8		5
OM 651.961	2143	4	150 KW 204 PS	S-KLASSE S 250 CDI	01/11 - 12/13	83,00	147 010 0005 00 148 010 0004 00	IN EX	8 8		5
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		5
OM 654.820	1992	4	147-200 KW 200-272 PS	C-KLASSE C 220 d, C 300 d CLS 300/350 D EQ BOOST 4-MATIC E 300 d 4-matic, E 350 D EQ BOOST 4-MATIC GLE 300 d EQ Boost 4-matic	03/21 - 01/21 - 01/21 - 06/21 -	82,00	147 010 0017 00 148 010 0021 00	IN EX	8 8		12
OM 654.916	1598	4	90-118 KW 122-160 PS	C-KLASSE C 180 d, C 200 d E-KLASSE E 200 d	05/18 - 11/18 -	78,00	147 010 0018 00 148 010 0020 00	IN EX	8 8		14
OM 654.920	1950	4	84-235 KW 114-320 PS	A-KLASSE A 180 d, A 200 d, A 220 d 4-matic B-KLASSE B 180 d, B 200 d, B 220 d C-KLASSE C 300 de, C 220 d, C 200 d, C 300 d CLA 180 d, 200 d, 220 d CLS 220 d, 300 d E-KLASSE E 200 d, E 220 d, E 300 d, E 300 de 4-matic GLA 200 d, GLA 180 d, GLA 220 d GLB 180 d, GLB 200 d, GLB 220 d GLC 200 d, 220 d, 300 d, 300 de GLE 300 d 4-matic, GLE 350 de 4-matic MARCO POLO Camper 200 CDI, 220 CDI, 250 CDI, 300 CDI SPRINTER 3-t, 3,5-t, 4-t 211 CDI, 217 CDI, 311 CDI, 315 CDI, 417 CDI VITO 114 CDI, 116 CDI, 119 CDI, 124 CDI V-KLASSE V 220 CDI / d, V 250 CDI / d, V 300 CDI / d	11/18 - 12/18 - 04/18 - 04/19 - 04/18 - 01/16 - 02/20 - 08/19 - 04/19 - 10/18 - 03/19 - 06/20 - 04/20 - 03/19 -	82,00	147 010 0017 00 148 010 0018 00 148 010 0019 00	IN EX EX	8 8 8	For OE no. A 654 050 38 00 For OE no. A 654 050 10 00	11
OM 656.929	2925	6	183-250 KW 249-340 PS	CLS 350 d, CLS 400 d E-KLASSE E 350 d, E 400 d G-KLASSE G 350 d 4-matic, G 400 d 4-matic GLC 400 d 4-matic GLE 350 d 4-matic, GLE 400 d 4-matic GLS 350 d 4-matic, 400 d 4-matic S-KLASSE S 350 d, S 400 d	12/17 - 08/18 - 01/19 - 08/19 - 12/18 - 04/19 - 07/17 -	82,00	147 010 0017 01 148 010 0019 01	IN EX	12 12		13
OM 660.950, OM 660.951	799	3	33-40 KW 45-54 PS	SMART FORTWO 1.0	01/07 -	65,50	147 110 0003 00 148 110 0004 00	IN EX	3 3		25

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 010 0001 00	L = 131,40 D = 39,80 d = 10,00 a = 60°	S	CR			
	EX	148 010 0001 00	L = 131,00 D = 34,20 d = 10,00 a = 60°	A/S	CR			
2								
	IN	147 010 0002 00	L = 102,30 D = 28,50 d = 6,00 a = 45°	S	CR			TH
	EX	148 010 0002 00	L = 131,00 D = 34,20 d = 10,00 a = 60°	A/S	CR			
3								
	IN	147 010 0004 00	L = 103,95 D = 30,20 d = 7,00 a = 45°	S	NT			H
	EX	148 010 0006 00	L = 104,35 D = 28,40 d = 7,00 a = 45°	A	NT			
4								
	IN	147 010 0004 01	L = 103,95 D = 30,20 d = 7,00 a = 45°	S	NT			H
	EX	148 010 0006 01	L = 104,35 D = 28,40 d = 7,00 a = 45°	A	NT			
5								
	IN	147 010 0005 00	L = 109,00 D = 28,40 d = 6,00 a = 45°	S	CR			TH
	EX	148 010 0004 00	L = 109,20 D = 24,70 d = 6,00 a = 45°	A/S	CR			TH

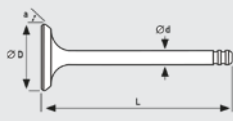
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 010 0008 00	L = 103,10 D = 43,00 d = 6,00 a = 45°	S	NT			H
	EX	148 010 0009 00	L = 102,70 D = 35,00 d = 7,00 a = 45°	A	NT		S/S	
7								
	IN	147 010 0009 01	L = 104,00 D = 28,70 d = 7,00 a = 45°	S	NT			H
	EX	148 010 0010 01	L = 104,50 D = 26,30 d = 7,00 a = 45°	A	NT			
8								
	IN	147 010 0009 02	L = 104,00 D = 28,70 d = 7,00 a = 45°	S	NT			H
	EX	148 010 0010 02	L = 104,50 D = 26,30 d = 7,00 a = 45°	A	NT			
9								
	IN	147 010 0009 03	L = 104,00 D = 28,70 d = 7,00 a = 45°	S	NT			H
	EX	148 010 0010 03	L = 104,50 D = 26,30 d = 7,00 a = 45°	A	NT			
10								
	IN	147 010 0013 00	L = 101,50 D = 35,00 d = 7,00 a = 45°	S	NT			H
	EX	148 010 0014 00	L = 103,60 D = 31,00 d = 7,00 a = 45°	A	NT			

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
11								
	IN	147 010 0017 00	L = 106,80 D = 28,45 d = 6,00 a = 45°		CR			
	EX	148 010 0018 00	L = 106,38 D = 24,60 d = 6,00 a = 45°	A/S	CR			
	EX	148 010 0019 00	L = 106,20 D = 24,60 d = 6,00 a = 45°	A/S	CR			
12								
	IN	147 010 0017 00	L = 106,80 D = 28,45 d = 6,00 a = 45°		CR			
	EX	148 010 0021 00	L = 106,50 D = 24,50 d = 6,00 a = 45°	A/S	CR		S/S	TH
13								
	IN	147 010 0017 01	L = 106,80 D = 28,45 d = 6,00 a = 45°		CR			
	EX	148 010 0019 01	L = 106,20 D = 24,60 d = 6,00 a = 45°	A/S	CR			
14								
	IN	147 010 0018 00	L = 106,80 D = 26,60 d = 6,00 a = 45°	S	CR			TH
	EX	148 010 0020 00	L = 106,30 D = 23,20 d = 6,00 a = 45°	A/S	CR			TH

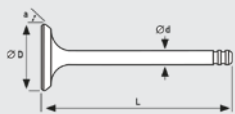
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
15								
	IN	147 010 0020 00	L = 105,50 D = 32,00 d = 6,00 a = 45°	S	CR			TH
	EX	148 010 0024 00	L = 109,30 D = 28,00 d = 6,00 a = 45°	A/S				
16								
	IN	147 010 0021 00	L = 105,50 D = 30,50 d = 6,00 a = 45°	S	NT			TH
	EX	148 010 0023 00	L = 109,30 D = 27,00 d = 6,00 a = 45°	A/S	NT			TH
17								
	IN	147 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	S				TH
	EX	148 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	A/S	NT			TH
18								
	IN	147 100 0000 00	L = 140,50 D = 44,00 d = 9,00 a = 45°	S	CR			H
	EX	148 100 0000 00	L = 140,50 D = 36,00 d = 10,00 a = 45°	A/S	CR			H
19								
	IN	147 100 0000 01	L = 140,50 D = 44,00 d = 9,00 a = 45°	S	CR			H
	EX	148 100 0000 01	L = 140,50 D = 36,00 d = 10,00 a = 45°	A/S	CR			H

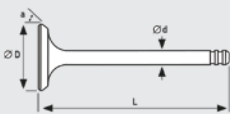
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
20								
	IN	147 100 0001 00	L = 140,50 D = 42,00 d = 9,00 a = 30°	A/S	CR			
21								
	IN	147 100 0001 01	L = 140,50 D = 42,00 d = 9,00 a = 30°	A/S	CR			
22								
	IN	147 100 0002 00	L = 142,50 D = 59,00 d = 12,00 a = 30°	A/S	CR			
	EX	148 100 0001 00	L = 142,50 D = 51,00 d = 12,00 a = 45°	A/S	CR			
23								
	IN	147 100 0003 00	L = 144,90 D = 45,50 d = 9,00 a = 30°	S	CR			TH
	EX	148 100 0002 00	L = 144,80 D = 42,00 d = 9,00 a = 36°	A/S	CR			TH
24								
	IN	147 110 0002 00	L = 85,50 D = 28,00 d = 5,00 a = 45°	S	NT			H
	EX	148 110 0003 00	L = 87,00 D = 25,00 d = 5,00 a = 45°	A	NT			
25								
	IN	147 110 0003 00	L = 91,20 D = 27,50 d = 6,00 a = 45°	S	CR			TH
	EX	148 110 0004 00	L = 91,20 D = 25,40 d = 6,00 a = 45°	A/S	CR		S/S	TH

	ccm							IN/EX	QTY	Info	Pos.
4G18	1584	4	72-81 KW 98-110 PS	LANCER VII, SPACE STAR 1.6 16V	06/00 - 12/13	76,00	147 088 0002 00 148 088 0002 00	IN EX	8 8		2
4HN	2179	4	115 KW 156 PS	OUTLANDER II 2.2 DI-D 4WD	08/17 - 11/12	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8		1
4N13	1798	4	85-110 KW 116-150 PS	ASX, OUTLANDER SPORT 1.8 DI-D LANCER VIII 1.8 DI-D	06/10 - 05/10 -	83,00	147 088 0003 00 148 088 0003 00	IN EX	8 8		3

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 037 0030 00	L = 95,80 D = 27,25 d = 6,00 a = 45°	S	CR			
	EX	148 037 0031 00	L = 95,00 D = 25,20 d = 6,00 a = 45°	A/S	CR		S/S	TH
2								
	IN	147 088 0002 00	L = 111,75 D = 29,00 d = 5,50 a = 45°	S	NT			H
	EX	148 088 0002 00	L = 114,65 D = 25,50 d = 5,50 a = 45°	A/S	NT			H
3								
	IN	147 088 0003 00	L = 121,70 D = 28,20 d = 6,00 a = 45°	S	NT			TH
	EX	148 088 0003 00	L = 112,90 D = 23,70 d = 6,00 a = 45°	A/S	NT			TH

	ccm						IN/EX	QTY	Info	Pos.
CD20, CD20T	1974	4	55-66 KW 75-90 PS	ALMERA I 2.0 D PRIMERA 2.0 D SUNNY III 2.0 D	11/95 - 07/00 07/90 - 07/02 10/90 - 03/00	84,50	147 089 0006 00 148 089 0006 00	IN EX	4 4	7
CR12DE	1240	4	48-81 KW 65-110 PS	MICRA III 1.2 16V	01/03 - 06/10	71,00	147 089 0008 00 148 089 0008 00	IN EX	8 8	9
CR14DE	1386	4	65-72 KW 88-98 PS	MICRA III 1.4 16V	01/03 -	73,00	147 089 0008 00 148 089 0008 00	IN EX	8 8	9
G9T.722	2188	4	66 KW 90 PS	INTERSTAR dCi 90	07/02 -	87,00	147 038 0015 00 148 038 0015 00	IN EX	8 8	2
HR12DE	1198	3	56-59 KW 76-80 PS	MICRA 1.2 NOTE 1.2	05/10 - 06/13 -	78,00	147 090 0001 00 148 090 0001 00	IN EX	8 8	10
QG18DE	1769	4	84-88 KW 114-120 PS	ALMERA II / PRIMERA 1.8 16V	08/99 -	80,00	147 089 0003 00 148 089 0003 00	IN EX	8 8	4
R9M.408, R9M.413, R9M.450, R9M.452	1598	4	70-107 KW 95-146 PS	NV300 1.6 dci 95/120/125/145	09/16 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	1
RD28T, RD28Ti	2826	6	74-96 KW 101-131 PS	PATROL GR IV 2.8 TD PATROL III/2 2.8 TD	01/86 - 04/01 05/86 - 11/95	85,00	147 089 0007 00 148 089 0007 00	IN EX	6 6	8
TD27	2664	4	58-73 KW 79-99 PS	CABSTAR / NAVARA / PATHFINDER I / PICK UP / SANI / URVAN 2.7 TD	02/83 - 04/05	96,00	147 089 0004 00 148 089 0004 00	IN EX	4 4	5
YD22DDT	2184	4	81-102 KW 110-139 PS	ALMERA II 2.2 dCi PRIMERA 2.2 dCi	03/00 - 09/06 03/02 -	86,00	147 089 0002 00 148 089 0002 00	IN EX	8 8	3
YD22DDTi	2184	4	84-110 KW 114-150 PS	ALMERA II 2.2 dCi CABSTAR DCI 2.5 MURANO II 2.5 dCi NAVARA 2.5 Di NP300 2.5 dCi NV350 2.5 dCi PATHFINDER III 2.5 dCi PICK UP / PIKA / TERRANO 2.5 dCi SANI 2.5 dCi SERENA 2.5 DCi SGX 4x4	08/00 - 09/06 09/06 - 12/13 01/10 - 09/14 11/01 - 07/05 - 05/12 - 01/05 - 03/02 - 01/05 - 06/99 - 09/05	86,00	147 089 0002 00 148 089 0002 00	IN EX	8 8	3
YD22ETi, YD22DDTi	2184	4	84-100 KW 114-136 PS	X-TRAIL 2.2 DCi	06/01 - 09/04	86,00	147 089 0002 00 148 089 0002 00	IN EX	8 8	3
ZD30DDTi	2953	4	110-125 KW 150-170 PS	PATROL GR V 3.0 Di TERRANO II 3.0 DiTD 4WD	09/99 - 10/97 - 12/04	96,00	147 089 0005 00 148 089 0005 00	IN EX	8 8	6

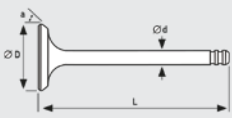
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	S				TH
	EX	148 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	A/S	NT			TH
2								
	IN	147 038 0015 00	L = 123,00 D = 30,50 d = 6,00 a = 45°	S				TH
	EX	148 038 0015 00	L = 123,00 D = 29,50 d = 6,00 a = 45°	A/S				TH
3								
	IN	147 089 0002 00	L = 106,70 D = 28,00 d = 6,00 a = 45°	A	NT			
	EX	148 089 0002 00	L = 106,30 D = 26,00 d = 6,00 a = 45°	A	NT			
4								
	IN	147 089 0003 00	L = 94,40 D = 30,00 d = 5,50 a = 45°	S	NT			H
	EX	148 089 0003 00	L = 94,70 D = 25,00 d = 5,50 a = 45°	A	NT			
5								
	IN	147 089 0004 00	L = 117,10 D = 43,50 d = 8,00 a = 45°	A/S	NT			H
	EX	148 089 0004 00	L = 117,10 D = 38,00 d = 8,00 a = 45°	A/S	NT			H

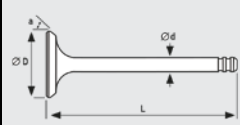
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 089 0005 00	L = 113,40 D = 32,00 d = 7,00 a = 45°					
	EX	148 089 0005 00	L = 113,40 D = 30,00 d = 7,00 a = 45°	A	NT			
7								
	IN	147 089 0006 00	L = 99,70 D = 39,00 d = 7,00 a = 45°					
	EX	148 089 0006 00	L = 99,60 D = 32,00 d = 7,00 a = 45°					
8								
	IN	147 089 0007 00	L = 102,80 D = 39,00 d = 7,00 a = 45°					
	EX	148 089 0007 00	L = 102,60 D = 32,00 d = 7,00 a = 45°					
9								
	IN	147 089 0008 00	L = 97,80 D = 27,30 d = 5,50 a = 45°	S	NT			H
	EX	148 089 0008 00	L = 97,80 D = 22,50 d = 5,50 a = 45°	A	NT			
10								
	IN	147 090 0001 00	L = 101,60 D = 31,20 d = 5,00 a = 45°	S	NT			H
	EX	148 090 0001 00	L = 102,60 D = 25,55 d = 5,00 a = 45°	A	NT			

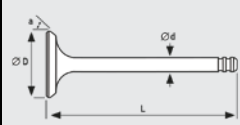
	ccm						IN/EX	QTY	Info	Pos.
16 NZR	1598	4	55 KW 75 PS	ASTRA F 1.6	09/95 - 09/98	79,00	147 309 0007 00 148 309 0007 00	IN EX	4 4	17
20 XE	1998	4	115 KW 156 PS	KADETT E CC 2.0 GSI 16V	12/87 - 08/91	86,00	147 035 0001 00 148 035 0001 00	IN EX	8 8	1
6V1	3494	6	158 KW 215 PS	MONTEREY B 3.5 V6 24V	07/98 - 08/99	93,40	147 035 0002 00 148 035 0002 00	IN EX	12 12	2
6VD1 (DOHC)	3165	6	151 KW 205 PS	FRONTERA B 3.2 i	10/98 - 07/04	93,40	147 035 0002 00 148 035 0002 00	IN EX	12 12	2
A 16 LEL	1598	4	110 KW 150 PS	CORSA D 1.6 Turbo	05/07 - 08/14	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
A 16 LER	1598	4	141 KW 192 PS	CORSA D 1.6 Turbo	11/06 - 08/14	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
A 16 LES	1598	4	150 KW 204 PS	CORSA D 1.6 Turbo	06/11 - 08/14	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
A 16 LET	1598	4	132 KW 180 PS	ASTRA H 1.6 Turbo ASTRA J 1.6 Turbo INSIGNIA A 1.6 Turbo	02/07 - 10/10 12/09 - 07/08 -	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
A 16 XER, Z 16 XER	1598	4	84-85 KW 114-116 PS	ASTRA H 1.6 ASTRA J 1.6 INSIGNIA A 1.6 MOKKA / MOKKA X 1.6 ZAFIRA B 1.6	12/06 - 05/14 12/09 - 07/08 - 03/17 06/12 - 01/08 - 04/15	79,00	147 035 0007 00 148 035 0007 00	IN EX	8 8	7
A 17 DT	1686	4	74 KW 101 PS	MERIVA B 1.7 CDTI	06/10 - 01/17	79,00	147 035 0009 00 148 035 0009 00	IN EX	8 8	9
A 17 DTC, A 17 DTE, A 17 DTJ	1686	4	81 KW 110 PS	ASTRA J / ASTRA J GTC 1.7 CDTI	09/09 - 10/15	79,00	147 035 0009 00 148 035 0009 00	IN EX	8 8	9
A 17 DTF, A 17 DTS	1686	4	96 KW 131 PS	ASTRA J 1.7 CDTI	10/10 - 10/15	79,00	147 035 0009 00 148 035 0009 00	IN EX	8 8	9
A 17 DTL, A 17 DTN	1686	4	74 KW 101 PS	ASTRA J 1.7 CDTI	10/10 - 10/15	79,00	147 035 0009 00 148 035 0009 00	IN EX	8 8	9
A 17 DTR, Z 17 DTR	1686	4	92 KW 125 PS	ASTRA J 1.7 CDTI ZAFIRA B 1.7 CDTI	10/10 - 10/15 01/08 - 04/15	79,00	147 035 0009 00 148 035 0009 00	IN EX	8 8	9
A 17 DTS	1686	4	96 KW 131 PS	CORSA D 1.7 CDTI MERIVA B 1.7 CDTI MOKKA / MOKKA X 1.7 CDTI	12/09 - 08/14 06/10 - 10/13 06/12 -	79,00	147 035 0009 00 148 035 0009 00	IN EX	8 8	9
A 18 XEL	1796	4	85-88 KW 115-120 PS	ZAFIRA B 1.8 ZAFIRA TOURER C 1.8	06/13 - 10/11 -	80,50	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
A 18 XER, B 18 XER, Z 18 XER	1796	4	103 KW 140 PS	ASTRA H 1.8 ASTRA J GTC 1.8 INSIGNIA A 1.8 SIGNUM 1.8 VECTRA C 1.8 ZAFIRA B 1.8 ZAFIRA TOURER C 1.8	08/05 - 10/10 10/11 - 07/08 - 09/05 - 01/06 - 07/05 - 10/11 -	80,50	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
B 10 XFL, D 10 XFL, F 10 XFL	999	3	66-77 KW 90-105 PS	ADAM 1.0 ASTRA K 1.0 Turbo CORSA E 1.0	07/14 - 11/18 06/15 - 12/22 09/14 -	74,00	147 035 0011 00 148 035 0011 00	IN EX	6 6	11
B 10 XFT, D 10 XFT	999	3	85 KW 115 PS	ADAM 1.0 CORSA E 1.0	07/14 - 11/18 09/14 -	74,00	147 035 0011 00 148 035 0011 00	IN EX	6 6	11
B 14 XFL, D 14 XFL	1399	4	92 KW 125 PS	ASTRA K 1.4 Turbo	06/15 - 12/22	74,00	147 035 0011 01 148 035 0011 01	IN EX	8 8	12
B 14 XFT, D 14 XFT	1399	4	110-112 KW 150-152 PS	ASTRA K 1.4 Turbo MOKKA X 1.4 4x4	06/15 - 12/22 06/16 -	74,00	147 035 0011 01 148 035 0011 01	IN EX	8 8	12
B 15 SFL, D 15 SFL	1499	4	103 KW 140 PS	INSIGNIA B Grand Sport 1.5	03/17 -	74,00	147 035 0011 01 148 035 0011 01	IN EX	8 8	12
B 15 SFT, D 15 SFT	1490	4	121 KW 165 PS	INSIGNIA B 1.5	03/17 -	74,00	147 035 0011 01 148 035 0011 01	IN EX	8 8	12
B 16 LER	1598	4	141-152 KW 192-207 PS	CORSA D 1.6 Turbo CORSA E 1.6 Turbo	11/06 - 08/14 03/15 -	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
B 16 LES	1598	4	152 KW 207 PS	CORSA E 1.6 Turbo	03/15 -	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
B 16 XER, D 16 XER	1598	4	85 KW 116 PS	ASTRA J 1.6 MOKKA / MOKKA X 1.6	12/09 - 06/12 -	79,00	147 035 0007 00 148 035 0007 00	IN EX	8 8	7
C 14 SEL	1389	4	63 KW 86 PS	CORSA B 1.4 i 16V	08/97 - 09/00	77,60	147 035 0004 00 148 035 0004 00	IN EX	8 8	4
C 16 NZ	1598	4	55 KW 75 PS	ASTRA F 1.6 i CORSA A CC 1.6 GSI	09/91 - 01/98 08/88 - 09/92	79,00	147 309 0007 00 148 309 0007 00	IN EX	4 4	17
C 16 SE	1598	4	74 KW 101 PS	ASTRA F 1.6 Si CORSA A CC 1.6 GSI Cat	03/92 - 12/94 02/92 - 03/93	79,00	147 309 0007 00 148 309 0007 00	IN EX	4 4	17
C 16 SEL	1598	4	74 KW 100 PS	ASTRA G CC 1.6 16V CORSA B 1.6 i 16V CORSA CLASSIC 1.6 TIGRA 1.6 16V	02/98 - 01/05 08/97 - 09/00 01/00 - 12/03 08/97 - 08/98	79,00	147 035 0004 00 148 035 0004 00	IN EX	8 8	4
C 18 XE	1799	4	92 KW 125 PS	ASTRA F 1.8 i 16V	06/93 - 03/01	81,60	147 035 0005 00 148 035 0005 00	IN EX	8 8	5

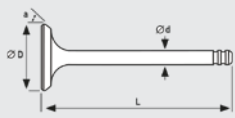
	ccm						IN/EX	QTY	Info	Pos.
C 18 XEL	1799	4	85 KW 116 PS	Astra F 1.8 i 16V	07/94 - 03/01	81,60	147 035 0005 00 148 035 0005 00	IN EX	8 8	5
C 20 LET	1998	4	150 KW 204 PS	CALIBRA A (85_) 2.0 i Turbo 4x4 VECTRA A (86_ 87_) 2.0 i Turbo 4x4	03/92 - 07/97 06/94 - 11/95	86,00	147 035 0001 00 148 035 0001 00	IN EX	8 8	1
C 20 XE	1998	4	110 KW 150 PS	ASTRA F CC 2.0 GSI 16V CALIBRA A 2.0 i 16V KADETT E CC 2.0 GSI 16V KAT VECTRA A 2000/GT 16V KAT	09/91 - 01/98 06/90 - 02/94 03/88 - 05/92 08/89 - 11/95	86,00	147 035 0001 00 148 035 0001 00	IN EX	8 8	1
D 10 XFL	999	3	66-77 KW 90-105 PS	ADAM 1.0 ASTRA K 1.0 Turbo CORSA E 1.0	07/14 - 11/18 06/15 - 09/14 -	74,00	147 035 0011 00 148 035 0011 00	IN EX	6 6	11
D 15 DT (DV5RD)	1499	4	75 KW 102 PS	COMBO 1.5 D CORSA F1.5 D CROSSLAND X / CROSSLAND 1.5 Turbo D GRANDLAND X 1.5 Turbo D	06/18 - 07/19 - 06/18 - 06/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	13
D 15 DT (DV5RUCD)	1499	4	75 KW 102 PS	VIVARO C 1.5 D ZAFIRA LIFE 1.5 D	03/19 - 03/19 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	13
D 15 DTH (DV5RC)	1499	4	96 KW 131 PS	COMBO 1.5 D GRANDLAND X 1.5 Turbo D	06/18 - 04/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	13
D 15 DTH (DV5RUC)	1499	4	88 KW 120 PS	VIVARO C 1.5 D ZAFIRA LIFE 1.5 D	03/19 - 03/19 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	13
D 15 DTL (DV5RE)	1499	4	56 KW 76 PS	COMBO 1.5 D	06/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	13
E 16 SE	1598	4	74 KW 100 PS	CORSA A CC 1.6 GSI	05/88 - 03/92	79,00	147 309 0007 00 148 309 0007 00	IN EX	4 4	17
G9T.720, G9T.722, G9T.750	2188	4	66 KW 90 PS	MOVANO A 2.2 DTI	09/00 -	87,00	147 038 0015 00 148 038 0015 00	IN EX	8 8	15
R9M.408, R9M.413, R9M.450, R9M.452	1598	4	66-107 KW 90-146 PS	VIVARO B 1.6 CDTI	06/14 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	14
X 16 SZ	1598	4	52 KW 71 PS	ASTRA F 1.6 i	05/93 - 07/96	79,00	147 309 0007 00 148 309 0007 00	IN EX	4 4	17
X 16 SZR	1598	4	55 KW 75 PS	ASTRA F CLASSIC CC 1.6 i ASTRA G 1.6 VECTRA B 1.6 i	01/98 - 01/05 02/98 - 09/00 10/95 - 04/02	79,00	147 309 0007 00 148 309 0007 00	IN EX	4 4	17
X 16 XEL	1598	4	74 KW 100 PS	ASTRA F 1.6 i 16V ASTRA G 1.6 16V VECTRA B 1.6 i 16V	08/94 - 01/98 02/98 - 01/05 10/95 - 07/02	79,00	147 035 0004 00 148 035 0004 00	IN EX	8 8	4
X 18 XE	1799	4	85 KW 116 PS	Astra F 1.8 i 16V VECTRA B 1.8 i 16V	07/94 - 03/01 10/95 - 09/00	81,60	147 035 0005 00 148 035 0005 00	IN EX	8 8	5
X 18 XE1	1796	4	85 KW 116 PS	ASTRA G 1.8 16V VECTRA B 1.8 i 16V ZAFIRA A 1.8 16V	02/98 - 10/00 10/95 - 09/00 04/99 - 09/00	80,50	147 035 0003 00 148 035 0003 00	IN EX	8 8	3
X 20 XEV	1998	4	100 KW 136 PS	ASTRA F 2.0 i 16V ASTRA G 2.0 16V CALIBRA A 2.0 i 16V 4x4 Omega B 2.0 16V VECTRA A 2.0 i 16V VECTRA B 2.0 i 16V	02/95 - 09/98 02/98 - 01/05 02/94 - 07/97 03/94 - 09/99 08/92 - 11/95 09/95 - 06/00	86,00	147 035 0005 00 148 035 0005 00	IN EX	8 8	5
X 22 SE, Y 22 SE	2198	4	100 KW 136 PS	FRONTERA B 2.2 i	10/98 - 07/04	86,00	147 035 0005 00 148 035 0005 00	IN EX	8 8	5
X 22 XE	2198	4	100-104 KW 136-141 PS	FRONTERA A 2.2 i SINTRA 2.2 i 16V	03/95 - 10/98 11/96 - 04/99	86,00	147 035 0005 00 148 035 0005 00	IN EX	8 8	5
X 25 XE	2498	6	125-144 KW 170-196 PS	CALIBRA A 2.5 i V6 OMEGA B 2.5 V6 VECTRA B 2.5 i V6	04/93 - 07/97 03/94 - 09/00 10/95 - 09/00	81,60	147 035 0005 01 148 035 0005 01	IN EX	12 12	6
X 30 XE	2962	6	148-155 KW 201-211 PS	OMEGA B 3.0 V6 SINTRA 3.0 i 24V	04/94 - 02/01 11/96 - 04/99	86,00	147 035 0005 01 148 035 0005 01	IN EX	12 12	6
X14XE	1389	4	66 KW 90 PS	Astra F 1.4i 16V	01/96 - 03/01	77,60	147 035 0004 00 148 035 0004 00	IN EX	8 8	4
X14XE	1389	4	66 KW 90 PS	ASTRA F 1.4 i 16V Astra G 1.4 16V CORSA B 1.4 i 16V TIGRA 1.4 16V	01/96 - 03/01 02/98 - 01/05 09/94 - 09/00 08/97 - 12/00	77,60	147 035 0004 00 148 035 0004 00	IN EX	8 8	4
Y 17 DT, Y 17 DTL	1686	4	48-55 KW 65-75 PS	ASTRA G 1.7 DTI COMBO / CORSA C 1.7 DTI 16V COMBO / CORSA C 1.7 DI 16V MERIVA A 1.7 DTI	02/00 - 04/05 09/00 - 12/10 09/00 - 12/09 09/03 - 05/10	79,00	147 035 0008 00 148 035 0008 00	IN EX	8 8	8
Y 22 DTH	2171	4	81-88 KW 110-120 PS	FRONTERA B 2.2 DTI OMEGA B 2.2 DTI 16V	09/98 - 07/04 09/00 - 07/03	84,00	147 035 0010 00 148 035 0010 00	IN EX	8 8	10

	ccm						IN/EX	QTY	Info	Pos.
Y 26 SE	2597	6	125-132 KW 170-180 PS	OMEGA B 2.6 V6 VECTRA B 2.6 i V6	09/00 - 07/03 09/00 - 07/03	83,20	147 035 0005 01 148 035 0005 01	IN EX	12 12	6
Y 32 NE	3165	6	151 KW 205 PS	FRONTERA B 3.2 i 24V	10/98 -	93,40	147 035 0002 00 148 035 0002 00	IN EX	12 12	2
Z 14 XE	1389	4	66 KW 90 PS	Astra G 1.4 16V Corsa C 1.4	02/98 - 01/05 09/00 - 12/09	77,60	147 035 0004 00 148 035 0004 00	IN EX	8 8	4
Z 16 LEL	1598	4	110 KW 150 PS	CORSA D 1.6 Turbo	05/07 - 08/14	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
Z 16 LER	1598	4	141 KW 192 PS	CORSA D 1.6 Turbo	06/11 - 08/14	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
Z 16 LET	1598	4	132 KW 180 PS	ASTRA H 1.6 Turbo MERIVA A 1.6 Turbo	02/07 - 10/10 09/05 - 05/10	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8	16
Z 16 SE	1598	4	64 KW 87 PS	ASTRA G 1.6 COMBO 1.6 CORSA C 1.6 MERIVA 1.6	09/00 - 04/05 10/01 - 09/00 - 12/09 05/03 - 05/10	79,00	147 309 0007 00 148 309 0007 00	IN EX	4 4	17
Z 16 XE	1598	4	74 KW 100 PS	MERIVA 1.6 16V	05/03 - 01/06	79,00	147 035 0004 00 148 035 0004 00	IN EX	8 8	4
Z 16 XE	1598	4	74 KW 100 PS	Vectra C 1.6 16V	06/04 -	79,00	147 035 0004 00 148 035 0004 00	IN EX	8 8	4
Z 16 XE1, Z 16 XEP	1598	4	77 KW 105 PS	ASTRA G 1.6 ASTRA H / ASTRA H GTC 1.6 ASTRA H 1.6 Meriva A 1.6 VECTRA C 1.6 ZAFIRA B 1.6	06/02 - 12/09 03/04 - 10/10 02/04 - 10/10 01/06 - 05/10 08/05 - 08/08 07/05 - 09/12	79,00	147 035 0007 00 148 035 0007 00	IN EX	8 8	7
Z 17 DT	1686	4	74 KW 101 PS	MERIVA A 1.7 CDTi	09/03 - 05/10	79,00	147 035 0009 00 148 035 0009 00	IN EX	8 8	9
Z 17 DTH	1686	4	74 KW 100 PS	ASTRA H 1.7 CDTi COMBO / CORSA C 1.7 CDTi 16V MERIVA A 1.7 CDTi	03/04 - 10/10 06/03 - 12/12 09/03 - 05/10	79,00	147 035 0008 00 148 035 0008 00	IN EX	8 8	8
Z 17 DTL	1686	4	59 KW 80 PS	ASTRA G 1.7 CDTi ASTRA H 1.7 CDTi	04/03 - 12/09 03/04 - 10/10	79,00	147 035 0008 00 148 035 0008 00	IN EX	8 8	8
Z 17 DTR	1686	4	92 KW 125 PS	MERIVA A 1.7 CDTi	09/06 - 05/10	79,00	147 035 0009 00 148 035 0009 00	IN EX	8 8	9
Z 18 XE	1796	4	92 KW 125 PS	ASTRA G 1.8 16V ASTRA H 1.8 CORSA C 1.8 MERIVA A 1.8 SIGNUM 1.8 TIGRA TWIN TOP 1.8 VECTRA B 1.8 i 16V VECTRA C 1.8 16V ZAFIRA A 1.8 16V	06/00 - 10/05 01/04 - 10/10 09/00 - 12/09 05/03 - 05/10 05/03 - 06/04 - 09/00 - 04/02 - 09/00 - 06/05	80,50	147 035 0003 00 148 035 0003 00	IN EX	8 8	3
Z 18 XEL	1796	4	79-85 KW 107-116 PS	ASTRA G 1.8 VECTRA B 1.8 i 16V VECTRA C 1.8	02/03 - 01/05 10/95 - 09/00 04/02 -	80,50	147 035 0003 00 148 035 0003 00	IN EX	8 8	3
Z 20 LEH	1998	4	177 KW 240 PS	ASTRA H 2.0 Turbo ZAFIRA FAMILY B	03/05 - 10/10 01/06 - 12/10	86,00	147 035 0005 00 148 035 0005 00	IN EX	8 8	5
Z 20 LEL	1998	4	125 KW 170 PS	ASTRA H 2.0 Turbo	03/04 - 10/10	86,00	147 035 0005 00 148 035 0005 00	IN EX	8 8	5
Z 20 LER	1998	4	147 KW 200 PS	ASTRA H 2.0 Turbo ZAFIRA FAMILY B 2.0	09/04 - 10/10 07/05 - 12/10	86,00	147 035 0005 00 148 035 0005 00	IN EX	8 8	5
Z 20 LET	1998	4	140-147 KW 190-200 PS	ASTRA G 2.0 16V Turbo SPEEDSTER (E01) 2.0 Turbo ZAFIRA A 2.0 OPC	09/00 - 10/05 08/02 - 08/06 11/02 - 06/05	86,00	147 035 0005 00 148 035 0005 00	IN EX	8 8	5

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 035 0001 00	L = 105,10 D = 33,00 d = 7,00 a = 45°	S	CR			TH
	EX	148 035 0001 00	L = 105,00 D = 29,00 d = 7,00 a = 45°	A/S	CR		S/S	TH
2								
	IN	147 035 0002 00	L = 103,90 D = 34,00 d = 6,00 a = 45°	S	NT			H
	EX	148 035 0002 00	L = 103,55 D = 29,00 d = 6,00 a = 45°	A	NT			
3								
	IN	147 035 0003 00	L = 101,45 D = 31,25 d = 5,00 a = 45°	S	CR			H
	EX	148 035 0003 00	L = 100,85 D = 27,55 d = 5,00 a = 45°	A	CR		S/S	
4								
	IN	147 035 0004 00	L = 103,15 D = 31,05 d = 6,00 a = 45°	S	CR			TH
	EX	148 035 0004 00	L = 102,15 D = 27,50 d = 6,00 a = 45°	A	CR			
5								
	IN	147 035 0005 00	L = 102,15 D = 32,00 d = 6,00 a = 45°	S	CR			TH
	EX	148 035 0005 00	L = 92,20 D = 29,00 d = 6,00 a = 45°	A	CR		S/S	

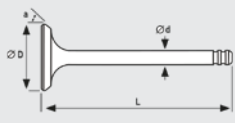
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 035 0005 01	L = 102,15 D = 32,00 d = 6,00 a = 45°	S	CR			TH
	EX	148 035 0005 01	L = 92,20 D = 29,00 d = 6,00 a = 45°	A	CR		S/S	
7								
	IN	147 035 0007 00	L = 117,20 D = 31,20 d = 5,00 a = 45°	S	CR			H
	EX	148 035 0007 00	L = 116,00 D = 27,50 d = 5,00 a = 45°	A/S	CR			H
8								
	IN	147 035 0008 00	L = 98,40 D = 27,50 d = 6,00 a = 45°	A	NT		NT	
	EX	148 035 0008 00	L = 98,20 D = 26,50 d = 6,00 a = 45°	A	NT			
9								
	IN	147 035 0009 00	L = 102,60 D = 27,50 d = 6,00 a = 45°	S	NT			H
	EX	148 035 0009 00	L = 102,30 D = 22,50 d = 6,00 a = 45°	A	NT			
10								
	IN	147 035 0010 00	L = 97,20 D = 29,00 d = 6,00 a = 45°	A/S	CR			TH
	EX	148 035 0010 00	L = 97,10 D = 26,00 d = 6,00 a = 45°	A/S	CR		S/S	TH

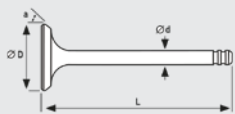
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
11								
	IN	147 035 0011 00	L = 106,50 D = 28,00 d = 5,00 a = 45°	S	NT			TH
	EX	148 035 0011 00	L = 105,70 D = 23,30 d = 5,00 a = 45°	A/S	CR			TH
12								
	IN	147 035 0011 01	L = 106,50 D = 28,00 d = 5,00 a = 45°	S	NT			TH
	EX	148 035 0011 01	L = 105,70 D = 23,30 d = 5,00 a = 45°	A/S	CR			TH
13								
	IN	147 037 0028 00	L = 95,30 D = 25,30 d = 5,50 a = 45°	S	CR			TH
	EX	148 037 0029 00	L = 94,80 D = 22,00 d = 5,50 a = 45°	A/S	CR		S/S	TH
14								
	IN	147 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	S				TH
	EX	148 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	A/S	NT			TH
15								
	IN	147 038 0015 00	L = 123,00 D = 30,50 d = 6,00 a = 45°	S				TH
	EX	148 038 0015 00	L = 123,00 D = 29,50 d = 6,00 a = 45°	A/S				TH

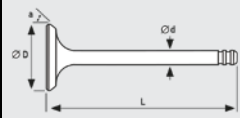
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
16								
	IN	147 309 0001 00	L = 113,80 D = 31,20 d = 5,00 a = 45°	S	CR		S/H	TH
	EX	148 309 0001 00	L = 113,15 D = 27,50 d = 5,00 a = 45°	A/S	CR		S/S	TH
17								
	IN	147 309 0007 00	L = 101,50 D = 38,00 d = 7,00 a = 45°	S	CR			H
	EX	148 309 0007 00	L = 101,70 D = 31,00 d = 7,00 a = 45°	A/S	CR			H

	ccm						IN/EX	QTY	Info	Pos.
4HH (P22DTE)	2198	4	96 KW 131 PS	BOXER 2.2 HDi 130	03/11 -	86,00	147 037 0026 00 148 037 0027 00	IN EX	8 8	8
4HL (DW12C)	2179	4	150 KW 204 PS	508 2.2 HDi	11/11 -	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HN (DW12MTED4)	2179	4	115 KW 156 PS	4007 2.2 HDi	02/07 - 03/13	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HP (DW12BTED4), 4HR (DW12BTED4)	2179	4	120 KW 163 PS	407 2.2 HDi 807 2.2 HDi	03/06 - 12/10 06/06 -	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HS (DW12BTED4), 4HT (DW12BTED4)	2179	4	125 KW 170 PS	407 2.2 HDi 170 607 2.2 HDi 807 2.2 HDi	03/06 - 12/10 05/06 - 06/10 06/06 - 06/10	85,00	147 037 0030 00 148 037 0031 00	IN EX	8 8	11
4HU (P22DTE)	2198	4	88 KW 120 PS	BOXER 2.2 HDi 120	04/06 -	86,00	147 037 0026 00 148 037 0027 00	IN EX	8 8	8
4HV (P22DTE)	2198	4	74 KW 101 PS	BOXER 2.2 HDi 100	04/06 -	86,00	147 037 0026 00 148 037 0027 00	IN EX	8 8	8
5FH (EP6C)	1598	4	85 KW 116 PS	508 1.6 VTi	11/10 - 12/18	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8	1
5FK (EP6CB)	1598	4	72 KW 98 PS	PARTNER / PARTNER TEPEE 1.6 VTi	08/10 -	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8	1
5FS (EP6C M)	1598	4	88 KW 120 PS	308 I 1.6 16V	09/07 - 10/14	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8	1
6HZ (4N13)	1798	4	110 KW 150 PS	4008 1.8 HDi	05/12 -	83,00	147 088 0003 00 148 088 0003 00	IN EX	8 8	12
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	5
EP3, EP3C	1397	4	70 KW 95 PS	207 1.4 16V 208 I 1.4 GPL 308 I 1.4 16V	06/07 - 10/13 10/13 - 12/19 09/07 - 10/14	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8	1
EP6, 5FS (EP6C)	1598	4	81-88 KW 110-120 PS	2008 I 1.6 VTi 207 / 207 CC 1.6 16V VTi 208 I 1.6 16V 3008 1.6 VTi 308 1.6 16V 408 1.6 VTi 5008 1.6 16V 508 1.6 VTi PARTNER / PARTNER TEPEE 1.6 VTi	03/13 - 02/07 - 10/13 03/12 - 12/19 06/09 - 08/16 09/07 - 10/14 01/12 - 09/09 - 03/17 11/10 - 12/18 09/09 -	77,00	147 011 0001 00 148 011 0001 00	IN EX	8 8	1
F1CE0481D (F30DT)	2999	4	116 KW 156 PS	BOXER 3.0 HDi 160	04/06 -	95,80	147 020 0008 00 148 020 0008 00	IN EX	8 8	2
HMJ (EB2M)	1199	3	53 KW 72 PS	301 1.2 VTi 72	11/12 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	301 1.2 VTi 82	12/14 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	108 1.2	05/14 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	2008 1.2 VTi	03/13 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	208 1.2	03/12 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
HMZ (EB2F)	1199	3	60 KW 82 PS	308 II 1.2 VTi	09/13 -	75,00	147 037 0001 00 148 037 0001 00	IN EX	6 6	3
KFU (ET3J4)	1360	4	65 KW 88 PS	1007 1.4 16V 206 1.4 16V 207 1.4 16V 307 1.4 16V	10/05 - 10/03 - 02/06 - 10/13 11/03 - 07/07	75,00	147 037 0021 00 148 037 0022 00	IN EX	8 8	7
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	4
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	6
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	6
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	6
YHR (DV5RUCd)	1499	4	75 KW 102 PS	EXPERT 1.5 BlueHdi 100 TRAVELLER 1.5 BlueHdi 100	06/18 - 06/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHS (DV5RCE)	1499	4	81 KW 110 PS	2008 II 1.5 BlueHdi 110	01/21 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9

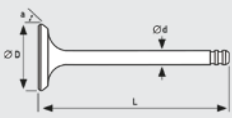
	ccm						IN/EX	QTY	Info	Pos.
YHV (DV5RUC)	1499	4	88 KW 120 PS	EXPERT 1.5 BlueHDi 120 TRAVELLER 1.5 BlueHDi 120	06/18 - 06/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHW (DV5RE)	1499	4	55 KW 75 PS	PARTNER 1.5 BlueHDi 75 RIFTER 1.5 BlueHDi 75	07/19 - 09/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHX (DV5RC)	1499	4	88 KW 120 PS	2008 I 1.5 BlueHDi 120	05/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHY (DV5RD)	1499	4	75 KW 102 PS	2008 I + II 1.5 BlueHDi 100 208 I + II 1.5 BlueHDi 100 301 1.5 BlueHDi 100 308 II 1.5 BlueHDi 100 PARTNER 1.5 BlueHDi 100	05/18 - 05/18 - 05/18 - 04/18 - 07/19 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
YHZ (DV5RC)	1499	4	96 KW 130 PS	2008 II 1.5 BlueHDi 130 208 II 1.5 BlueHDi 130 3008 1.5 BlueHDi 130 308 II 1.5 BlueHDi 130 5008 II 1.5 BlueHDi 130 508 II 1.5 BlueHDi 130 PARTNER 1.5 BlueHDi 130 RIFTER 1.5 BlueHDi 130	08/19 - 09/19 - 02/18 - 06/17 - 02/18 - 09/18 - 09/18 - 09/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	9
ZMZ (EB0)	999	3	50 KW 68 PS	208 I 1.0	03/12 -	71,00	147 037 0029 00 148 037 0030 00	IN EX	3 3	10

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 011 0001 00	L = 97,00 D = 30,00 d = 5,00 a = 45°	S				TH
	EX	148 011 0001 00	L = 110,50 D = 25,00 d = 5,00 a = 45°	A/S				TH
2								
	IN	147 020 0008 00	L = 120,00 D = 32,50 d = 6,00 a = 60°	S	CR			TH
	EX	148 020 0008 00	L = 120,00 D = 32,50 d = 6,00 a = 60°	A/S	CR			TH
3								
	IN	147 037 0001 00	L = 92,55 D = 29,15 d = 5,00 a = 45°	S				H
	EX	148 037 0001 00	L = 91,85 D = 26,00 d = 5,00 a = 45°	A	NT			
4								
	IN	147 037 0018 00	L = 103,80 D = 31,15 d = 6,00 a = 45°	S				H
	EX	148 037 0019 00	L = 104,50 D = 24,50 d = 6,00 a = 45°	A	CR			
5								
	IN	147 037 0019 00	L = 88,35 D = 27,80 d = 5,00 a = 45°	S	NT			H
	EX	148 037 0018 00	L = 89,00 D = 23,50 d = 5,00 a = 45°	A	NT			

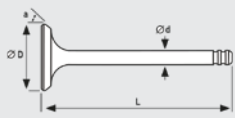
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 037 0020 00	L = 106,20 D = 33,20 d = 6,00 a = 45°	S				H
	EX	148 037 0021 00	L = 103,70 D = 29,00 d = 6,00 a = 45°	A	CR			
7								
	IN	147 037 0021 00	L = 100,80 D = 28,30 d = 5,50 a = 45°	S				TH
	EX	148 037 0022 00	L = 100,80 D = 24,30 d = 5,50 a = 45°	A	CR			
8								
	IN	147 037 0026 00	L = 122,30 D = 29,80 d = 7,00 a = 60°	S	CR			TH
	EX	148 037 0027 00	L = 122,00 D = 25,80 d = 7,00 a = 45°	A	CR			
9								
	IN	147 037 0028 00	L = 95,30 D = 25,30 d = 5,50 a = 45°	S	CR			TH
	EX	148 037 0029 00	L = 94,80 D = 22,00 d = 5,50 a = 45°	A/S	CR		S/S	TH
10								
	IN	147 037 0029 00	L = 92,60 D = 27,00 d = 5,00 a = 45°	S				TH
	EX	148 037 0030 00	L = 93,00 D = 24,20 d = 5,00 a = 45°	A	NT			

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
11								
	IN	147 037 0030 00	L = 95,80 D = 27,25 d = 6,00 a = 45°	S	CR			
	EX	148 037 0031 00	L = 95,00 D = 25,20 d = 6,00 a = 45°	A/S	CR		S/S	TH
12								
	IN	147 088 0003 00	L = 121,70 D = 28,20 d = 6,00 a = 45°	S	NT			TH
	EX	148 088 0003 00	L = 112,90 D = 23,70 d = 6,00 a = 45°	A/S	NT			TH

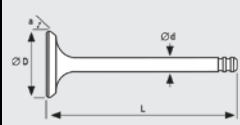
	ccm						IN/EX	QTY	Info	Pos.
DXi 5	4761	4	118-265 KW 160-360 PS	RENAULT TRUCKS MIDLUM 160, 190, 220	05/06 -	108,00	147 015 0009 00 148 015 0008 00	IN EX	2 2	1
DXi 7	7146	6	177-265 KW 240-360 PS	RENAULT TRUCKS MIDLUM 240, 280, 300 RENAULT TRUCKS PREMIUM 2	04/04 - 10/05 -	108,00	147 015 0009 00 148 015 0008 00	IN EX	2 2	1
G9T 700, G9T 702	2188	4	110 KW 150 PS	LAGUNA II 2.2 dCi	10/01 - 08/06	87,00	147 038 0015 00 148 038 0015 00	IN EX	8 8	3
G9T.600, G9T.605	2188	4	85-102 KW 116-140 PS	LAGUNA II 2.2 dCi VEL SATIS 2.2 dCi	04/04 - 12/07 04/04 -	87,00	147 038 0015 00 148 038 0015 00	IN EX	8 8	3
G9T.706, G9T 707	2188	4	102 KW 140 PS	LAGUNA II 2.2 dCi	05/05 - 12/07	87,00	147 038 0015 00 148 038 0015 00	IN EX	8 8	3
G9T.720, G9T.722, G9T.750	2188	4	66 KW 90 PS	MASTER II 2.2 dCi 90	09/00 -	87,00	147 038 0015 00 148 038 0015 00	IN EX	8 8	3
G9T.742, G9T.743	2188	4	110 KW 150 PS	ESPACE IV 2.2 dCi	11/22 - 08/06	87,00	147 038 0015 00 148 038 0015 00	IN EX	8 8	3
N7Q.700, N7Q.704, N7Q.710, N7Q.711	1948	4	100-103 KW 136-140 PS	LAGUNA I 2.0 16V SAFRANE II 2.0 16V	06/95 - 03/01 07/96 - 12/00	83,00	147 051 0001 00 148 051 0001 00	IN EX	8 8	4
R9M.402	1598	4	96 KW 130 PS	FLUENCE 1.6 dCi	07/14 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	2
R9M.402, R9M.404, R9M.414	1598	4	96 KW 130 PS	GRAND SCÉNIC III 1.6 dCi MEGANE CC 1.6 dCi MEGANE III 1.6 dCi SCÉNIC III 1.6 dCi	04/11 - 04/11 - 04/11 - 04/11 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	2
R9M.408, R9M.413, R9M.450, R9M.452	1598	4	66-107 KW 90-145 PS	TRAFIC III 1.6 dCi 90/115/120/125/140	05/14 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	2
R9M.409, R9M.414	1598	4	96 KW 130 PS	KADJAR 1.6 dCi 130 KOLEOS II 1.6 dCi 130	06/15 - 08/16 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	2
R9M.409, R9M.452	1598	4	96-118 KW 130-160 PS	ESPACE V 1.6 dCi 130/160 GRAND SCÉNIC IV 1.6 dCi 130/160 MEGANE IV Grandtour 1.6 dCi 130/165	06/15 - 09/16 - -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	2
R9M.409, R9M.452	1598	4	96-120 KW 130-163 PS	MEGANE IV Grandtour 1.6 dCi 130/165 SCÉNIC IV 1.6 dCi 130/160	11/15 - 09/16 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	2
R9M.409, R9M.452, R9M.453	1598	4	96-118 KW 130-160 PS	TALISMAN 1.6 dCi 130/160	06/15 -	80,00	147 038 0014 00 148 038 0014 00	IN EX	8 8	2

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 015 0009 00	L = 145,80 D = 38,20 d = 8,00 a = 60°	S	CR			TH
	EX	148 015 0008 00	L = 145,80 D = 35,80 d = 8,00 a = 45°	A/S	CR			TH
2								
	IN	147 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	S				TH
	EX	148 038 0014 00	L = 104,10 D = 23,50 d = 6,00 a = 45°	A/S	NT			TH
3								
	IN	147 038 0015 00	L = 123,00 D = 30,50 d = 6,00 a = 45°	S				TH
	EX	148 038 0015 00	L = 123,00 D = 29,50 d = 6,00 a = 45°	A/S				TH
4								
	IN	147 051 0001 00	L = 104,10 D = 31,00 d = 7,00 a = 45°	S	CR			TH
	EX	148 051 0001 00	L = 103,30 D = 27,00 d = 7,00 a = 45°	A/S	CR			TH

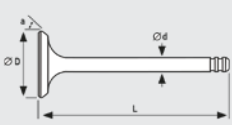
	ccm							IN/EX	QTY	Info	Pos.
14 K4F	1396	4	76 KW 103 PS	100 / METRO 114 GTi 16V 200 II 214 GSi/Si 25 I 1.4 16V 400 II 414 GSi/Si Cat	08/91 - 12/98 12/92 - 03/00 10/99 - 05/05 10/92 - 03/00	75,00	147 006 0001 00 148 006 0001 00	IN EX	8 8		1

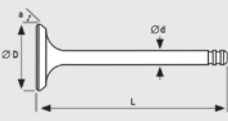
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 006 0001 00	$L = 89,50$ $D = 27,70$ $d = 6,00$ $a = 45^\circ$	S	NT			H
	EX	148 006 0001 00	$L = 90,20$ $D = 24,00$ $d = 6,00$ $a = 45^\circ$	A	NT		S/S	

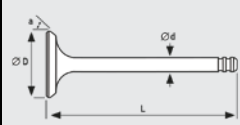
	ccm							IN/EX	QTY	Info	Pos.
A 16 LET	1598	4	132 KW 180 PS	9-5 1.6 Turbo	05/10 - 01/12	79,00	147 309 0001 00 148 309 0001 00	IN EX	8 8		3
B235E	2290	4	125-136 KW 170-185 PS	9-5 2.3 Turbo	09/97 - 12/09	90,00	147 039 0000 00 148 039 0000 00	IN EX	8 8		2
B235L	2290	4	162 KW 220 PS	9-5 2.3 Turbo	07/03 - 12/09	90,00	147 039 0000 00 148 039 0000 00	IN EX	8 8		2
B235R	2290	4	152-224 KW 207-305 PS	9-3 2.3 Turbo 9-5 2.3 Turbo	09/98 - 08/03 10/99 - 12/09	90,00	147 039 0000 00 148 039 0000 00	IN EX	8 8		2
Z 18 XE	1796	4	90 KW 122 PS	9-3 1.8 i	01/04 - 02/15	80,50	147 035 0003 00 148 035 0003 00	IN EX	8 8		1

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 035 0003 00	L = 101,45 D = 31,25 d = 5,00 a = 45°	S	CR			H
	EX	148 035 0003 00	L = 100,85 D = 27,55 d = 5,00 a = 45°	A	CR		S/S	
2								
	IN	147 039 0000 00	L = 107,70 D = 33,00 d = 5,00 a = 45°	S	CR		S/H	H
	EX	148 039 0000 00	L = 108,00 D = 29,00 d = 5,00 a = 45°	A	NT		S/H	
3								
	IN	147 309 0001 00	L = 113,80 D = 31,20 d = 5,00 a = 45°	S	CR		S/H	TH
	EX	148 309 0001 00	L = 113,15 D = 27,50 d = 5,00 a = 45°	A/S	CR		S/S	TH

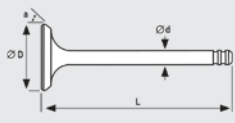
	ccm						IN/EX	QTY	Info	Pos.
2E, AGG, ADY, ATM	1984	4	85 KW 115 PS	ALHAMBRA, CORDOBA, IBIZA, TOLEDO 2.0	05/91 - 03/10	82,50	147 050 0006 00 148 050 0010 00	IN EX	4 4	5
AER, ALL	999	4	37 KW 50 PS	Arosa, Ibiza, Cordoba 1.0	09/96 - 06/04	67,10	147 050 0004 00 148 050 0023 00	IN EX	4 4	3
AFT, AEH, AKL, APF, AUR	1595	4	74 KW 101 PS	CORDOBA, IBIZA, TOLEDO, LEON 1.6	04/96 - 06/06	81,00	147 050 0006 00 148 050 0010 00	IN EX	4 4	5
ALD, ANV, AUC	999	4	37 KW 50 PS	AROSA 1.0 CORDOBA 1.0 i IBIZA II 1.0 i	05/97 - 06/04 09/96 - 10/02 09/96 - 02/02	67,10	147 050 0003 00 148 050 0022 00	IN EX	4 4	2
AMF	1422	3	55 KW 75 PS	Arosa (6H) 1.4 TDI Cordoba (6L2) 1.4 TDI IBIZA III 1.4 TDI	01/00 - 06/04 10/02 - 12/05 05/02 - 12/05	79,50	147 050 0028 00 148 050 0019 00	IN EX	3 3	12
AXR	1896	4	74 KW 100 PS	IBIZA III 1.9 TDI	02/02 - 11/09	79,50	147 050 0028 01 148 050 0019 01	IN EX	4 4	13
BLR, BLY, BVY, BVZ	1984	4	110 KW 150 PS	ALTEA 2.0 FSI LEON 2.0 FSI TOLEDO III 2.0 FSI	05/04 - 03/09 07/05 - 05/10 10/04 - 05/09	82,50	147 050 0024 00	IN	8	10
BWA	1984	4	147 KW 200 PS	ALTEA (5P1) 2.0 TFSI	04/06 - 05/09	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	11
BWA	1984	4	147 KW 200 PS	ALTEA XL (5P5, 5P8) 2.0 TFSI (4x4)	10/06 - 05/09	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	11
BWA	1984	4	147 KW 200 PS	LEON (1P1) 2.0 TFSI	05/05 - 03/09	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	11
CAGA	1968	4	105 KW 143 PS	EXEO 2.0 TDI	12/08 - 05/13	18,00	147 050 0018 00 148 050 0011 00	IN EX	8 8	6
CAGC	1968	4	88 KW 120 PS	EXEO 2.0 TDI	12/08 - 05/13	81,00	147 050 0018 00 148 050 0011 00	IN EX	8 8	6
CAHA	1968	4	125 KW 170 PS	EXEO 2.0 TDI	02/09 - 05/13	81,00	147 050 0018 00 148 050 0011 00	IN EX	8 8	6
CAXC	1390	4	92 KW 125 PS	ALTEA 1.4 TSI ALTEA XL 1.4 TSI	11/07 - 11/07 -	76,50	147 050 0001 00 148 050 0001 00	IN EX	8 8	1
CBZA	1197	4	63 KW 86 PS	IBIZA IV 1.2 TSI IBIZA IV ST 1.2 TSI TOLEDO IV 1.2 TSI	08/12 - 05/15 09/12 - 05/15 07/12 - 06/15	71,00	147 050 0023 00 148 050 0016 00	IN EX	4 4	9
CBZB	1197	4	77 KW 105 PS	ALTEA / ALTEA XL 1.2 TSI IBIZA IV ST 1.2 TSI LEON 1.2 TSI TOLEDO IV 1.2 TSI	04/10 - 09/10 - 05/15 02/10 - 12/12 07/12 - 06/15	71,00	147 050 0023 00 148 050 0016 00	IN EX	4 4	9
CDLA	1984	4	195 KW 265 PS	LEON 2.0 Cupra R	09/09 - 12/12	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	11
CDLD	1984	4	177 KW 240 PS	LEON 2.0 TFSI	11/06 - 05/11	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	11
CGGB	1390	4	63 KW 86 PS	ALTEA 1.4 16V ALTEA XL 1.4 16V	05/06 - 10/06 -	76,50	147 050 0001 00 148 050 0001 00	IN EX	8 8	1
CHYA	999	3	44 KW 60 PS	Mii 1.0	10/11 - 07/19	74,50	147 050 0022 00 148 050 0015 00	IN EX	6 6	7
CHYB	999	3	55 KW 75 PS	IBIZA IV + V 1.0 Mii 1.0	05/15 - 10/11 - 07/19	74,50	147 050 0022 00 148 050 0015 00	IN EX	6 6	7
CHYC	999	3	48 KW 65 PS	IBIZA V 1.0	01/17 -	74,50	147 050 0022 00 148 050 0015 00	IN EX	6 6	7
CJZA	1197	4	77 KW 105 PS	LEON ST 1.2 TSI	01/13 - 08/20	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	4
CJZD	1197	4	81 KW 110 PS	IBIZA IV 1.2 TSI TOLEDO IV 1.2 TSI	09/15 - 06/17 05/15 - 05/17	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	4
CWVA	1598	4	81 KW 110 PS	ARONA 1.6 SRE IBIZA IV + V 1.6 LEON ST 1.6 SRE TOLEDO IV 1.6	07/17 - 07/15 - 05/15 - 05/15 - 04/19	76,50	147 050 0022 01 148 050 0015 01	IN EX	8 8	8
CYVB	1197	4	81 KW 110 PS	LEON 1.2 TSI	04/14 - 08/20	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	4

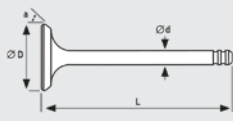
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 050 0001 00	L = 101,00 D = 29,50 d = 6,00 a = 45°	S				TH
	EX	148 050 0001 00	L = 100,60 D = 26,00 d = 6,00 a = 45°	A/S				TH
2								
	IN	147 050 0003 00	L = 99,00 D = 31,00 d = 6,00 a = 45°	S			S/H	TH
	EX	148 050 0022 00	L = 99,00 D = 26,00 d = 6,00 a = 45°	A/S			S/S	TH
3								
	IN	147 050 0004 00	L = 94,70 D = 31,00 d = 7,00 a = 45°					TH
	EX	148 050 0023 00	L = 94,40 D = 26,00 d = 7,00 a = 45°					
4								
	IN	147 050 0005 00	L = 110,15 D = 26,50 d = 5,00 a = 45°	S				H
	EX	148 050 0024 00	L = 110,10 D = 23,50 d = 5,00 a = 30°	A/S	CR			
5								
	IN	147 050 0006 00	L = 91,90 D = 39,40 d = 7,00 a = 45°	S			S/H	TH
	EX	148 050 0010 00	L = 91,00 D = 33,00 d = 7,00 a = 45°	A/S	CR			TH

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 050 0018 00	L = 99,20 D = 28,00 d = 6,00 a = 45°	S			S/H	TH
	EX	148 050 0011 00	L = 99,20 D = 26,00 d = 6,00 a = 45°	A/S			S/S	TH
7								
	IN	147 050 0022 00	L = 110,20 D = 29,50 d = 5,00 a = 45°	S				TH
	EX	148 050 0015 00	L = 110,20 D = 27,00 d = 5,00 a = 60°	A/S	CR		S/S	TH
8								
	IN	147 050 0022 01	L = 110,20 D = 29,50 d = 5,00 a = 45°	S				TH
	EX	148 050 0015 01	L = 110,20 D = 27,00 d = 5,00 a = 60°	A/S	CR		S/S	TH
9								
	IN	147 050 0023 00	L = 98,60 D = 35,50 d = 6,00 a = 45°	S			S/H	TH
	EX	148 050 0016 00	L = 98,40 D = 30,00 d = 6,00 a = 45°	A/S	CR			TH
10								
	IN	147 050 0024 00	L = 104,10 D = 33,90 d = 6,00 a = 45°	S				TH

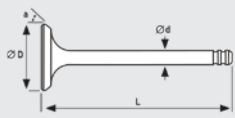
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
11								
	IN	147 050 0026 00	L = 103,95 D = 33,80 d = 6,00 a = 45°	S	CR			TH
	EX	148 050 0017 00	L = 102,00 D = 28,00 d = 6,00 a = 45°	A/S	CR			TH
12								
	IN	147 050 0028 00	L = 89,50 D = 36,00 d = 7,00 a = 45°	S				TH
	EX	148 050 0019 00	L = 89,00 D = 31,50 d = 7,00 a = 45°	A/S				TH
13								
	IN	147 050 0028 01	L = 89,50 D = 36,00 d = 7,00 a = 45°	S				TH
	EX	148 050 0019 01	L = 89,00 D = 31,50 d = 7,00 a = 45°	A/S				TH

	ccm						IN/EX	QTY	Info	Pos.
AEH, AKL	1595	4	74 KW 101 PS	OCTAVIA I 1.6	02/97 - 12/07	81,00	147 050 0006 00 148 050 0010 00	IN EX	4 4	3
AMF	1422	3	55 KW 75 PS	FABIA I 1.4 TDI	04/03 - 03/08	79,50	147 050 0028 00 148 050 0019 00	IN EX	3 3	8
AQY, APK, AZH, AEG, AZM, AZJ	1984	4	85 KW 116 PS	OCTAVIA I, SUPERB I 2.0	09/04 -	82,50	147 050 0006 00 148 050 0010 00	IN EX	4 4	3
AWY, BMD, BBM, CHFA	1198	3	40-44 KW 54-60 PS	FABIA I + II 1.2	07/01 - 12/14	76,50	147 050 0030 00	IN	3	10
BLR	1984	4	110 KW 150 PS	OCTAVIA II 2.0 FSI	11/04 - 10/08	82,50	147 050 0024 00	IN	8	7
BLX, BLY, BVX, BZY, BVZ	1984	4	110 KW 150 PS	OCTAVIA II 2.0 FSI 4x4	11/04 - 04/09	82,50	147 050 0024 00	IN	8	7
CAXA	1390	4	90 KW 122 PS	YETI 1.4 TSI	06/10 -	76,50	147 050 0001 00 148 050 0001 00	IN EX	8 8	1
CAXC	1390	4	92 KW 125 PS	SUPERB II 1.4 TSI	07/08 - 05/15	76,50	147 050 0001 00 148 050 0001 00	IN EX	8 8	1
CBZA	1197	4	63 KW 86 PS	FABIA II 1.2 TSI RAPID 1.2 TSI / 1.2 LPG ROOMSTER 1.2 TSI	03/10 - 12/14 07/12 - 05/15 03/10 - 05/15	71,00	147 050 0023 00 148 050 0016 00	IN EX	4 4	6
CBZB	1197	4	77 KW 105 PS	FABIA II 1.2 TSI OCTAVIA II 1.2 TSI RAPID 1.2 TSI ROOMSTER 1.2 TSI YETI 1.2 TSI	03/10 - 12/14 02/10 - 06/13 07/12 - 05/15 03/10 - 05/15 09/09 - 05/15	71,00	147 050 0023 00 148 050 0016 00	IN EX	4 4	6
CHYA, CHYE, CHYB	999	3	44-55 KW 60-75 PS	CITIGO 1.0 FABIA III 1.0	10/11 - 08/19 08/14 -	74,50	147 050 0022 00 148 050 0015 00	IN EX	6 6	4
CJZA	1197	4	77 KW 105 PS	OCTAVIA III 1.2 TSI	11/12 - 02/17	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	2
CJZC	1197	4	66 KW 90 PS	FABIA III 1.2 TSI RAPID 1.2 TSI	10/14 - 05/15 - 12/19	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	2
CJZD	1197	4	81 KW 110 PS	FABIA III 1.2 TSI RAPID 1.2 TSI	08/14 - 05/15 - 12/19	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	2
CWVA	1598	4	81 KW 110 PS	FABIA III 1.6 KAMIQ 1.6 SRE KAROQ 1.6 SRE OCTAVIA III + IV 1.6 SRE RAPID 1.6 SRE YETI 1.6	01/15 - 07/19 - 06/20 - 01/14 - 05/15 - 12/19 04/14 - 12/17	76,50	147 050 0022 01 148 050 0015 01	IN EX	8 8	5
CWVB	1598	4	66 KW 90 PS	FABIA III 1.6 RAPID 1.6 SRE	08/14 - 06/15 - 12/19	76,50	147 050 0022 01 148 050 0015 01	IN EX	8 8	5
CYVB	1197	4	81 KW 110 PS	OCTAVIA III 1.2 TSI YETI 1.2 TSI	05/15 - 12/17 05/15 - 12/17	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	2
DSRA	1968	4	110 KW 150 PS	SUPERB III 2.0 TDI	03/15 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	9
DTRA	1968	4	90 KW 122 PS	SUPERB III 2.0 TDI	07/20 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	9
DTSA, DTSB	1968	4	110 KW 150 PS	SUPERB III 2.0 TDI	03/15 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	9
DTTC, DTTA	1968	4	110 KW 150 PS	OCTAVIA IV 2.0 TDI 4x4	09/20 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	9

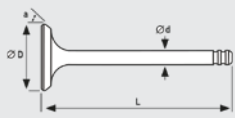
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 050 0001 00	L = 101,00 D = 29,50 d = 6,00 a = 45°	S				TH
	EX	148 050 0001 00	L = 100,60 D = 26,00 d = 6,00 a = 45°	A/S				TH
2								
	IN	147 050 0005 00	L = 110,15 D = 26,50 d = 5,00 a = 45°	S				H
	EX	148 050 0024 00	L = 110,10 D = 23,50 d = 5,00 a = 30°	A/S	CR			
3								
	IN	147 050 0006 00	L = 91,90 D = 39,40 d = 7,00 a = 45°	S			S/H	TH
	EX	148 050 0010 00	L = 91,00 D = 33,00 d = 7,00 a = 45°	A/S	CR			TH
4								
	IN	147 050 0022 00	L = 110,20 D = 29,50 d = 5,00 a = 45°	S				TH
	EX	148 050 0015 00	L = 110,20 D = 27,00 d = 5,00 a = 60°	A/S	CR		S/S	TH
5								
	IN	147 050 0022 01	L = 110,20 D = 29,50 d = 5,00 a = 45°	S				TH
	EX	148 050 0015 01	L = 110,20 D = 27,00 d = 5,00 a = 60°	A/S	CR		S/S	TH

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 050 0023 00	L = 98,60 D = 35,50 d = 6,00 a = 45°	S			S/H	TH
	EX	148 050 0016 00	L = 98,40 D = 30,00 d = 6,00 a = 45°	A/S	CR			TH
7								
	IN	147 050 0024 00	L = 104,10 D = 33,90 d = 6,00 a = 45°	S				TH
8								
	IN	147 050 0028 00	L = 89,50 D = 36,00 d = 7,00 a = 45°	S				TH
	EX	148 050 0019 00	L = 89,00 D = 31,50 d = 7,00 a = 45°	A/S				TH
9								
	IN	147 050 0029 00	L = 99,30 D = 28,00 d = 5,00 a = 45°	S			S/H	TH
	EX	148 050 0020 00	L = 99,30 D = 25,00 d = 5,00 a = 45°	A/S			S/S	TH
10								
	IN	147 050 0030 00	L = 99,20 D = 34,50 d = 6,00 a = 45°	S	CR		S/H	TH

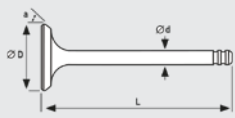
	ccm							IN/EX	QTY	Info	Pos.
M 104.992 / M 104.995	3199	6	156 KW 212 PS	KORANDO 3.2 4x4 MUSSO 3.2	12/96 - 11/02 06/96 - 09/04	89,90	147 010 0013 00 148 010 0014 00	IN EX	12 12		1

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 010 0013 00	L = 101,50 D = 35,00 d = 7,00 a = 45°	S	NT			H
	EX	148 010 0014 00	L = 103,60 D = 31,00 d = 7,00 a = 45°	A	NT			

	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
1NR-FE	1329	4	73 KW 99 PS	TREZIA 1.3	03/11 -	72,50	147 096 0004 00 148 096 0005 00	IN EX	8 8		3
M13A	1328	4	69 KW 94 PS	JUSTY III 1.3 AWD	09/03 -	78,00	147 094 0005 00 148 094 0005 00	IN EX	8 8		2

	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 = 5,00 a = 45°	S	NT			H
	EX	148 037 0018 00	L = 89,00 D = 23,50 d = 5,00 a = 45°	A	NT			
2								
	IN	147 094 0005 00	L = 100,70 D = 30,00 d = 5,50 a = 45°	S	NT			H
	EX	148 094 0005 00	L = 99,00 D = 25,00 d = 5,50 a = 45°	A	NT		S/S	
3								
	IN	147 096 0004 00	L = 103,30 D = 29,00 d = 5,50 a = 45°	S	NT			H
	EX	148 096 0005 00	L = 104,50 D = 24,20 d = 5,50 a = 45°	A	NT		S/S	

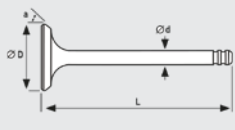
	ccm							IN/EX	QTY	Info	Pos.
K10B	996	3	50 KW 68 PS	ALTO 1.0	01/09 -	73,00	147 094 0003 00 148 094 0003 00	IN EX	6 6		1
K12M	1197	4	63 KW 86 PS	Swift Dzire 1.2	07/13 -	73,00	147 094 0004 00 148 094 0004 00	IN EX	8 8		2
M13A	1328	4	60-69 KW 82-94 PS	GRAND VITARA II 1.3 IGNIS II 1.3 SWIFT III 1.3 WAGON R+ 1.3	08/06 - 10/00 - 02/05 - 08/01 -	78,00	147 094 0005 00 148 094 0005 00	IN EX	8 8		3
M16A	1586	4	78 KW 106 PS	MARUTI SUZUKI SX 4 1.6	05/07 -	78,00	147 094 0005 00 148 094 0005 00	IN EX	8 8		3
M16A	1586	4	73-104 KW 99-142 PS	GRAND VITARA II 1.6 SWIFT III 1.6 SX4 1.6	09/05 - 02/15 05/06 - 06/06 -	78,00	147 094 0005 00 148 094 0005 00	IN EX	8 8		3

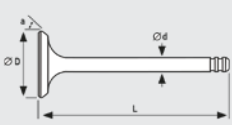
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 094 0003 00	L = 87,55 D = 27,60 d = 5,50 a = 45°	A	NT			
	EX	148 094 0003 00	L = 87,15 D = 22,90 d = 5,50 a = 45°	A	NT			
2								
	IN	147 094 0004 00	L = 87,45 D = 27,40 d = 5,00 a = 45°	S	NT			H
	EX	148 094 0004 00	L = 87,00 D = 22,90 d = 5,00 a = 45°	A	NT			
3								
	IN	147 094 0005 00	L = 100,70 D = 30,00 d = 5,50 a = 45°	S	NT			H
	EX	148 094 0005 00	L = 99,00 D = 25,00 d = 5,50 a = 45°	A	NT		S/S	

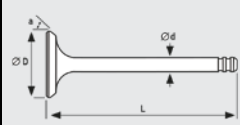
	ccm						IN/EX	QTY	Info	Pos.
1AD-FTV	1998	4	91-93 KW 124-126 PS	AURIS 2.0 D-4D AVENSIS 2.0 D-4D COROLLA 2.0 D-4D RAV 4 IV 2.0 D VERSO 2.0 D-4D	10/06 - 04/15 03/06 - 10/18 11/06 - 07/14 12/12 - 11/18 04/09 - 08/18	86,00	147 096 0012 00 148 096 0012 00	IN EX	8 8	13
1AZ-FSE	1998	4	92-114 KW 125-155 PS	ALLION I 2.0 AVENSIS 2.0 CALDINA 2.0 GAIA 2.0 ISIS 2.0 VVTi NOAH/VOXY 2.0 OPA 2.0 PREMIO 2.0	06/01 - 04/05 10/00 - 11/08 09/02 - 06/07 04/01 - 08/04 07/04 - 08/14 11/01 - 06/07 08/00 - 04/05 12/01 - 06/07	86,00	147 096 0009 00 148 096 0009 00	IN EX	8 8	11
1C	1839	4	41-49 KW 56-67 PS	CARINA 1.8 D COROLLA 1.8 D LITEACE 1.8 D	04/82 - 09/83 01/83 - 06/93 10/82 - 08/88	83,00	147 096 0016 00 148 096 0018 00	IN EX	4 4	17
1CD-FTV	1995	4	66-85 KW 90-116 PS	AVENSIS 2.0 D-4D COROLLA 2.0 D-4D PREVIA II 2.0 D-4D RAV 4 II (2.0 D 4WD)	10/99 - 11/08 01/00 - 03/09 03/01 - 01/06 05/01 - 11/05	82,20	147 096 0011 00 148 096 0011 00	IN EX	8 8	12
1C-L	1839	4	47 KW 64 PS	COROLLA 1.8 D	06/83 - 06/89	83,00	147 096 0016 00 148 096 0018 00	IN EX	4 4	17
1C-TL, 1C-TLC	1839	4	54 KW 73 PS	CAMRY 1.8 Turbo-D	10/82 - 10/86	83,00	147 096 0016 00 148 096 0018 00	IN EX	4 4	17
1E	999	4	40 KW 54 PS	Starlet 1.0	12/89 - 12/92	70,50	148 096 0019 00	EX	4	18
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
1KZ-TE	2982	4	85-103 KW 116-140 PS	4 RUNNER III 3.0 TDi HIACE IV 3.0 TD HILUX VI 3.0 TD LAND CRUISER 90, PRADO 3.0 TD	09/00 - 07/02 01/97 - 12/02 08/97 - 06/05 04/95 - 07/09	96,00	147 096 0013 00 148 096 0013 00	IN EX	4 4	14
1NR-FE	1329	4	62-74 KW 84-101 PS	AURIS 1.3 IQ 1.33 YARIS 1.3	05/09 - 12/18 01/09 - 12/15 11/08 -	72,50	147 096 0004 00 148 096 0005 00	IN EX	8 8	6
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	3
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	3
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	4
1Y	1626	4	51-55 KW 69-75 PS	HILUX IV Pick-up 1.6	11/83 - 09/87	86,00	147 096 0007 00 148 096 0016 00	IN EX	4 8	9
1ZZ-FE	1794	4	95 KW 129 PS	AVENSIS 1.8 COROLLA 1.8 MR2 III 1.8 16V VT RAV 4 II 1.8 4WD	10/00 - 11/08 09/99 - 07/14 10/99 - 06/07 08/00 - 11/05	79,00	147 096 0006 00 148 096 0007 00	IN EX	8 8	8
2AD-FHV	2231	4	100-130 KW 136-177 PS	Avensis, Corolla, RAV 4, Verso 2.2 D-4D	07/05 -	86,00	147 096 0012 00 148 096 0012 00	IN EX	8 8	13
2AD-FTV	2231	4	98-100 KW 133-136 PS	Avensis, Corolla, RAV 2.2 D	10/05 -	86,00	147 096 0012 00 148 096 0012 00	IN EX	8 8	13

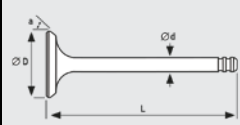
	ccm						IN/EX	QTY	Info	Pos.
2AZ-FE	2362	4	112-127 KW 152-173 PS	ALPHARD 2.4 AURIS / COROLLA 2.4 AVENSIS VERSO 2.4 CAMRY 2.4 HARRIER 2.4 HIGHLANDER / KLUGER 2.4 MATRIX 2.4 PREVIA 2.4 RAV 4 II + III 2.4 SOLARA 2.4	09/03 - 12/14 11/06 - 04/12 05/01 - 12/11 09/01 - 09/11 06/00 - 12/13 06/00 - 05/07 01/08 - 05/14 02/00 - 05/00 - 12/13 07/03 - 11/08	88,50	147 096 0009 00 148 096 0009 00	IN EX	8 8	11
2AZ-FXE	2362	4	105-117 KW 143-159 PS	ALPHARD 2.4 Hybrid CAMRY 2.4 Hybrid PREVIA III 2.4 Hybrid	09/03 - 04/08 01/06 - 09/11 05/12 -	88,50	147 096 0009 00 148 096 0009 00	IN EX	8 8	11
2C	1974	4	49-51 KW 67-69 PS	MODEL F 2.0 D TOWN ACE 2.0 D	04/85 - 08/88 01/92 - 04/95	86,00	147 096 0016 00 148 096 0018 00	IN EX	4 4	17
2C-L	1974	4	50-54 KW 68-73 PS	CARINA 2.0 D	02/84 - 06/92	86,00	147 096 0016 00 148 096 0018 00	IN EX	4 4	17
2E	1296	4	53-55 KW 72-75 PS	COROLLA / STARLET 1.3 12V	08/87 - 04/97	73,00	148 096 0019 00	EX	4	18
2KD-FTV	2494	4	65-106 KW 88-144 PS	DYNA 2.5 D4d FORTUNER / HILUX 2.5 D-4D HIACE 2.5 D-4D	07/01 - 11/01 - 08/17 08/01 -	92,00	147 096 0014 00 148 096 0014 00	IN EX	8 8	15
2L	2446	4	53-62 KW 72-84 PS	HIACE III + IV 2.4 D HILUX 2.4 D	12/82 - 12/04 08/83 - 07/05	92,00	147 096 0013 00 148 096 0013 00	IN EX	4 4	14
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	3
2Y	1812	4	55-65 KW 75-88 PS	CRESSIDA 1.8 DYNA 100 1.8 HIACE III 1.8 HILUX V 1.8 LITEACE 1.8	05/85 - 09/88 08/85 - 04/95 12/82 - 07/89 08/83 - 06/98 01/84 - 12/92	86,00	147 096 0007 00 148 096 0016 00	IN EX	4 8	9
3L	2779	4	58-65 KW 79-88 PS	4 RUNNER 2.8 D DYNA 150 2.8 D HIACE IV 2.8 D HILUX VI + V 2.8 D	05/88 - 08/96 08/88 - 08/98 08/89 - 08/00 10/88 - 07/05	96,00	147 096 0013 00 148 096 0013 00	IN EX	4 4	14
3S-FE	1998	4	88-94 KW 120-128 PS	AVENSIS 2.0 CAMRY 2.0 CARINA E VI 2.0 GLI PICNIC 2.0 RAV 4 I 2.0	09/97 - 10/00 03/83 - 02/93 04/92 - 09/97 05/96 - 12/01 01/94 - 09/00	86,00	147 096 0008 00 148 096 0008 00	IN EX	8 8	10
3Y	1998	4	57-79 KW 78-107 PS	CRESSIDA 2.0 DYNA 2.0 HIACE III + IV 2.0 MODEL F 2.0	01/89 - 09/92 09/84 - 08/88 12/82 - 08/89 08/88 - 01/90	86,00	147 096 0007 00 148 096 0016 00	IN EX	4 8	9
3ZZ-FE	1598	4	81 KW 110 PS	AVENSIS 1.6 COROLLA 1.6	07/00 - 11/08 10/99 - 06/13	79,00	147 096 0005 00 148 096 0004 00 148 096 0006 00	IN EX EX	8 8 8	7
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	5
4Y	2237	4	67-69 KW 92-94 PS	DYNA 200 2.2 HIACE III + IV 2.2 HILUX IV + V 2.2	10/93 - 07/01 08/86 - 08/95 08/83 - 09/96	91,00	147 096 0007 00 148 096 0016 00	IN EX	4 8	9
4ZZ-FE	1398	4	71 KW 97 PS	COROLLA 1.4	10/99 - 11/13	79,00	147 096 0005 00 148 096 0004 00 148 096 0006 00	IN EX EX	8 8 8	7
5L-E, 5L	2986	4	70 KW 95 PS	DYNA 150 3.0 D FORTUNER 3.0 D HIACE IV 3.0 D HILUX 3.0 D LAND CRUISER PRADO 3.0 D TOYOACE 3.0 D	09/98 - 03/16 - 08/98 - 08/97 - 09/02 - 08/01 - 06/11	99,50	147 096 0015 00 148 096 0017 00	IN EX	4 4	16
5S-FE	2164	4	93-100 KW 126-136 PS	CAMRY 2.2	06/91 - 09/02	87,00	147 096 0008 00 148 096 0008 00	IN EX	8 8	10
5WZ-HV (DV5RUC)	1499	4	88 KW 120 PS	PROACE VERSO 1.5 D4d	06/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8	2

	ccm						IN/EX	QTY	Info	Pos.	
5WZ-TV (DV5RUCD)	1499	4	75 KW 102 PS	PROACE VERSO 1.5 D4d	06/18 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8		2
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		5
DV5RC	1499	4	96 KW 131 PS	PROACE CITY 1.5 D-4D 130	10/19 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8		2
DV5RD	1499	4	75 KW 102 PS	PROACE CITY VERSO 1.5 D-4D 100	10/19 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8		2
DV5RE	1499	4	55 KW 75 PS	PROACE CITY 1.5 D-4D 75	10/19 -	75,00	147 037 0028 00 148 037 0029 00	IN EX	8 8		2

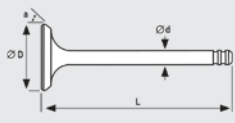
	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 037 0019 00	L = 88,35 D = 27,80 d = 5,00 a = 45°	S	NT			H
	EX	148 037 0018 00	L = 89,00 D = 23,50 d = 5,00 a = 45°	A	NT			
2								
	IN	147 037 0028 00	L = 95,30 D = 25,30 d = 5,50 a = 45°	S	CR			TH
	EX	148 037 0029 00	L = 94,80 D = 22,00 d = 5,50 a = 45°	A/S	CR		S/S	TH
3								
	IN	147 096 0001 00	L = 89,30 D = 30,50 d = 5,00 a = 45°	S	NT			H
	EX	148 096 0001 00	L = 88,00 D = 25,50 d = 5,00 a = 45°	A	NT			
4								
	IN	147 096 0002 00	L = 88,20 D = 26,10 d = 5,00 a = 45°	S	NT			H
	EX	148 096 0002 00	L = 89,20 D = 22,60 d = 5,00 a = 45°	A	NT			
5								
	IN	147 096 0003 00	L = 87,50 D = 31,00 d = 6,00 a = 45°	S	CR			H
	EX	148 096 0003 00	L = 87,90 D = 24,50 d = 6,00 a = 45°	A	CR			

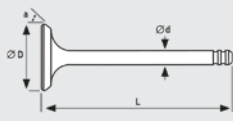
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 096 0004 00	L = 103,30 D = 29,00 d = 5,50 a = 45°	S	NT			H
	EX	148 096 0005 00	L = 104,50 D = 24,20 d = 5,50 a = 45°	A	NT		S/S	
7								
	IN	147 096 0005 00	L = 88,80 D = 31,00 d = 5,50 a = 45°	S	NT			H
	EX	148 096 0004 00	L = 88,70 D = 26,00 d = 5,50 a = 45°	A	NT			
	EX	148 096 0006 00	L = 88,70 D = 26,00 d = 5,50 a = 45°	A	NT		S/S	
8								
	IN	147 096 0006 00	L = 88,70 D = 32,00 d = 5,50 a = 45°	S	NT			H
	EX	148 096 0007 00	L = 88,70 D = 27,50 d = 5,50 a = 45°	A	NT		S/S	
9								
	IN	147 096 0007 00	L = 108,30 D = 40,00 d = 8,00 a = 45°	S	NT			H
	EX	148 096 0016 00	L = 108,50 D = 36,00 d = 8,00 a = 45°	A	NT			

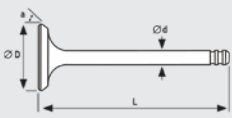
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
10								
	IN	147 096 0008 00	L = 97,50 D = 32,00 d = 6,00 a = 45°	A	NT			
	EX	148 096 0008 00	L = 98,50 D = 27,00 d = 6,00 a = 45°	A	NT			
11								
	IN	147 096 0009 00	L = 101,70 D = 34,00 d = 5,50 a = 45°	S	NT			H
	EX	148 096 0009 00	L = 101,10 D = 29,50 d = 5,50 a = 45°	A	NT			
12								
	IN	147 096 0011 00	L = 102,50 D = 28,00 d = 6,00 a = 45°	A	NT			
	EX	148 096 0011 00	L = 102,00 D = 24,00 d = 6,00 a = 45°	A	NT			
13								
	IN	147 096 0012 00	L = 104,50 D = 30,20 d = 6,00 a = 45°	S	NT			H
	EX	148 096 0012 00	L = 104,00 D = 27,00 d = 6,00 a = 45°	A	NT			
14								
	IN	147 096 0013 00	L = 103,30 D = 42,50 d = 8,00 a = 45°	A	NT			
	EX	148 096 0013 00	L = 103,30 D = 36,00 d = 8,00 a = 45°	A	NT			

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
15								
	IN	147 096 0014 00	L = 105,60 D = 30,50 d = 6,00 a = 45°	S	NT			H
	EX	148 096 0014 00	L = 105,90 D = 26,50 d = 6,00 a = 45°	A	NT			
16								
	IN	147 096 0015 00	L = 104,30 D = 42,50 d = 8,00 a = 45°	S	NT		S/H	H
	EX	148 096 0017 00	L = 104,10 D = 36,00 d = 8,00 a = 45°	A/S	NT			H
17								
	IN	147 096 0016 00	L = 106,50 D = 38,50 d = 8,00 a = 45°					
	EX	148 096 0018 00	L = 106,70 D = 32,50 d = 8,00 a = 45°	A	CR			
18								
	EX	148 096 0019 00	L = 92,50 D = 31,00 d = 6,00 a = 45°	A	NT			

	ccm						IN/EX	QTY	Info	Pos.	
B 30 A, B 30 E, B 30 F	2932	6	92-118 KW 125-160 PS	164 2.9, 2.9 E, 3.0	08/68 - 07/74	88,90	147 051 0002 00 148 051 0002 00	IN EX	6 6		12
B 4184 S11	1798	4	92 KW 125 PS	C30 1.8 S40 II 1.8 V50 1.8	10/06 - 12/12 04/04 - 12/10 04/04 - 12/10	83,00	147 021 0001 00 148 021 0001 00	IN EX	8 8		2
B 4194 T2	1855	4	147 KW 200 PS	S40 I 1.9 T4	05/97 - 07/00	81,00	147 051 0001 00	IN	8		7
B 4204 S	1948	4	100-103 KW 136-140 PS	S40 I 2.0 V40 2.0	07/95 - 12/03 07/95 - 06/04	83,00	147 051 0001 00	IN	8		7
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		3
B 5204 T2	1984	5	132 KW 180 PS	850 2.0 Turbo	09/93 - 10/97	81,00	147 051 0001 01	IN	10		8
B 5204 T3	1984	5	166 KW 226 PS	S70 / V70 I / C70 I 2.0 T	11/96 - 07/06	81,00	147 051 0001 01	IN	10		8
B 5204 T5	1984	5	132 KW 180 PS	S60 I 2.0 T S80 I 2.0 T V70 II 2.0 T	07/00 - 04/10 12/99 - 07/06 11/99 - 08/07	81,00	147 051 0000 01 148 051 0000 01	IN EX	10 10		4
B 5234 T3	2319	5	176-184 KW 239-250 PS	C70 I / S60 / S70 / V70 I+II 2.3 T5	11/96 - 04/10	81,00	147 051 0001 01	IN	10		8
B 5244 S2	2435	5	103 KW 140 PS	V70 I / S70 2.4 AWD	07/97 - 01/10	83,00	147 051 0001 01 147 051 0000 01	IN IN	10 10	Till Engine No. 1817725 From Engine No. 1817726	9
B 5254 FS	2435	5	125 KW 170 PS	V70 I 2.4	12/95 - 05/00	83,00	147 051 0001 01	IN	10		8
B 6254 S	2473	6	125 KW 170 PS	960 II 2.5	07/94 - 12/96	81,00	147 051 0001 02 148 051 0001 02	IN EX	12 12		11
B 6284 T	2783	6	200 KW 272 PS	S80 I T6	05/98 - 12/01	81,00	147 051 0000 02 148 051 0000 02	IN EX	12 12		5
B 6294 S, B 6294 S2	2922	6	144-147 KW 196-200 PS	S80 I 3.0	03/99 - 07/06	83,00	147 051 0000 02 148 051 0000 02	IN EX	12 12		5
B 6294 T	2922	6	200 KW 272 PS	S80 I 2.9 T6, XC90 I 2.9 T6 AWD	06/01 - 12/06	83,00	147 051 0000 02 148 051 0000 02	IN EX	12 12	From Engine No. 1818169 From Engine No. 1818169	6
B 6294 T	2922	6	200 KW 272 PS	S80 I 2.9 T6	06/01 - 07/06	83,00	147 051 0001 02	IN	12	Till Engine No. 1818168	10
B 6304 FS	2922	6	150 KW 204 PS	960 2.9 V90 I 2.9	08/90 - 07/94 01/97 - 12/98	83,00	147 051 0001 02 148 051 0001 02	IN EX	12 12		11
B 6304 GS	2922	6	150 KW 204 PS	960 2.9 S90 I 2.9 V90 I 2.9	08/90 - 07/94 01/97 - 05/98 01/97 - 12/98	83,00	147 051 0001 02 148 051 0001 02	IN EX	12 12		11
B 6304 S	2922	6	150 KW 204 PS	960 II 2.9	07/94 - 12/96	83,00	147 051 0001 02 148 051 0001 02	IN EX	12 12		11
D7E240	7100	4	177 KW 240 PS	FE, FL II	05/06 -	108,00	147 015 0009 00 148 015 0008 00	IN EX	2 2		1
D7E280	7100	6	206 KW 280 PS	FE, FE II, FL II, FL III	05/06 -	108,00	147 015 0009 00 148 015 0008 00	IN EX	2 2		1
D7E320	7146	6	235 KW 320 PS	FE, FE II	05/06 -	108,00	147 015 0009 00 148 015 0008 00	IN EX	2 2		1

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 015 0009 00	L = 145,80 D = 38,20 d = 8,00 a = 60°	S	CR			TH
	EX	148 015 0008 00	L = 145,80 D = 35,80 d = 8,00 a = 45°	A/S	CR			TH
2								
	IN	147 021 0001 00	L = 103,50 D = 32,50 d = 5,50 a = 45°	S	NT			H
	EX	148 021 0001 00	L = 104,50 D = 28,00 d = 5,50 a = 45°	A	NT			
3								
	IN	147 021 0002 00	L = 103,50 D = 35,00 d = 5,50 a = 45°	S	NT			H
	EX	148 021 0002 00	L = 104,80 D = 30,10 d = 5,50 a = 45°	A	NT			
4								
	IN	147 051 0000 01	L = 104,30 D = 31,00 d = 6,00 a = 45°	S	CR			TH
	EX	148 051 0000 01	L = 103,30 D = 27,00 d = 6,00 a = 45°	A	CR			
5								
	IN	147 051 0000 02	L = 104,30 D = 31,00 d = 6,00 a = 45°	S	CR			TH
	EX	148 051 0000 02	L = 103,30 D = 27,00 d = 6,00 a = 45°	A	CR			

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 051 0000 02	L = 104,30 D = 31,00 d = 6,00 a = 45°	S	CR			TH
	EX	148 051 0000 02	L = 103,30 D = 27,00 d = 6,00 a = 45°	A	CR			
7								
	IN	147 051 0001 00	L = 104,10 D = 31,00 d = 7,00 a = 45°	S	CR			TH
8								
	IN	147 051 0001 01	L = 104,10 D = 31,00 d = 7,00 a = 45°	S	CR			TH
9								
	IN	147 051 0001 01	L = 104,10 D = 31,00 d = 7,00 a = 45°	S	CR			TH
	IN	147 051 0000 01	L = 104,30 D = 31,00 d = 6,00 a = 45°	S	CR			TH
10								
	IN	147 051 0001 02	L = 104,10 D = 31,00 d = 7,00 a = 45°	S	CR			TH
11								
	IN	147 051 0001 02	L = 104,10 D = 31,00 d = 7,00 a = 45°	S	CR			TH
	EX	148 051 0001 02	L = 103,30 D = 27,00 d = 7,00 a = 45°	A/S	CR			TH

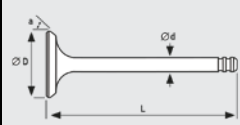
	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
12								
	IN	147 051 0002 00	L = 116,50 D = 46,00 d = 8,00 a = 45°	S	CR			TH
	EX	148 051 0002 00	L = 116,50 D = 38,50 d = 8,00 a = 45°	A	CR			

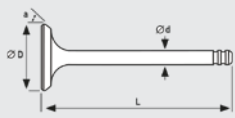
	ccm						IN/EX	QTY	Info	Pos.
2L	2446	4	58-61 KW 80-83 PS	TARO 2.4 D	04/89 - 03/97	92,00	147 096 0013 00 148 096 0013 00	IN EX	4 4	21
AAC	1968	4	62 KW 84 PS	TRANSPORTER T4 / CARAVELLE 2.0 VENTO/ JETTA III 2.0 GL	07/90 - 04/03 11/91 - 07/98	81,00	147 050 0006 00 148 050 0010 00	IN EX	4 4	4
ADP, AEH, AEK, AFT, AHL, AKL, AKS, ANA, APF, ARM, AUR, AWH	1595	4	74 KW 101 PS	BORA I, JETTA III+ IV, GOLF III+IV, NEW BEETLE, PASSAT, POLO III, VENTO 1.6	07/94 - 05/05	81,00	147 050 0006 00 148 050 0010 00	IN EX	4 4	4
AEP	1984	4	79 KW 107 PS	PASSAT, VENTO, GOLF III 2.0	03/95 - 12/97	82,50	147 050 0006 00 148 050 0010 00	IN EX	4 4	4
AER, ALL	999	4	37 KW 50 PS	Lupo, Polo 1.0	09/96 - 07/05	67,10	147 050 0004 00 148 050 0023 00	IN EX	4 4	2
ALD, ANV, AUC	999	4	37 KW 50 PS	LUPO I 1.0 POLO 1.0	09/98 - 07/05 05/99 - 05/02	67,10	147 050 0003 00 148 050 0022 00	IN EX	4 4	1
AMF, ATL	1422	3	55-66 KW 75-90 PS	POLO 1.4 TDI	10/99 - 12/07	79,50	147 050 0028 00 148 050 0019 00	IN EX	3 3	15
AMF, ATL	1422	3	55 KW 75 PS	LUPO I 1.4 TDI	01/99 - 07/05	79,50	147 050 0028 00 148 050 0019 00	IN EX	3 3	15
AVQ	1896	4	74 KW 100 PS	TOURAN 1.9 TDI	02/03 - 05/05	79,50	147 050 0028 01 148 050 0019 01	IN EX	4 4	16
AWY, BMD, CHFA	1198	3	40-44 KW 54-60 PS	FOX 1.2 POLO 1.2	04/05 - 12/11 01/02 - 05/07	76,50	147 050 0030 00	IN	3	20
AXA	1984	4	85 KW 115 PS	TRANSPORTER T5, MULTIVAN T5	11/03 - 08/15	82,50	147 050 0006 00 148 050 0010 00	IN EX	4 4	4
AXW	1984	4	110 KW 150 PS	GOLF V 2.0 FSI TOURAN 2.0 FSI	01/04 - 11/08 10/03 - 01/07	82,50	147 050 0024 00	IN	8	8
BKS, CATA, BMK	2967	6	165 KW 224 PS	TOUAREG 3.0 V6 TDI	06/04 - 05/10	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	10
BLR, BLX, BLY, BVX, BVY, BVZ	1984	4	110 KW 150 PS	EOS 2.0 FSI GOLF PLUS V 2.0 FSI GOLF V 2.0 FSI JETTA III / VENTO 2.0 FSI PASSAT 2.0 FSI TOURAN 2.0 FSI	03/06 - 05/08 05/05 - 06/08 01/04 - 11/08 08/05 - 10/10 03/05 - 11/10 10/03 - 01/07	82,50	147 050 0024 00	IN	8	8
BPA, BJA	1589	4	73-77 KW 98-105 PS	FOX 1.6 POLO IV 1.6	10/03 - 08/14 10/04 - 10/14	76,50	148 050 0021 00	EX	4	22
BPC, BNZ	2461	5	96-128 KW 130-174 PS	CALIFORNIA T5 Camper 2.5 TDI MULTIVAN V 2.5 TDI TRANSPORTER V 2.5 TDI	05/07 - 11/09 04/03 - 11/09 04/03 - 11/09	81,00	147 050 0028 02 148 050 0019 02	IN EX	5 5	17
BPD, BPE	2461	5	120-128 KW 163-174 PS	TOUAREG 2.5 R5 TDI	08/03 - 05/10	81,00	147 050 0028 02 148 050 0019 02	IN EX	5 5	17
BUN, CASB	2967	6	155 KW 211 PS	TOUAREG 3.0 V6 TDI	06/04 - 05/10	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	10
BWA, AXX	1984	4	147 KW 200 PS	GOLF V (1K1) 2.0 GTI Jetta III (1K2) PASSAT (3C2) 2.0 FSI PASSAT Variant (3C5) 2.0 FSI	10/04 - 02/09 10/05 - 10/10 07/05 - 07/10 08/05 - 11/10	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	13
BYD	1984	4	169 KW 230 PS	GOLF V 2.0 GTI	09/06 - 12/08	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	13
CARA	2967	6	171 KW 233 PS	PHAETON 3.0 V6 TDI 4motion	06/07 - 11/08	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	10
CASA, CEXA, CNRB	2967	6	176 KW 240 PS	PHAETON 3.0 V6 TDI 4motion TOUAREG 3.0 V6 TDI	11/08 - 03/16 01/10 - 03/18	83,00	147 050 0025 00 148 050 0018 00 148 050 0012 00	IN EX EX	12 12 12	12
CBPA	1984	4	85 KW 116 PS	NEW BEETLE 2.0	01/98 - 09/10	82,50	147 050 0006 00 148 050 0010 00	IN EX	4 4	4
CBWA	4921	10	257 KW 350 PS	TOUAREG 5.0 R50 TDI	08/07 - 05/10	81,00	147 050 0028 03 148 050 0019 03	IN EX	10 10	18
CBZA	1197	4	63 KW 86 PS	CADDY III 1.2 TSI GOLF PLUS 1.2 TSI GOLF VI 1.2 TSI	09/10 - 05/15 05/10 - 12/13 05/10 - 11/12	71,00	147 050 0023 00 148 050 0016 00	IN EX	4 4	7
CBZB	1197	4	77 KW 105 PS	BEETLE 1.2 TSI CADDY III 1.2 TSI GOLF VI / GOLF PLUS 1.2 TSI JETTA IV 1.2 TSI POLO 1.2 TSI TOURAN 1.2 TSI	07/11 - 07/19 09/10 - 05/15 11/08 - 05/16 10/10 - 11/09 - 05/10 - 05/15	71,00	147 050 0023 00 148 050 0016 00	IN EX	4 4	7
CBZC	1197	4	66 KW 90 PS	POLO 1.2 TSI	05/11 - 05/14	71,00	147 050 0023 00 148 050 0016 00	IN EX	4 4	7

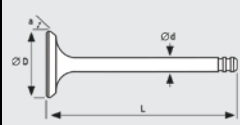
Engine
Code:
CNRB

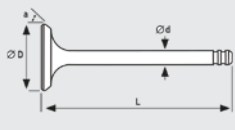
	ccm						IN/EX	QTY	Info	Pos.
CCRA	1589	4	74-77 KW 101-105 PS	FOX 1.6 POLO IV 1.6	10/03 - 10/21 09/02 -	76,50	148 050 0021 00	EX	4	22
CDLA	1984	4	195 KW 265 PS	GOLF VI 2.0 R 4motion SCIROCCO III 2.0 R	11/09 - 05/11 11/09 - 11/17	82,50	147 050 0026 00 148 050 0017 00	IN EX	8 8	13
CEXB	2967	6	180 KW 245 PS	PHAETON 3.0 V6 TDI 4motion	11/13 - 03/16	83,00	147 050 0025 00 148 050 0018 00	IN EX	12 12	10
CHYA, CHYB	999	3	44-55 KW 60-75 PS	LOAD UP 1.0 BlueMotion POLO 1.0	05/16 - 11/19 01/14 -	74,50	147 050 0022 00 148 050 0015 00	IN EX	6 6	5
CHYA, CHYB, CHYE, DAFA	999	3	44-55 KW 60-75 PS	LOAD UP 1.0 UP! 1.0	12/14 - 11/19 08/11 - 08/20	74,50	147 050 0022 00 148 050 0015 00	IN EX	6 6	5
CJGD, CRCA	2967	6	180 KW 245 PS	TOUAREG 3.0 V6 TDI	05/11 - 03/18	83,00	147 050 0025 00 148 050 0012 00	IN EX	12 12	9
CJMA, CASD	2967	6	150 KW 204 PS	Q7 3.0 TDI quattro TOUAREG 3.0 V6 TDI	05/10 - 08/15 01/10 - 03/18	83,00	147 050 0025 00 148 050 0018 00 148 050 0012 00	IN EX EX	12 12 12	11 Engine Code: CASD Engine Code: CJMA
CJZA	1197	4	77 KW 105 PS	GOLF VII 1.2 TSI	11/12 - 08/20	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	3
CJZC	1197	4	66 KW 90 PS	POLO V 1.2 TSI 16V	02/14 -	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	3
CJZC	1197	4	66 KW 90 PS	POLO V 1.2 TSI 16V	02/14 -	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	3
CJZD	1197	4	81 KW 110 PS	POLO V 1.2 TSI	01/14 -	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	3
CPKA, CPRA	1798	4	125 KW 170 PS	BEETLE 1.8 TSI JETTA IV 1.8 TSI PASSAT 1.8 TSI	12/13 - 07/17 07/14 - 06/13 -	82,50	147 050 0027 00	IN	8	14
CPLA, CPPA	1984	4	155 KW 211 PS	BEETLE 2.0 TSI JETTA IV / BORA 2.0 TSI	12/12 - 07/19 12/12 - 12/17	82,50	147 050 0027 00	IN	8	14
CWVA	1598	4	81 KW 110 PS	CADDY IV 1.6 GOLF VII 1.6 JETTA IV / BORA 1.6 POLO 1.6	11/15 - 05/14 - 09/15 - 07/14 -	76,50	147 050 0022 01 148 050 0015 01	IN EX	8 8	6
CWVB	1598	4	66 KW 90 PS	JETTA IV / BORA 1.6 MPi POLO 1.6 MPi	09/15 - 04/18 07/14 -	76,50	147 050 0022 01 148 050 0015 01	IN EX	8 8	6
CXDA, CXDB	1984	4	162 KW 220 PS	ATLAS / TERAMONT 2.0 TSI 4motion GOLF VII 2.0 GTI JETTA VII / J VENTO 350 TSI PASSAT 2.0 TSI TIGUAN ALLSPACE 2.0 TSI 4motion	12/17 - 04/13 - 12/18 - 08/14 - 07/17 -	82,50	147 050 0027 00	IN	8	14
CXEC	1968	4	146 KW 199 PS	CALIFORNIA T6 Camper 2.0 TDI MULTIVAN VI CARAVELLE 2.0 TDI TRANSPORTER VI 2.0 TDI	08/18 - 11/18 - 08/18 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
CXFA, CXHA	1968	4	110 KW 150 PS	CALIFORNIA T6 Camper 2.0 TDI MULTIVAN VI CARAVELLE 2.0 TDI TRANSPORTER VI 2.0 TDI	04/15 - 04/15 - 04/15 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
CXGD	1968	4	66 KW 90 PS	CALIFORNIA T6 Camper 2.0 TDI TRANSPORTER VI 2.0 TDI	10/19 - 10/19 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
CXHC	1968	4	81 KW 110 PS	CALIFORNIA T6 Camper 2.0 TDI MULTIVAN VI CARAVELLE 2.0 TDI TRANSPORTER VI 2.0 TDI	07/19 - 07/19 - 07/19 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
CYVA	1197	4	63 KW 86 PS	GOLF SPORTSVAN VII 1.2 TSI	05/14 - 11/17	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	3
CYVB	1197	4	81 KW 110 PS	GOLF VII 1.2 TSI TOURAN 1.2 TSI	04/04 - 11/17 05/15 -	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	3
CYVC	1197	4	62 KW 84 PS	CADDY IV 1.2 TSI	06/15 -	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	3
CYVD	1197	4	77 KW 105 PS	BEETLE 1.2 TSI 16V JETTA IV 1.2 TSI 16V	12/14 - 07/19 08/14 - 12/17	71,00	147 050 0005 00 148 050 0024 00	IN EX	8 8	3
DASA, DASB	1968	4	90 KW 122 PS	CRAFTER 2.0 TDI	08/17 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
DASC	1968	4	80 KW 109 PS	CRAFTER 2.0 TDI RWD	11/16 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
DAUA, DAUB	1968	4	103 KW 140 PS	CRAFTER 2.0 TDI	09/16 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19

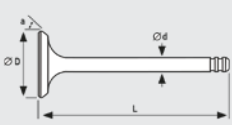
	ccm						IN/EX	QTY	Info	Pos.
DAVA	1968	4	130 KW 177 PS	CRAFTER 2.0 TDI	09/16 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
DAWA	1968	4	130 KW 177 PS	CRAFTER 2.0 TDI RWD	02/17 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
DSGC	999	3	48 KW 65 PS	UP! 1.0	08/20 -	74,50	147 050 0022 00 148 050 0015 00	IN EX	6 6	5
DSRA	1968	4	110 KW 150 PS	ARTEON 2.0 TDI PASSAT B8 2.0 TDI	03/17 - 11/14 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
DTRA	1968	4	90 KW 122 PS	PASSAT 2.0 TDI	07/20 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
DTSA, DTSB	1968	4	110 KW 150 PS	ARTEON 2.0 TDI GOLF VIII 2.0 TDI PASSAT 2.0 TDI	03/17 - 08/19 - 11/14 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19
DTTC, DTTA	1968	4	110 KW 150 PS	GOLF VIII 2.0 TDI	08/19 -	81,00	147 050 0029 00 148 050 0020 00	IN EX	8 8	19

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
1								
	IN	147 050 0003 00	L = 99,00 D = 31,00 d = 6,00 a = 45°	S			S/H	TH
	EX	148 050 0022 00	L = 99,00 D = 26,00 d = 6,00 a = 45°	A/S			S/S	TH
2								
	IN	147 050 0004 00	L = 94,70 D = 31,00 d = 7,00 a = 45°					TH
	EX	148 050 0023 00	L = 94,40 D = 26,00 d = 7,00 a = 45°					
3								
	IN	147 050 0005 00	L = 110,15 D = 26,50 d = 5,00 a = 45°	S				H
	EX	148 050 0024 00	L = 110,10 D = 23,50 d = 5,00 a = 30°	A/S	CR			
4								
	IN	147 050 0006 00	L = 91,90 D = 39,40 d = 7,00 a = 45°	S			S/H	TH
	EX	148 050 0010 00	L = 91,00 D = 33,00 d = 7,00 a = 45°	A/S	CR			TH
5								
	IN	147 050 0022 00	L = 110,20 D = 29,50 d = 5,00 a = 45°	S				TH
	EX	148 050 0015 00	L = 110,20 D = 27,00 d = 5,00 a = 60°	A/S	CR		S/S	TH

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
6								
	IN	147 050 0022 01	L = 110,20 D = 29,50 d = 5,00 a = 45°	S				TH
	EX	148 050 0015 01	L = 110,20 D = 27,00 d = 5,00 a = 60°	A/S	CR		S/S	TH
7								
	IN	147 050 0023 00	L = 98,60 D = 35,50 d = 6,00 a = 45°	S			S/H	TH
	EX	148 050 0016 00	L = 98,40 D = 30,00 d = 6,00 a = 45°	A/S	CR			TH
8								
	IN	147 050 0024 00	L = 104,10 D = 33,90 d = 6,00 a = 45°	S				TH
9								
	IN	147 050 0025 00	L = 99,35 D = 28,60 d = 6,00 a = 45°	S				TH
	EX	148 050 0012 00	L = 99,20 D = 26,00 d = 6,00 a = 45°	A/S			S/S	TH
10								
	IN	147 050 0025 00	L = 99,35 D = 28,60 d = 6,00 a = 45°	S				TH
	EX	148 050 0018 00	L = 99,35 D = 26,70 d = 6,00 a = 45°	A/S				TH

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
11								
	IN	147 050 0025 00	L = 99,35 D = 28,60 d = 6,00 a = 45°	S				TH
	EX	148 050 0018 00	L = 99,35 D = 26,70 d = 6,00 a = 45°	A/S				TH
	EX	148 050 0012 00	L = 99,20 D = 26,00 d = 6,00 a = 45°	A/S			S/S	TH
12								
	IN	147 050 0025 00	L = 99,35 D = 28,60 d = 6,00 a = 45°	S				TH
	EX	148 050 0018 00	L = 99,35 D = 26,70 d = 6,00 a = 45°	A/S				TH
	EX	148 050 0012 00	L = 99,20 D = 26,00 d = 6,00 a = 45°	A/S			S/S	TH
13								
	IN	147 050 0026 00	L = 103,95 D = 33,80 d = 6,00 a = 45°	S	CR			TH
	EX	148 050 0017 00	L = 102,00 D = 28,00 d = 6,00 a = 45°	A/S	CR			TH
14								
	IN	147 050 0027 00	L = 104,00 D = 33,85 d = 6,00 a = 45°					

	IN/EX	ne		Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
15								
	IN	147 050 0028 00	L = 89,50 D = 36,00 d = 7,00 a = 45°	S				TH
	EX	148 050 0019 00	L = 89,00 D = 31,50 d = 7,00 a = 45°	A/S				TH
16								
	IN	147 050 0028 01	L = 89,50 D = 36,00 d = 7,00 a = 45°	S				TH
	EX	148 050 0019 01	L = 89,00 D = 31,50 d = 7,00 a = 45°	A/S				TH
17								
	IN	147 050 0028 02	L = 89,50 D = 36,00 d = 7,00 a = 45°	S				TH
	EX	148 050 0019 02	L = 89,00 D = 31,50 d = 7,00 a = 45°	A/S				TH
18								
	IN	147 050 0028 03	L = 89,50 D = 36,00 d = 7,00 a = 45°	S				TH
	EX	148 050 0019 03	L = 89,00 D = 31,50 d = 7,00 a = 45°	A/S				TH
19								
	IN	147 050 0029 00	L = 99,30 D = 28,00 d = 5,00 a = 45°	S			S/H	TH
	EX	148 050 0020 00	L = 99,30 D = 25,00 d = 5,00 a = 45°	A/S			S/S	TH

	IN/EX			Material Specification	Valve Stem Coating	Cotter Design	Seat Treatment	Tip Treatment
20								
	IN	147 050 0030 00	L = 99,20 D = 34,50 d = 6,00 a = 45°	S	CR		S/H	TH
21								
	IN	147 096 0013 00	L = 103,30 D = 42,50 d = 8,00 a = 45°	A	NT			
	EX	148 096 0013 00	L = 103,30 D = 36,00 d = 8,00 a = 45°	A	NT			
22								
	EX	148 050 0021 00	L = 99,30 D = 28,00 d = 6,00 a = 45°	A/S	NT			TH

Vergleichsnummern Liste

Cross reference list

Liste d'équivalences

Lista de intercambios

Freccia → 

**Crossreferenzen / cross references / correspondance des
références / referencias cruzadas**

Freccia		Freccia	
R4728/SCR	147001000100	R6502/SCR	147020000300
R4728/SCR	147001000200	R4941/BMCR	147020000700
R4816/SNT	147006000100	R6368/SCR	147020000800
R6771/SCR	147007000100	R4740/BMCR	147020001200
R6015/S	147007000200	R6341/SNT	147021000100
-	147007000300	R6370/SNT	147021000200
R4864/S	147007000900	R6002/SCR	147021000400
R4864/S	147007000901	R6143/SCR	147021000600
R6088/BMCR	147007001000	-	147021001100
R6088/BMCR	147007001001	R6988/SCR	147021001200
R3633/SCR	147010000100	-	147021001300
R6473/SCR	147010000200	R4572/SCR	147035000100
R6173/SNT	147010000400	R6345/SNT	147035000200
R6173/SNT	147010000401	R6051/SCR	147035000300
R6755/SCR	147010000500	R4726/SCR	147035000400
R6132/SNT	147010000800	R4649/SCR	147035000500
R6426/SNT	147010000901	-	147035000501
R6426/SNT	147010000902	R6366/SCR	147035000700
R6426/SNT	147010000903	R6136/RNT	147035000800
R4758/SNT	147010001300	R6645/SNT	147035000900
R6968/SCR	147010001700	R4884/BMCR	147035001000
R6968/SCR	147010001701	R6990/SNT	147035001100
R8043/SCR	147010001800	-	147035001101
R6918/SCR	147010002000	R6805/S	147037000100
-	147010002100	R6147/S	147037001800
R6712/S	147011000100	R6439/SNT	147037001900
-	147015000100	R6113/S	147037002000
-	147015000200	R6441/S	147037002100
-	147015000300	R6508/SCR	147037002600
R3351/RCR	147015000400	R8017/SCR	147037002800
R4708/BMCR	147015000500	-	147037002900
-	147015000600	R6595/SCR	147037003000
R6031/BMCR	147015000700	R6797/S	147038001400
R6141/SCR	147015000800	R6237/S	147038001500
R6759/BMCR	147015000900	R6288/SCR	147039000000
R4876/SCR	147020000200	R6013/S	147050000100

CROSS REFERENCES

Crossreferenzen / cross references / correspondance des références / referencias cruzadas

Freccia		Freccia	
R6351/S	147050000300	R6424/SNT	147085000100
R4964/S	147050000400	R6475/SNT	147085000200
R6837/S	147050000500	R6566/SNT	147087000100
R4806/S	147050000600	R6239/SNT	147087000200
R6564/S	147050001800	R6250/SNT	147087000300
R6778/S	147050002200	-	147087000400
-	147050002201	R6169/SNT	147087000500
R6718/S	147050002300	R6407/SNT	147087000900
R6206/S	147050002400	R6248/SNT	147087001800
R6514/S	147050002500	R6248/SNT	147087001801
R6514/S	147050002500	R6482/SNT	147088000200
R6514/S	147050002501	R6887/SNT	147088000300
R6514/S	147050002501	R6284/SNT	147089000200
R6580/SCR	147050002600	R6593/SNT	147089000300
R6900/SCR	147050002700	R4923/SNT	147089000400
R6208/S	147050002800	R6282/SCR	147089000500
R6208/S	147050002801	R6175/SNT	147089000600
R6208/S	147050002802	R6510/RARNT	147089000700
R6208/S	147050002803	R6430/SNT	147089000800
R6992/S	147050002900	R6540/SNT	147090000100
R6452/S	147050003000	-	147094000300
R6298/SCR	147051000001	-	147094000400
R6298/SCR	147051000001	R6212/SNT	147094000500
R6298/SCR	147051000002	R6074/SNT	147096000100
-	147051000100	R6072/SNT	147096000200
-	147051000101	R6125/SNT	147096000300
-	147051000101	R6769/SNT	147096000400
-	147051000102	R6070/SNT	147096000500
-	147051000102	R6599/SNT	147096000600
R3939/SCR	147051000200	R6025/SNT	147096000700
-	147053000100	R6126/SNT	147096000800
R6419/SNT	147053000200	R6294/SNT	147096000900
R6466/SNT	147053000300	R6183/RNT	147096001100
R6568/SNT	147053000400	R6562/SNT	147096001200
R6224/SNT	147070000100	R6314/SNT	147096001300
R6782/SCR	147079000000	R6622/SNT	147096001400

**Crossreferenzen / cross references / correspondance des
références / referencias cruzadas**

Freccia		Freccia	
-	147096001500	R6427/RNT	148010001001
R4444/SNT	147096001600	R6427/RNT	148010001002
-	147100000000	R6427/RNT	148010001003
-	147100000001	-	148010001400
-	147100000100	-	148010001400
-	147100000101	R6969/BMCR	148010001800
-	147100000200	-	148010001900
-	147100000300	-	148010001901
R6743/SNT	147110000200	R8044/BMCR	148010002000
R6355/SCR	147110000300	-	148010002100
R6339/SCR	147121000000	-	148010002300
R6504/SCR	147309000100	R6919/BMARCR	148010002400
R6807/SNT	147309000200	R6725/R	148011000100
-	147309000300	-	148015000100
R6399/SNT	147309000400	-	148015000200
R6090/SCR	147309000700	-	148015000300
R6462/SCR	147309000800	-	148015000400
-	147734000100	R4709/BMCR	148015000500
-	147739000200	R4709/BMCR	148015000500
-	147768000100	-	148015000600
R4729/RCR	148001000100	R6142/RCR	148015000700
R4729/RCR	148001000200	R6760/BMCR	148015000800
R4817/RARNT	148006000100	R4877/RCR	148020000200
R6772/RCR	148007000100	R6503/BMCR	148020000300
R6016/BMARCR	148007000200	R4943/BMCR	148020000700
-	148007000300	R6369/BMCR	148020000800
R4865/RCR	148007000600	-	148020001200
R4865/RCR	148007000601	R6342/RNT	148021000100
R6088/BMCR	148007001000	R6371/RNT	148021000200
R6088/BMCR	148007001001	R6003/BMCR	148021000400
R3634/BMCR	148010000100	R6144/BMCR	148021000600
-	148010000200	-	148021001100
R6756/BMCR	148010000400	R6989/RCR	148021001200
R6174/RNT	148010000600	-	148021001300
R6174/RNT	148010000601	R4573/BMARCR	148035000100
R6472/RNT	148010000900	R6346/RNT	148035000200

CROSS REFERENCES

Crossreferenzen / cross references / correspondance des références / referencias cruzadas

Freccia		Freccia	
R6052/BMARCR	148035000300	R6209/BM	148050001901
R4727/RCR	148035000400	R6209/BM	148050001902
R4650/BMCR	148035000500	R6209/BM	148050001903
-	148035000501	R6993/BM	148050002000
R6367/BMCR	148035000700	R6198/BM	148050002100
R6137/RNT	148035000800	R6352/R	148050002200
R6646/RNT	148035000900	R4965/R	148050002300
R4885/BMARCR	148035001000	R6838/RCR	148050002400
R6991/RNT	148035001100	-	148051000001
-	148035001101	-	148051000002
R6806/RNT	148037000100	-	148051000100
R6440/RNT	148037001800	-	148051000102
R6148/RCR	148037001900	-	148051000200
R6114/RCR	148037002100	-	148053000100
R6442/BMCR	148037002200	R6420/RNT	148053000200
R6509/RCR	148037002700	R6467/RNT	148053000300
R8022/RCR	148037002900	R6569/RNT	148053000400
-	148037003000	R6225/RNT	148070000100
R6596/BMCR	148037003100	R6783/RCR	148079000000
R6798/BM	148038001400	R6425/RNT	148085000100
R6238/BM	148038001500	R6476/RNT	148085000200
R6289/RARNT	148039000000	R6567/RNT	148087000100
R6014/BM	148050000100	R6240/RNT	148087000200
R4807/R	148050001000	R6251/R	148087000300
R6565/BM	148050001100	-	148087000400
R6565/BM	148050001200	R6170/RNT	148087000500
R6565/BM	148050001200	R6408/RNT	148087000800
R6779/RCR	148050001500	R6249/RNT	148087001700
-	148050001501	R6249/RNT	148087001701
R6719/RCR	148050001600	R6483/RNT	148088000200
R6207/BMCR	148050001700	R6888/BMNT	148088000300
R6515/BMAR	148050001800	R6285/RNT	148089000200
R6515/BMAR	148050001800	R6594/RNT	148089000300
R6515/BMAR	148050001800	R4924/RNT	148089000400
R6515/BMAR	148050001801	R6283/RCR	148089000500
R6209/BM	148050001900	R6176/RNT	148089000600

**Crossreferenzen / cross references / correspondance des
références / referencias cruzadas**

Freccia		Freccia	
-	148089000700	-	148734000100
R6431/RNT	148089000800	-	148739000200
R6541/RNT	148090000100	-	148768000100
-	148094000300		
-	148094000400		
R6213/RNT	148094000500		
R6075/RNT	148096000100		
R6073/RNT	148096000200		
R6124/RNT	148096000300		
R6071/RNT	148096000400		
R6770/RNT	148096000500		
R7035/RARNT	148096000600		
R6600/RNT	148096000700		
R6127/RNT	148096000800		
R6295/RNT	148096000900		
R6184/RNT	148096001100		
R6563/RNT	148096001200		
R6414/RNT	148096001300		
R6623/RNT	148096001400		
R6026/RNT	148096001600		
-	148096001700		
R4445/RNT	148096001800		
R4661/RNT	148096001900		
-	148100000000		
-	148100000001		
-	148100000100		
-	148100000200		
R6744/RNT	148110000300		
R6356/RCR	148110000400		
R6340/BMCR	148121000000		
R6505/BMCR	148309000100		
R6808/RNT	148309000200		
-	148309000300		
R6400/RNT	148309000400		
R6091/RCR	148309000700		
R6463/RCR	148309000800		

Vergleichsnummern Liste

Cross reference list

Liste d'équivalences

Lista de intercambios

AE → 

**Crossreferenzen / cross references / correspondance des
références / referencias cruzadas**

AE	ne	AE	ne
V91933	147001000100	V98022	147020000300
V91933	147001000200	V94470	147020000700
V91209	147006000100	V98042	147020000800
V95162	147007000100	V91937	147020001200
V94087	147007000200	V94693	147021000100
-	147007000300	V98032	147021000200
-	147007000900	V94223	147021000400
-	147007000901	-	147021000600
V94086	147007001000	-	147021001100
V94086	147007001001	V95256	147021001200
V90225	147010000100	-	147021001300
V98071	147010000200	V91429	147035000100
V94398	147010000400	V94343	147035000200
V94398	147010000401	V94249	147035000300
V95194	147010000500	V91995	147035000400
V94396	147010000800	V91997	147035000500
-	147010000901	-	147035000501
-	147010000902	V98077	147035000700
-	147010000903	V94426	147035000800
V94370	147010001300	V95186	147035000900
-	147010001700	V94097	147035001000
-	147010001701	-	147035001100
-	147010001800	-	147035001101
V80004	147010002000	V95159	147037000100
-	147010002100	V94599	147037001800
V95035	147011000100	V94969	147037001900
V94575	147015000100	V94200	147037002000
-	147015000200	-	147037002100
-	147015000300	V98028	147037002600
V90114	147015000400	-	147037002800
-	147015000500	-	147037002900
V95102	147015000600	-	147037003000
V94757	147015000700	-	147038001400
-	147015000800	V94513	147038001500
-	147015000900	V94363	147039000000
V94029	147020000200	V94116	147050000100

CROSS REFERENCES

Crossreferenzen / cross references / correspondance des références / referencias cruzadas

AE		AE	
V94644	147050000300	-	147085000100
V94149	147050000400	V98062	147085000200
V80012	147050000500	V95198	147087000100
-	147050000600	V95133	147087000200
V95099	147050001800	V95017	147087000300
V95237	147050002200	-	147087000400
-	147050002201	V94461	147087000500
V95149	147050002300	V98038	147087000900
V94691	147050002400	V94463	147087001800
-	147050002500	V94463	147087001801
-	147050002500	V95019	147088000200
-	147050002501	-	147088000300
-	147050002501	V95129	147089000200
V95098	147050002600	-	147089000300
-	147050002700	V91493	147089000400
V94649	147050002800	-	147089000500
V94649	147050002801	V94441	147089000600
V94649	147050002802	-	147089000700
V94649	147050002803	-	147089000800
-	147050002900	V95079	147090000100
V94646	147050003000	-	147094000300
V95049	147051000001	-	147094000400
V95049	147051000001	V95141	147094000500
V95049	147051000002	V94134	147096000100
V94315	147051000100	V94132	147096000200
V94315	147051000101	V94136	147096000300
V94315	147051000101	V95143	147096000400
V94315	147051000102	V94142	147096000500
V94315	147051000102	V80018	147096000600
-	147051000200	-	147096000700
-	147053000100	V94138	147096000800
V98048	147053000200	-	147096000900
V98052	147053000300	V94454	147096001100
-	147053000400	V95053	147096001200
-	147070000100	-	147096001300
-	147079000000	V95145	147096001400

**Crossreferenzen / cross references / correspondance des
références / referencias cruzadas**

AE		AE	
-	147096001500	-	148010001001
V91466	147096001600	-	148010001002
-	147100000000	-	148010001003
-	147100000001	-	148010001400
-	147100000100	-	148010001400
-	147100000101	-	148010001800
-	147100000200	-	148010001900
-	147100000300	-	148010001901
V95196	147110000200	-	148010002000
-	147110000300	-	148010002100
V98018	147121000000	-	148010002300
V98024	147309000100	-	148010002400
-	147309000200	V95036	148011000100
-	147309000300	V94529	148015000100
V98012	147309000400	-	148015000200
-	147309000700	-	148015000300
V98014	147309000800	-	148015000400
-	147734000100	V94756	148015000500
-	147739000200	V94756	148015000500
-	147768000100	-	148015000600
V91934	148001000100	-	148015000700
V91934	148001000200	V95165	148015000800
V94053	148006000100	V94030	148020000200
V95154	148007000100	V98023	148020000300
V94088	148007000200	V94471	148020000700
-	148007000300	V98043	148020000800
-	148007000600	-	148020001200
-	148007000601	V94694	148021000100
V94086	148007001000	V98033	148021000200
V94086	148007001001	V94225	148021000400
-	148010000100	V94696	148021000600
-	148010000200	-	148021001100
V95195	148010000400	V95255	148021001200
V94399	148010000600	-	148021001300
V94399	148010000601	V91430	148035000100
-	148010000900	V94344	148035000200

CROSS REFERENCES

Crossreferenzen / cross references / correspondance des références / referencias cruzadas

AE		AE	
V94250	148035000300	V94650	148050001901
V91996	148035000400	V94650	148050001902
V91998	148035000500	V94650	148050001903
-	148035000501	-	148050002000
V98078	148035000700	V94405	148050002100
V94427	148035000800	V94645	148050002200
V95157	148035000900	V94197	148050002300
V94098	148035001000	V80013	148050002400
-	148035001100	V95050	148051000001
-	148035001101	V95050	148051000002
V95163	148037000100	V94044	148051000100
V94970	148037001800	V94044	148051000102
V94204	148037001900	-	148051000200
-	148037002100	-	148053000100
-	148037002200	V98049	148053000200
V98029	148037002700	V98053	148053000300
-	148037002900	-	148053000400
-	148037003000	-	148070000100
-	148037003100	-	148079000000
-	148038001400	V98061	148085000100
V94514	148038001500	-	148085000200
V94364	148039000000	V95199	148087000100
V94117	148050000100	V95134	148087000200
V94080	148050001000	V95018	148087000300
V95114	148050001100	-	148087000400
V95114	148050001200	V94462	148087000500
V95114	148050001200	V98039	148087000800
V95238	148050001500	V94464	148087001700
-	148050001501	V94464	148087001701
V95150	148050001600	V95020	148088000200
V94692	148050001700	-	148088000300
-	148050001800	V95130	148089000200
-	148050001800	-	148089000300
-	148050001800	-	148089000400
-	148050001801	-	148089000500
V94650	148050001900	V94340	148089000600

**Crossreferenzen / cross references / correspondance des
références / referencias cruzadas**

AE	
-	148089000700
-	148089000800
V95080	148090000100
-	148094000300
-	148094000400
V95142	148094000500
V94135	148096000100
V94133	148096000200
V94137	148096000300
V94143	148096000400
V95144	148096000500
-	148096000600
V80019	148096000700
V94139	148096000800
-	148096000900
V94455	148096001100
V95054	148096001200
V91721	148096001300
V95146	148096001400
-	148096001600
-	148096001700
V91467	148096001800
V91246	148096001900
-	148100000000
-	148100000001
-	148100000100
-	148100000200
V95197	148110000300
-	148110000400
V98019	148121000000
V98025	148309000100
-	148309000200
-	148309000300
V98013	148309000400
-	148309000700
V98015	148309000800

AE	
-	148734000100
-	148739000200
-	148768000100

Vergleichsnummern Liste

Cross reference list

Liste d'équivalences

Lista de intercambios

TRW → 

**Crossreferenzen / cross references / correspondance des
références / referencias cruzadas**

TRW		TRW	
-	147001000100	-	147020000300
-	147001000200	-	147020000700
105-35474	147006000100	-	147020000800
-	147007000100	-	147020001200
-	147007000200	181110	147021000100
-	147007000300	181108	147021000200
11960	147007000900	-	147021000400
11960	147007000901	-	147021000600
-	147007001000	-	147021001100
-	147007001001	-	147021001200
2605	147010000100	-	147021001300
261126	147010000200	29185	147035000100
261102	147010000400	-	147035000200
261102	147010000401	341001	147035000300
261140	147010000500	29397	147035000400
-	147010000800	29375	147035000500
-	147010000901	-	147035000501
-	147010000902	-	147035000700
-	147010000903	-	147035000800
-	147010001300	-	147035000900
261152	147010001700	-	147035001000
261152	147010001701	-	147035001100
269000	147010001800	-	147035001101
261142	147010002000	539040	147037000100
-	147010002100	539007	147037001800
-	147011000100	539036	147037001900
22149	147015000100	531010	147037002000
22325	147015000200	-	147037002100
22302	147015000300	-	147037002600
2282	147015000400	-	147037002800
-	147015000500	-	147037002900
22221	147015000600	-	147037003000
22162	147015000700	-	147038001400
22244	147015000800	-	147038001500
22316	147015000900	-	147039000000
171052	147020000200	39522	147050000100

CROSS REFERENCES

Crossreferenzen / cross references / correspondance des références / referencias cruzadas

TRW	ne	TRW	ne
-	147050000300	-	147085000100
-	147050000400	-	147085000200
-	147050000500	-	147087000100
-	147050000600	-	147087000200
331131	147050001800	761010	147087000300
-	147050002200	-	147087000400
-	147050002201	-	147087000500
-	147050002300	-	147087000900
331116	147050002400	-	147087001800
331133	147050002500	-	147087001801
331133	147050002500	-	147088000200
331133	147050002501	-	147088000300
331133	147050002501	701030	147089000200
331125	147050002600	701034	147089000300
331162	147050002700	V3851	147089000400
-	147050002800	-	147089000500
-	147050002801	-	147089000600
-	147050002802	V3853	147089000700
-	147050002803	-	147089000800
-	147050002900	-	147090000100
-	147050003000	-	147094000300
471206	147051000001	-	147094000400
471206	147051000001	-	147094000500
471206	147051000002	711009	147096000100
-	147051000100	-	147096000200
-	147051000101	711011	147096000300
-	147051000101	-	147096000400
-	147051000102	-	147096000500
-	147051000102	711034	147096000600
-	147051000200	-	147096000700
-	147053000100	-	147096000800
-	147053000200	711022	147096000900
-	147053000300	711020	147096001100
-	147053000400	-	147096001200
-	147070000100	-	147096001300
-	147079000000	-	147096001400

**Crossreferenzen / cross references / correspondance des
références / referencias cruzadas**

TRW	ne	TRW	ne
-	147096001500	-	148010001001
-	147096001600	-	148010001002
16136	147100000000	-	148010001003
16136	147100000001	-	148010001400
16130	147100000100	-	148010001400
16130	147100000101	-	148010001800
16117	147100000200	261153	148010001900
-	147100000300	261153	148010001901
261146	147110000200	269001	148010002000
-	147110000300	-	148010002100
-	147121000000	-	148010002300
291117	147309000100	261143	148010002400
-	147309000200	-	148011000100
-	147309000300	22150	148015000100
-	147309000400	22323	148015000200
-	147309000700	22305	148015000300
-	147309000800	2293	148015000400
-	147734000100	22165	148015000500
-	147739000200	22165	148015000500
-	147768000100	-	148015000600
-	148001000100	22247	148015000700
-	148001000200	22317	148015000800
-	148006000100	171053	148020000200
-	148007000100	-	148020000300
-	148007000200	-	148020000700
-	148007000300	-	148020000800
11964	148007000600	-	148020001200
11964	148007000601	181111	148021000100
-	148007001000	181109	148021000200
-	148007001001	-	148021000400
261117	148010000100	-	148021000600
-	148010000200	-	148021001100
261141	148010000400	-	148021001200
261103	148010000600	-	148021001300
261103	148010000601	291100	148035000100
-	148010000900	-	148035000200

CROSS REFERENCES

Crossreferenzen / cross references / correspondance des références / referencias cruzadas

TRW		TRW	
341002	148035000300	-	148050001901
291120	148035000400	-	148050001902
291119	148035000500	-	148050001903
-	148035000501	-	148050002000
-	148035000700	-	148050002100
-	148035000800	-	148050002200
-	148035000900	-	148050002300
-	148035001000	-	148050002400
-	148035001100	471209	148051000001
-	148035001101	471209	148051000002
539041	148037000100	-	148051000100
539037	148037001800	-	148051000102
539008	148037001900	-	148051000200
531011	148037002100	-	148053000100
-	148037002200	-	148053000200
-	148037002700	-	148053000300
-	148037002900	-	148053000400
-	148037003000	-	148070000100
-	148037003100	-	148079000000
-	148038001400	-	148085000100
-	148038001500	-	148085000200
-	148039000000	-	148087000100
39523	148050000100	-	148087000200
33416	148050001000	761011	148087000300
331132	148050001100	-	148087000400
331132	148050001200	-	148087000500
331132	148050001200	-	148087000800
-	148050001500	-	148087001700
-	148050001501	-	148087001701
-	148050001600	-	148088000200
-	148050001700	-	148088000300
331134	148050001800	701031	148089000200
331134	148050001800	701035	148089000300
331134	148050001800	-	148089000400
331134	148050001801	-	148089000500
-	148050001900	-	148089000600

**Crossreferenzen / cross references / correspondance des
références / referencias cruzadas**

TRW	
-	148089000700
-	148089000800
701033	148090000100
-	148094000300
-	148094000400
-	148094000500
711010	148096000100
-	148096000200
711012	148096000300
711037	148096000400
-	148096000500
-	148096000600
711035	148096000700
-	148096000800
711023	148096000900
711021	148096001100
-	148096001200
-	148096001300
-	148096001400
-	148096001600
-	148096001700
-	148096001800
-	148096001900
1604	148100000000
1604	148100000001
16116	148100000100
-	148100000200
261147	148110000300
-	148110000400
-	148121000000
291118	148309000100
-	148309000200
-	148309000300
-	148309000400
-	148309000700
-	148309000800

TRW	
-	148734000100
-	148739000200
-	148768000100

BESTIMMUNG VON MOTORPROBLEMEN

EXCESSIVE OIL CONSUMPTION

OIL LEAKING INTO THE INTAKE
AND EXHAUST SYSTEM

OIL LEAKING INTO
COMBUSTION CHAMBER

OIL FAILING

		Turbocharger		Piston Ring					Piston			Cylinder	Valve	Valve guide	Valve seal					
																				
Problem		Worn shaft	Sealing degradation	Scuffing	Excessively closed gap	Breakage	Deformation	Decreased P.T	Anomalous wear	Ring sticking	Carbon deposition on top land	Piston scuffing	Worn ring groove of piston	Deformation	Wear	Wear	Wear	Degradation	Wear	
Inappropriate use	Intake dust	●	●	✖	✖	✖		✖	●	✖	✖		●		●	●	●	✖	●	
	Foreign matter in the fuel			✖	✖	✖		✖	●	✖	✖		●		●					
	Unsuitable oil	●	●	●	✖	✖		✖	●	●	●		●		●	●	●	✖	●	
	Inferior fuel			✖					✖	✖	●		●		●			✖	●	
	Overloading			✖				✖	✖	✖	✖	●		✖						
	High-load low engine speed							✖	●	✖	✖	●		✖						
	Overrevving			✖		●						●	✖							
	Overheating			✖		✖		✖		✖	✖	●						✖		
Inadequate Maintenance	Engine oil	Deterioration	✖	✖	✖	✖	✖		✖	●	✖	✖	✖		●	●	●	✖	●	
		Foreign matter mingling	●	●		✖	✖		✖	●	✖	✖			●	●	●		●	
		Insufficient quantity	✖	✖					✖	●										
	Intake	Dust contamination	●	●		✖	✖		✖	●	✖	✖			●	✖	✖	✖	✖	●
		Cleaner clogging	●	●		✖	✖		✖	●	✖	✖			●	✖	✖	✖	✖	●
	Cooling water	Insufficient quantity			●				✖	✖	✖		●		✖					
		Anomaly			✖		✖			✖			●	●						
Others	Parts	Past its life span			✖		●			✖				●	✖	✖	✖	✖	✖	
		Misassembly			✖		✖	✖	✖	✖	✖		✖	●					✖	
		Wrong part assembled			✖	●	✖	✖	✖	✖	✖		✖							

● direct cause × indirect cause

EXCESSIVE OIL CONSUMPTION

OIL LEAKING INTO THE INTAKE
AND EXHAUST SYSTEM

OIL LEAKING INTO
COMBUSTION CHAMBER

OIL FAILING

		Turbocharger		Piston Ring					Piston				Cylinder	Valve	Valve guide	Valve seal			
																			
Problem		Worn shaft	Sealing degradation	Scuffing	Excessively closed gap	Breakage	Deformation	Decreased P/T	Anomalous wear	Ring sticking	Carbon deposition on top land	Piston scuffing	Worn ring groove of piston	Deformation	Wear	Wear	Wear	Degradation	Wear
Inappropriate use	Intake dust	●	●	✖	✖	✖		✖	●	✖	✖		●		●	●	●	✖	●
	Foreign matter in the fuel			✖	✖	✖		✖	●	✖	✖		●		●				
	Unsuitable oil	●	●	●	✖	✖		✖	●	●	●		●		●	●	●	✖	●
	Inferior fuel			✖					✖	✖	●		●		●			✖	●
	Overloading			✖				✖	✖	✖	✖	●		✖					
	High-load low engine speed							✖	●	✖	✖	●		✖					
	Overrevving			✖		●						●	✖						
	Overheating			✖		✖		✖		✖	✖	●						✖	
Inadequate Maintenance	Engine oil																		
	Deterioration	✖	✖	✖	✖	✖		✖	●	✖	✖	✖	✖		●	●	●	✖	●
	Foreign matter mingling	●	●		✖	✖		✖	●	✖	✖				●	●	●		●
	Insufficient quantity	✖	✖					✖	●										
	Intake																		
	Dust contamination	●	●		✖	✖		✖	●	✖	✖				●	✖	✖	✖	●
	Cleaner clogging	●	●		✖	✖		✖	●	✖	✖				●	✖	✖	✖	●
Cooling water																			
Insufficient quantity			●				✖	✖	✖		●		✖						
Anomaly			✖		✖			✖			●	●							
Others	Past its life span				✖		●			✖				●	✖	✖	✖	✖	✖
	Parts				✖		✖	✖	✖	✖			✖	●					✖
	Wrong part assembled			✖	●	✖	✖	✖	✖	✖		✖							

● direct cause × indirect cause

INDICATEUR DE PANNE DE MOTEUR

CONSOMMATION EXCESSIVE D'HUILE

FUITE D'HUILE DANS L'ADMISSION
ET LE SYSTÈME D'ÉCHAPPEMENT

FUITE D'HUILE DANS LA
CHAMBRE DE COMBUSTION

MANQUE
D'HUILE

		Turbo- compresseur		Segment de piston						Piston			Cylindre	Soupape	Guide de soupape	Joint de soupape				
																				
Problème		arbre usé	joint endommagé	érosion	écartement trop fermé	rupture	déformation	PT réduit	usure anormale	adhérence du segment	dépôt de carbone sur la couronne de piston	érosion du piston	segment usé piston rainuré	déformation	usure	usure	usure	dégradation	usure	
Utilisation inappropriée	poussière d'admission	●	●	✖	✖	✖		✖	●	✖	✖		●		●	●	●	✖	●	
	substance étrangère dans le carburant			✖	✖	✖		✖	●	✖	✖		●		●					
	huile inappropriée	●	●	●	✖	✖		✖	●	●	●		●		●	●	●	✖	●	
	carburant de qualité inférieure			✖					✖	✖	●		●		●			✖	●	
	surcharge			✖				✖	✖	✖	✖	●			✖					
	régime moteur faible à forte charge							✖	●	✖	✖	●			✖					
	surrégime			✖		●						●	✖							
	surchauffe			✖		✖		✖		✖	✖	●						✖		
Maintenance insuffisante	huile moteur	détérioration	✖	✖	✖	✖	✖		✖	●	✖	✖	✖		●	●	●	✖	●	
		substance étrangère incorporée	●	●		✖	✖		✖	●	✖	✖			●	●	●		●	
		quantité insuffisante	✖	✖					✖	●										
	admission	contamination par la poussière	●	●		✖	✖		✖	●	✖	✖			●	✖	✖	✖	✖	●
		engorgement épurateur	●	●		✖	✖		✖	●	✖	✖			●	✖	✖	✖	✖	●
	eau de refroidissement	quantité insuffisante			●				✖	✖	✖		●		✖					
		anomalie			✖		✖			✖			●	●						
Autres	pièces	a dépassé sa durée de vie			✖		●			✖				●	✖	✖	✖	✖	✖	
		montage erroné			✖		✖	✖	✖	✖			✖	●					✖	
		mauvaise pièce montée			✖	●	✖	✖	✖	✖	✖		✖							

● cause directe × cause indirecte

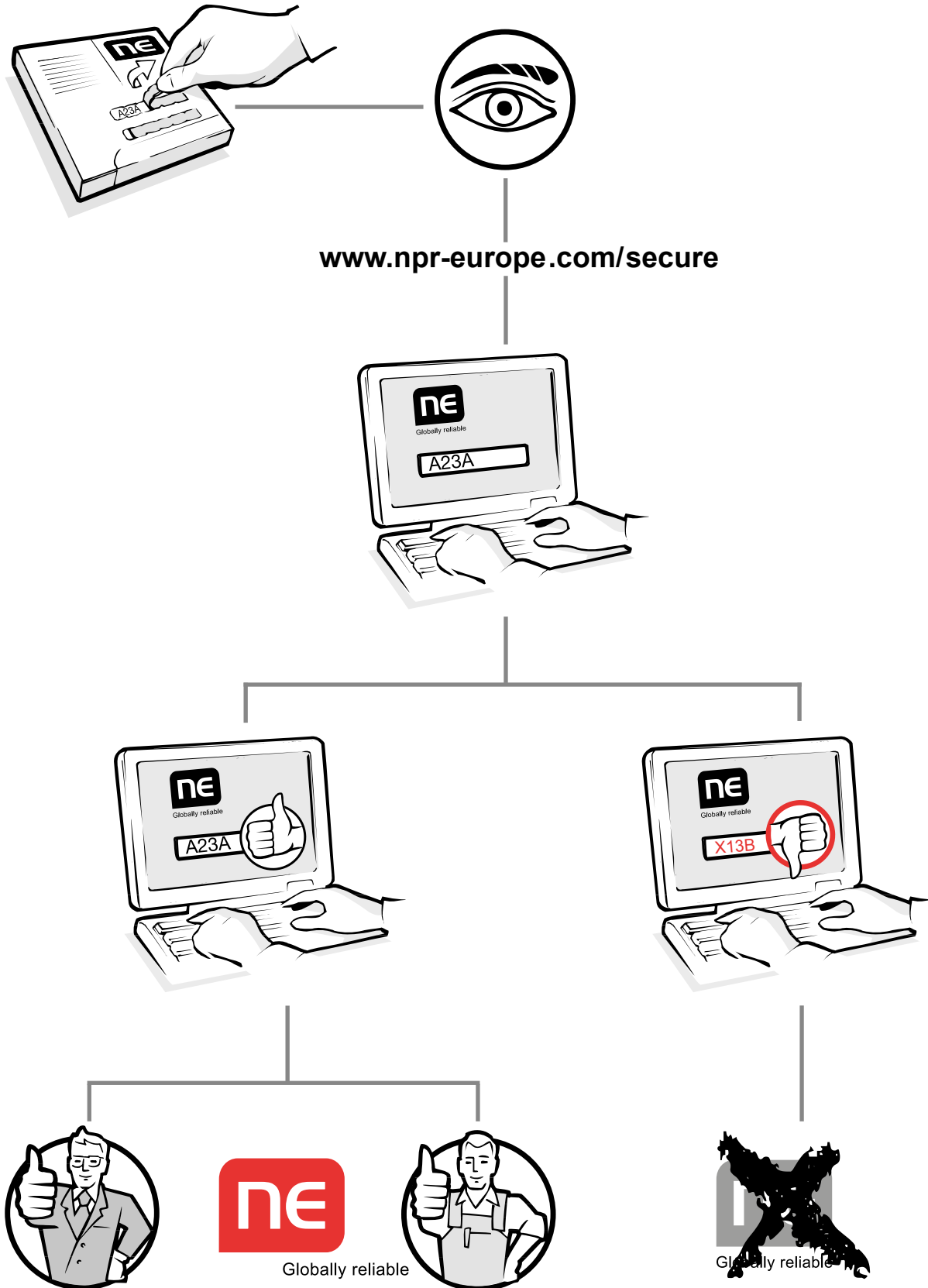
CONSUMO EXCESIVO DE ACEITE



		Turbo-compresor		Segmento de pistón					Pistón				Cilindro	Válvula	Guía de válvula	Junta de válvula				
																				
Problemas		eje gastado	degradación de junta	desgaste por fricción	distancia demasiado cerrada	rotura	deformación	PT reducido	uso anómalo	adherencia del anillo	depósito de carbón sobre el tope del pistón	desgaste del pistón	segmento gastado/ranura de pistón	deformación	uso	uso	uso	degradación	uso	
Utilización inapropiada	polvo admisión	●	●	✖	✖	✖		✖	●	✖	✖		●		●	●	●	✖	●	
	sustancia extraña en el carburante			✖	✖	✖		✖	●	✖	✖		●		●					
	aceite inapropiado	●	●	●	✖	✖		✖	●	●	●		●		●	●	●	✖	●	
	carburante de calidad inferior			✖					✖	✖	●		●		●			✖	●	
	sobrecarga			✖				✖	✖	✖	✖	●			✖					
	carga alta con motor a baja velocidad							✖	●	✖	✖	●			✖					
	embalamiento del motor			✖		●					●	✖								
	sobrecalentamiento			✖		✖		✖		✖	✖	●						✖		
Mantenimiento inadecuado	aceite motor	deterioro	✖	✖	✖	✖	✖		✖	●	✖	✖	✖		●	●	●	✖	●	
		sustancia extraña incorporada	●	●		✖	✖		✖	●	✖	✖			●	●	●		●	
		cantidad insuficiente	✖	✖					✖	●										
	admisión	contaminación por el polvo	●	●		✖	✖		✖	●	✖	✖			●	✖	✖	✖	✖	●
		obstrucción del limpiador	●	●		✖	✖		✖	●	✖	✖			●	✖	✖	✖	✖	●
	agua de refrigeración	cantidad insuficiente			●				✖	✖	✖		●		✖					
		anomalía			✖		✖			✖		●	●							
Otros	pasó su duración de vida				✖		●			✖			●	✖	✖	✖	✖	✖	✖	
	Piezas	montaje erróneo			✖		✖	✖	✖	✖			✖	●					✖	
		pieza mal montada			✖	●	✖	✖	✖	✖	✖		✖							

● causa directa × causa indirecta

SECURITY CHECK



GENERAL TERMS AND CONDITIONS OF NPR OF EUROPE GMBH

General Terms and Conditions of NPR of Europe GmbH (hereinafter referred to as "NE"), Siemensstr. 56, 70825 Korntal-Münchingen
Verkaufs- und Lieferbedingungen

Terms and Conditions of Sale and Delivery
as at 07/2007

1. Scope

(1) The following conditions of sale apply for all Contracts concluded between NE and the Purchaser regarding the delivery of goods. They shall also apply to all future commercial relations even if they have not been expressly agreed. General terms and conditions of the purchaser do not apply to NE, even if this are not contradicted by NE.

(2) All agreements reached between NE and the purchaser in connection with the purchase contracts, are in the purchase contract, these conditions and the order confirmation put in writing by NE.

2. Offers and conclusion of the contract

(1) Offers on the part of NE are subject to change and non-binding, even for repeat orders, unless NE has expressly indicated this as binding in writing.

(2) If the order should qualify as an offer in accordance with § 145 of the BGB [German Civil Code] then NE shall be permitted to accept this within two weeks, through consignment of an order confirmation, or by sending the ordered goods to the purchaser within this time period.

(3) Dimensions, weights, figures, diagrams and other data relating to non-binding offers by NE remain the property of NE and are only approximately decisive, insofar as they have not been expressly indicated as binding by NE.

3. Prices, terms and conditions of payment

(1) If the agreed delivery time should exceed a period of four months from the conclusion of the Contract, or the delivery is delayed for more than four months from the conclusion of the Contract for reasons attributed to the purchaser alone or which come within his sphere of risk, then NE is entitled to charge the current price on the day of delivery. If the increase in price amounts to more than 5% of the named purchase price, then the purchaser is entitled to withdraw from the Contract. This right to withdraw does not apply if the purchaser fails to administrate it within a period of two weeks, beginning with the date of the notification of the new price.

(2) The prices apply "ex-warehouse" insofar as no deviating agreement with the purchaser has been made in addition to the VAT rate at the time of the invoicing. Packaging costs are not included in the price.

(3) Unless otherwise agreed in writing with the

purchaser, the purchase price shall be payable by the purchaser immediately following the invoice date, without delay and following deductions. Payments made by the purchaser shall be credited first of all to their previous debts, irrespective of any deviating provisions. Where costs and interest have already arisen, we are entitled to credit a payment first to the costs, then to the interest and finally to the principal amount.

(4) If a cash deduction is agreed in writing, then no other payable claims can be made against the purchaser.

(5) The acceptance of exchanges or cheques shall only be completed on account; the cost of discounting and inclusion shall be borne by the purchaser. Following acceptance of the exchange, NE is entitled to return the exchange, in case acceptance is refused by the State Central Bank.

(6) If, following the order confirmation, NE should become aware of facts which raise reasonable doubt regarding the purchaser's ability to meet financial obligations, NE is entitled to request the full payment or a corresponding security deposit prior to delivery, and also to withdraw from the Contract if the payment deadline is not adhered to. Besides a delay in payment as outlined above, corresponding information from a bank, credit agency or a company involved in commercial relations with the purchaser, referring in particular to the careful nature of a prudent businessman, may be considered as evidence of a significant decline in wealth. If delivery has already taken place, invoiced amounts shall be considered payable immediately, regardless of agreed payment conditions, and where appropriate on return of acceptances.

(7) Should the purchaser make a delayed payment, NE is entitled to request interest at 8% above the current basic interest rate of the European Central Bank (ECB) at the relevant point in time. NE reserves the right to demonstrate evidence of greater losses.

(8) The purchaser is only entitled to compensation if the counterclaims are found to be legally binding, recognised by NE or indisputable, even if notifications of defects or counterclaims are asserted. The Purchaser is only authorised to exercise a right of retention insofar as his counterclaim is based on the same contractual relationship.

(9) At the refusal of the Purchaser to pay or where a payment deadline has not been met, NE is entitled to fully or partly withdraw from the Contract and request compensation for damages.

4. Delivery and service time; Force Majeure

(1) Delivery deadlines or periods which have not been expressly agreed as binding shall simply represent information that is without obligation.

GENERAL TERMS AND CONDITIONS OF NPR OF EUROPE GMBH

(2) Part-deliveries are acceptable, insofar as the Purchaser is not put at an unreasonable disadvantage.

(3) NE reserves the right to claim 10% of any excess deliveries and short deliveries.

(4) If dispatch is delayed at the Purchaser's request, NE shall store the respective items at the purchaser's expense and risk.

(5) The delivery period may be extended in the case of Force Majeure, strike, blameless incapacity and adverse weather conditions during the period of delay.

5. Delay in Delivery

(1) Where NE is culpable of not adhering to an expressly agreed deadline or is delayed for other reasons, the Purchaser shall arrange to guarantee NE a suitable grace period beginning from the first day of delay. Where this grace period has elapsed without delivery, the Purchaser is entitled to withdraw from the Contract.

(2) NE is liable according to legal requirements, insofar as the delay in delivery depends on an intentionally assigned or grossly negligent breach of contract. NE shall assign responsibility to its representatives or vicarious agents. If this should not be the case, liability for damages shall be limited to foreseeable damage considered typical for the contract. According to loyalty and good faith, economic circumstances, type, scope and duration of the commercial relationship shall be carefully considered in favour of NE regarding the amount of compensation.

(3) If the delay in delivery represented by NE rests on the culpable breach of a significant contractual obligation, NE is liable according to legal provisions; whereby its liability is limited to foreseeable damage considered typical for the Contract.

(4) Further legal claims and rights of the Purchaser remain unaffected by a delay in delivery on the part of NE.

6. Transfer of risk, shipping and packaging, withdrawal

(1) Unless otherwise specified on the order confirmation, all deliveries are made "ex warehouse". Shipment and dispatch shall not be insured; this is at the Purchaser's own risk. This applies equally to return deliveries. NE endeavours to consider the interests of the Purchaser with respect to the type of shipping. Any additional costs which this may entail shall be borne by the Purchaser, even in the case of "free delivery" of agreed freight.

(2) If dispatch is delayed at the Purchaser's request or through fault on the part of the latter, the Vendor shall store the respective items at the purchaser's expense and risk. In this case, the advertisement of readiness for dispatch is equal to that of shipping.

(3) Transport packing and other convenience packaging shall not be withdrawn.

(4) A withdrawal of individual rings to be distributed in the aftermarket is excluded.

7. Guarantee, liability

(1) The Purchaser shall inspect the received goods for completeness, damage during transit, apparent defects, quality and its subsequent characteristics. The Purchaser shall notify NE immediately and in writing of any apparent defects within an acceptable period of the transaction. NE assumes no guarantee for rectifying apparent defects for which a claim is not immediately made in writing by the Purchaser.

(2) Provided that there is a defect evident in the goods for which NE may be held responsible, and provided a claim is made against it in due time by the Purchaser, NE shall, with the exclusion of the rights of the Subsidiary of NIPPON PISTON RING CO., LTD Purchaser, withdraw from the Contract or reduce the purchase price in the interests of supplementary performance, unless NE is entitled to refusal of subsequent performance on legal grounds. The Purchaser shall guarantee to provide NE with an appropriate deadline for the rectification of each individual defect in the interests of subsequent performance.

(3) Subsequent performance can be implemented, according to the wishes of NE, either through rectification of the defect or the delivery of replacement goods. NE is entitled to refuse subsequent performance chosen by the Purchaser if it is associated with disproportionate costs. During subsequent performance, a reduction in the purchase price or withdrawal from the Contract are excluded by the Purchaser. Subsequent improvement is considered to have failed following the second unsuccessful attempt. Where subsequent performance has failed or where NE has refused it altogether, the Purchaser can, if he chooses, further decrease the purchase price (reduction) or declare his withdrawal from the Contract.

(4) In the case of subsequent performance, NE bears all necessary expenses for the purposes of rectifying defects, in particular transport and labour costs. This only applies insofar as the expenses do not increase because the delivery item was brought to a location other than the place of performance.

(5) Warranty claims made by the Purchaser are not deemed valid if the defect can be attributed to a breach of operating, maintenance or installation instructions, or inappropriate processing or use by the Purchaser or a third party.

(6) Claims made by the Purchaser for material defects shall be time-barred for 24 months following the transfer of risk, according to legal provisions.

GENERAL TERMS AND CONDITIONS OF NPR OF EUROPE GMBH

(7) The Purchaser may only validate damages claims for the defect based on the following conditions if subsequent performance has failed or if NE refuses subsequent performance. The right of the Purchaser to assert additional damages claims regarding the following conditions remains unaffected.

(8) NE is only liable according to legal provisions insofar as damages claims which can be attributed to fraud, deliberate intent, or gross negligence by NE are asserted by the Purchaser. If no deliberate intent by NE to breach the terms of the Contract is apparent, liability is limited to foreseeable damage considered typical for the Contract. NE is furthermore liable according to legal provisions insofar as it culpably violates an essential contractual obligation. In this case, liability is limited to foreseeable damage considered typical for the Contract. Continual liability for damages not mentioned in the above provisions shall not be accepted irrespective of the legal nature of the asserted claim.

(9) Damage claims arising from culpable injury to life, limb or health, from the acquisition of warranties or on the grounds of the mandatory provisions of the Produkthaftungsgesetz [German Product Liability Act], remain unchanged by the preceding provisions.

(10) Insofar as liability for damages caused by NE is excluded or limited, this shall also apply to the personal liability of its employees, representatives and vicarious agents.

8. Retention of title

(1) NE reserves ownership of the Goods up to receipt of all payments from commercial relations with the Purchaser.

(2) The Purchaser shall notify NE of all third party involvement immediately and in writing, in particular law enforcement procedures and other restrictions to ownership. The Purchaser shall replace all damages and costs for NE arising from a breach of this liability, using necessary intervention measures against the involvement of third parties.

(3) The Purchaser may not pledge or assign as security the items delivered hereunder. In the case of pledging, appropriation or other use by a third party, NE shall be notified immediately. Enforcement officers and third parties shall

(4) Should the Purchaser breach the terms of the Contract, notably in the case of a delay in payment, NE shall be entitled to request a reduction in the deadline. A previous withdrawal from the Contract is not required for a demand for reduction. Any transport costs resulting from this shall be borne by the Purchaser.

(5) Should retention of title be asserted on the part of NE or a pledge implemented for the delivered items, this shall not be considered a withdrawal from the Contract.

(6) The Purchaser is entitled to redistribute the items for delivery as part of routine business activities. The Purchaser has already assigned all receivables arising from redistribution to the Purchaser and independent of whether or not the items for delivery were altered during redistribution, to NE, to the sum of the purchase price agreed between NE and the Purchaser and including VAT. The Purchaser is entitled to collect these receivables following transfer. NE undertakes not to collect the receivables provided that the Purchaser properly complies with his payment obligations and is not in arrears with payment. If this is indeed the case, NE can request the disclosure of all necessary information for collection.

(7) Processing of goods by the Purchaser shall always be undertaken for NE. If the goods are processed alongside other items not belonging to NE, NE shall acquire joint ownership of the new items in the ratio of the value of the delivered goods to the value of the other items at the time of processing.

9. Final provisions, applicable law

(1) Unless otherwise agreed, the place of business is the NE delivery location.

(2) If the Purchaser is a businessman, the place of jurisdiction is the court responsible for the NE place of business. However, NE is entitled to take action against the Purchaser at its general place of jurisdiction. The court of jurisdiction shall be the same if the Purchaser has no general domestic court of jurisdiction, relocates their place of residence or normal home abroad on conclusion of the Contract, or their place of residence or normal home is unknown at the time that the claim is made.

(3) The Purchaser is not entitled to assign claims from the purchase contract without the consent of NE.

VENTILE
SOUPAPES
VÁLVULAS



Globally reliable

NPR of Europe GmbH
Siemensstraße 56
70825 Korntal-
Münchingen
Germany
www.npr-europe.com

V2