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MASS AIR FLOW SENSOR

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Brief Introduction

Established in 1984, Henko Enterprise has been one intergrated groupcompany of research,production and service in auto parts. Since 2004,Wehave successfully developed series of mass air flow sensors (meters)

Henko Enterprise now has a floor area of 12, 000 square meters and more than 500 employees.Our air flow sensor annual production capacity has reached 500,000 pcs.In order to guarantee quality products in the production,everyprocedure is strictly refered to ISO/TS16949 system standard.Tested by the test center and on road after production,the performance of our products have becomed more stable and reliable.

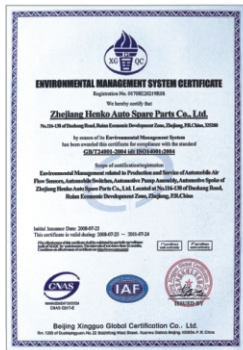
Our products are suitable for the vehicles of V. W, Opel, Fiat, Mercedes, BMW, Ford, Honda and Hyundail etc. And we mainly export our goods to Europe and American.



OHSAS 18001:1999



TS16949



ISO14001:2004

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Mass Air Flow Sensor Introduction

Applications

The mass air flow sensor also named air mass sensor measures the mass of air inducted by the engine (air flow mass) with great precision. The signal produced by the air mass sensor is used to calculate the amount of fuel injection and in the case of diesel engines also to control the recirculation of exhaust. It is an important component in both the reduction of exhaust and air supply. A defective or dirty air mass sensor can deliver false input signals to the engine's central control unit, which in turn sends false information to other components. In case of turbo diesels the air mass sensor is subject to particularly high burden due to the fact the both air flow rate and air speed are very high.

Description of functions

The complete air mass sensor consists of a flow channel (pipe) in which the inducted air-flow is directed past the actual sensor. Depending on the type of use and vehicle, the air mass sensor is either completely integrated in a tube made of synthetic material, or with the actual sensor as a separate individual plug-in module. Both versions (with tube/separate) are termed air mass sensor.

Earlier models were fitted with a hot-wire sensor element. The hot-wire was burnt free by pollutants following the short increase in heat after turning off the engine. Newer models work using a film-like heating resistor on a support, in which case the burn-through procedure does not apply. The heat-film sensor is heated to a temperature of approx 120-180 degrees Celsius above induction temperature (depending on vehicle manufacturer) the inflow of air cools the heat-film sensor. This cooling down is compensated by heating current via the electronic controller unit. This heating current is directly proportional to the amount of air induced.

Defects and possible causes

Defective and dirty air mass sensors deliver faulty signals. This can have the following consequences:

- Black Smoke
- Power Shortage
- Minimal operation

Possible causes of damage:

- If the air intake tube is porous, dirt particles can find their way into the inducted air. These collide at high speed with the air mass sensor, destroying the sensitive sensor element.
- Excessive oil spray from the crankshaft ventilator can lead to fouling-up of the sensor.
- Bad servicing, for instance un-cleanliness when changing air filters, use of wrong or substandard air filters can be the cause of dirt and damage to the air mass sensor.
- Splashed water, for instance from heavy rainfall, can force its way into the clean-air side and damage or dirt-clog the sensor. Salt water caused by winter gritting and melting snow increases this effect.
- Oil particles from oil-covered sport air filters can damage or dirt-clog the sensor.

Other sources can also cause an intact air mass sensor to deliver a false signal:

- defective exhaust-gas recirculation valves
- defective fuel tank ventilation valves
- porosity of induction tract
- clogged air filters

Air flow measurement

Volume air flow (VAF) sensor

The VAF sensor is fitted between the air filter and throttle body. It measures the amount of air drawn into the engine by the deflection of a flap inside the sensor.

Operation

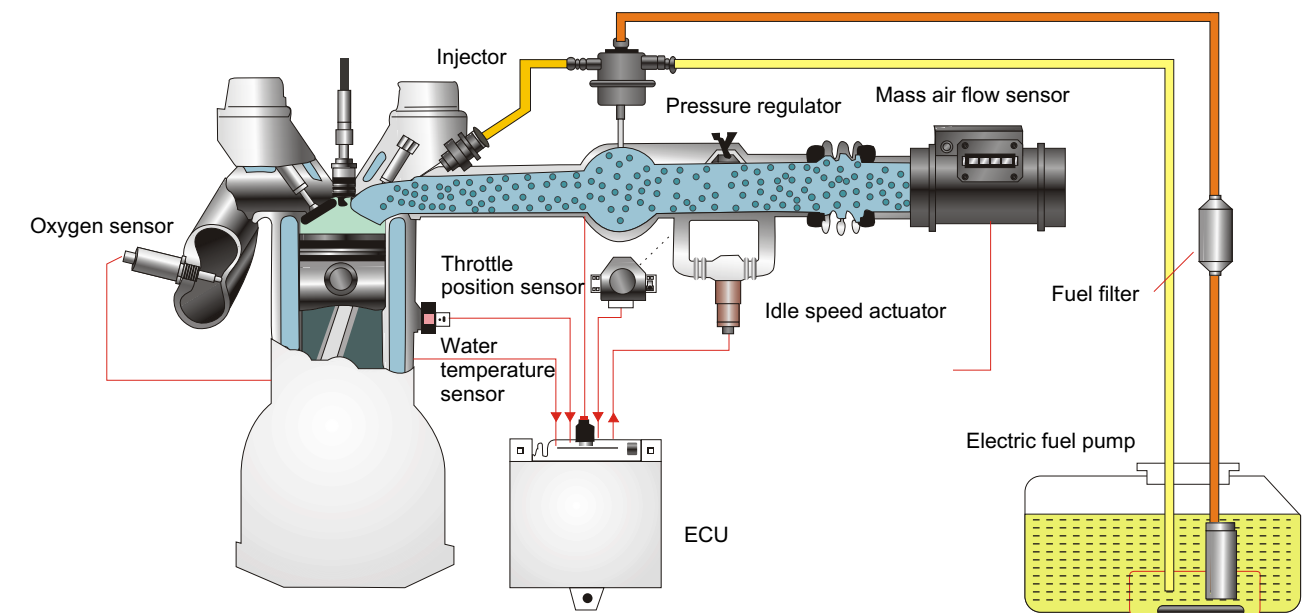
- The flap is connected to a potentiometer which sends a signal voltage to the ECM.
- This is the primary signal which, in conjunction with those from the other system sensor, is used to determine the fuelling requirements of the engine.
- In many applications the air temperature sensor is incorporated in this type of air flow sensor
- The MAF sensor has no moving parts and provides very little restriction to the air flow. It is fitted between the air filter and throttle body.
- The MAF sensor consists of a venturi with a resistance wire exposed to the incoming air.
- An air temperature sensor or compensating wire is also exposed to the air flow.
- The ECM senses changes in temperature caused by variation in air mass passing through the sensor body and increases or decreases the current flowing through the measuring wire.

variation in air mass passing through the sensor body and increases or decreases the current flowing through the measuring wire.

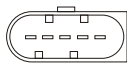
- An internal electronic circuit maintains the approximate temperature of the measuring wire at a constant 120 °C, above the intake air temperature.
- As the mass of air passing the wire increases, so the current required to maintain the temperature also increases.
- This increase in current is sensed by the ECM.
- This is the primary signal, used in conjunction with signals from the other system sensors, for determining the correct amount of fuel to be supplied to the engine.
- A 'burn-off' facility operates when the system is switched off, to remove dirt from the filament.

Mass air flow (MAF) sensor hot-film type

Similar to the hot-wire type, but with the measuring element incorporated in ceramic plate. This arrangement obviates the need for a 'burn-off' facility.



HK-25001



Interchange

V.W 06A 906 461
BOSCH 0 280 217 121 0 280 217 122
FORD 95VW 12B529 BB

Application

Description	Year	KW	HP	CC
AUDI A3(8L1) 1.9 TDI Hatchback	09.96-07.01	66	90	1896
AUDI A3(8L1) 1.9 TDI Hatchback	10.00	74	100	1896
AUDI A3(8L1) 1.9 TDI Hatchback	08.97-07.01	81	110	1896
AUDI A4(8E2,B6) 1.9TDI Saloon	05.01	74	101	1896
FORD GALAXY(WGR) 1.9 TDI MPV	03.95	66	90	1896
FORD GALAXY(WGR) 1.9 TDI MPV	08.97-04.00	81	110	1896
FORD GALAXY(WGR) 1.9 TDI MPV	04.00	85	115	1896
SKODA FABIA(6Y2) 1.9 TDI Hatchback	01.00	74	100	1896
SKODA FABIA combi(6Y5) 1.9 TDI Estate	04.00	74	100	1896
SKODA FABIA Saloon(6Y3) 1.9 TDI Saloon	01.00	74	100	1896
SKODA OCTAVIA(1U2) 1.9 TDI Hatchback	08.97	81	110	1896
SKODA OCTAVIA(1U2) 1.9 TDI Hatchback	09.96	66	90	1896
SKODA OCTAVIA combi(1U5) 1.9 TDI Estate	07.98	66	90	1896
SKODA OCTAVIA combi(1U5) 1.9 TDI Estate	07.98	81	110	1896
SKODA OCTAVIA combi(1U5) 1.9 TDI 4x4 Estate	09.00	74	100	1896
SKODA OCTAVIA combi(1U5) 1.9 TDI 4x4 Estate	11.99-09.00	66	90	1896
VW BORA(1J2) 1.9 TDI Saloon	09.00	74	101	1896
VW BORA(1J2) 1.9 TDI Saloon	10.98-06.01	81	110	1896
VW BORA(1J2) 1.9 TDI Saloon	10.98-06.01	66	90	1896
VW BORA(1J2) 1.9 TDI Saloon	12.98-06.01	85	115	1896
VW BORA(1J2) 1.9 TDI 4Motion Saloon	09.00	74	101	1896
VW BORA(1J2) 1.9 TDI 4Motion Saloon	02.99-06.01	85	115	1896
VW BORA(1J2) 1.9 TDI 4Motion Saloon	02.99-06.01	66	90	1896
VW BORA Estate(1J6) 1.9 TDI	09.00	74	101	1896
VW BORA Estate(1J6) 1.9 TDI	05.99-06.01	81	110	1896
VW BORA Estate(1J6) 1.9 TDI	05.99-06.01	66	90	1896
VW BORA Estate(1J6) 1.9 TDI	05.99-06.01	85	115	1896
VW BORA Estate(1J6) 1.9 TDI 4Motion	05.99-06.01	85	115	1896
VW BORA Estate(1J6) 1.9 TDI 4Motion	09.00	74	101	1896
VW GOLF IV(1J1) 1.9 TDI Hatchback	09.00	74	101	1896
VW GOLF IV(1J1) 1.9 TDI Hatchback	08.97-05.04	81	110	1896
VW GOLF IV(1J1) 1.9 TDI Hatchback	08.97-06.01	66	90	1896
VW GOLF IV(1J1) 1.9 TDI Hatchback	08.97-06.01	66	90	1896
VW GOLF IV(1J1) 1.9 TDI Hatchback	12.98-06.01	85	115	1896
VW GOLF IV(1J1) 1.9 TDI 4motion Hatchback	09.00	74	101	1896
VW GOLF IV(1J1) 1.9 TDI 4motion Hatchback	04.98-06.01	66	90	1896
VW GOLF IV(1J1) 1.9 TDI 4motion Hatchback	09.99-06.01	85	115	1896
VW GOLF IV Variant(1J5) 1.9 TDI Estate	09.00	74	101	1896
VW GOLF IV Variant(1J5) 1.9 TDI Estate	08.99-06.01	85	115	1896
VW GOLF IV Variant(1J5) 1.9 TDI Estate	05.99-06.01	81	110	1896
VW GOLF IV Variant(1J5) 1.9 TDI Estate	05.99-06.01	66	90	1896
VW GOLF IV Variant(1J5) 1.9 TDI 4motion Estate	09.00	74	101	1896
VW GOLF IV Variant(1J5) 1.9 TDI 4motion Estate	05.99-06.01	85	115	1896
VW GOLF IV Variant(1J5) 1.9 TDI 4motion Estate	05.99-06.01	66	90	1896
VW NEW BEETLE(9C1,1C1)1.9 TDI Hatchback	01.98-02.01	66	90	1896
VW POLO(9N_) 1.4 TDI Hatchback	10.01	55	75	1422
VW POLO(9N_) 1.9 TDI Hatchback	10.01	74	101	1896
VW SHARAN(7M8,7M9,7M6) 1.9 TDI Mpv	04.00	85	115	1896
VW SHARAN(7M8,7M9,7M6) 1.9 TDI Mpv	09.96-04.00	81	110	1896
VW SHARAN(7M8,7M9,7M6) 1.9 TDI Mpv	09.95	66	90	1896
VW SHARAN(7M8,7M9,7M6) 1.9 TDI 4 motion Mpv	04.00	85	115	1896

TECHNICAL PARAMETER

- 1.Output Voltage:1-5V
- 2.Respond Time:<20MS
- 3.Usage Life:>30000KM
- 4.Precision:<3%
- 5.Usage Temperature:-40℃~120℃
- 6.Current:<100MA
- 7.Input Voltage:12V

HK-25002



Interchange

BOSCH 0 280 217 123
OPEL 08 38 628 90 529 673 90 543 282
SAAB 90 543 282

Application

Description	Year	KW	HP	CC
OPEL ASTRAG Estate(F35_) 1.2 16v	02.98-09.00	48	65	1199
OPEL ASTRAG Hatchback (F48_,F08_) 1.2 16v	02.98-09.00	48	65	1199
OPEL ASTRA Saloon (F69_) 1.2 16V	09.98-09.00	48	65	1199
OPEL CORSA B(73_,78_,79_,F35_)1.0 I 12V Hatch	11.96-09.00	40	54	973
OPEL CORSA B(73_,78_,79_,F35_)1.2 I 12v Hatch	03.98-09.00	48	65	1199
VAUXH ASTRAMk IV 1.2 16V Saloon	09.98-09.00	48	65	1199
VAUXH ASTRAMk IV 1.2 16V Estate	02.98-09.00	48	65	1199
VAUXH ASTRAMk IV 1.2 16V Hatchback	02.98-09.00	48	65	1199
VAUXH CORSA 1.0 I 12V Hatchback	11.96-09.00	40	54	973
VAUXH CORSA 1.2 I 16V Hatchback	03.98-09.00	48	65	1199

HK-25003



Interchange

BOSCH 0 280 218 019
FIAT 46541253 46447503 60814852

Application

Description	Year	KW	HP	CC
ALFA 145(930) 1.6 i.e. 16V T.S.Hatchback	12.96-01.01	88	120	1598
ALFA 145(930) 1.6 i.e. 16V Hatchback	03.98-01.01	106	144	1598
ALFA 145(930) 1.9 JTD Hatchback	02.99-01.01	77	105	1910
ALFA 145(930) 1.9 TD Hatchback	10.94-02.99	66	90	1929
ALFA 145(930) 2.0 16V Quadrifoglio Hatchback	03.98-01.01	114	155	1970
ALFA 146(930) 1.6 i.e 16V T.S. Hatchback	11.96-01.01	88	120	1598
ALFA 146(930) 1.6 i.e 16V T.S. Hatchback	03.98-01.01	106	144	1747
ALFA 146(930) 1.9 JTD Hatchback	02.99-01.01	77	105	1910
ALFA 146(930) 1.9 TD Hatchback	12.94-02.99	66	90	1929
ALFA 146(930) 2.0 16V Quadrifoglio Hatchback	03.98-01.01	114	155	1970
ALFA 156(932) 1.6 16V T.SPARK(932A4) Saloon	09.97	88	120	1598
ALFA 156(932) 1.8 16V T.SPARK(932A3) Saloon	09.97-10.00	106	144	1747
ALFA 156(932) 1.9 JTD(932B2) Saloon	09.97-10.00	77	105	1910
ALFA 156(932) 2.0 16V T.SPARK(932A2) Saloon	09.97-10.00	114	155	1970
ALFA 156(932) 1.9 JTD(932B1) Saloon	09.97-10.00	100	136	2387
ALFA 156 Sportwagon (932) 1.6 16V T.Spark(932A4)	05.00	88	120	1598
ALFA 156 Sportwagon (932) 1.8 16V T.Spark(932A3)	05.00-10.00	106	144	1747
ALFA 156 Sportwagon (932) 1.9 JTD(932B2)	05.00-10.00	77	105	1910
ALFA 156 Sportwagon (932) 2.0 16V T.Spark(932A2)	05.00-10.00	114	155	1970
ALFA 156 Sportwagon (932) 2.4 JTD(932B1)	05.00-10.00	100	136	2387
ALFA 166 (936) 2.0 T.Spark(936A3A_) Saloon	09.98-10.00	114	155	1970
ALFA 166 (936) 2.4 JTD (936A2A_) Saloon	09.98-10.00	100	136	2387
ALFA GTV(916C_) 1.8 16V(916C3) Coupe	05.98	106	144	1747
ALFA GTV(916C_) 2.0 T.S 16V(916C2_,916C2C00	06.95	110	150	1970
ALFA Spider(916s_) 1.8 16v(916s3) convertible	05.98	106	144	1747
ALFA Spider(916s_)2.0T.spark16v(916s2b)convertible	05.98-08.00	114	155	1970
ALFA Spider(916s_)2.0T.spark16v(916scoo)convertible	06.95	110	150	1970
FIAT BRAVA(182) 1.9 JTD 105 Hatchback	12.98-10.01	77	105	1910
FIAT BRAVO(182) 1.9 JTD 105 Hatchback	12.98-10.01	77	105	1910
FIAT BRAVO(182) 2.0 HGT 20V(182AQ) Hatchback	07.98-10.01	113	154	1998

HK-25004



Interchange

BOSCH 0 280 218 180 0 281 002 180
OPEL 08 36 592 90 530 767 90 543 463

Application

Description	Year	KW	HP	CC
OPEL ASTRAG Box (F70) 2.0 DI	01.99	60	82	1995
OPEL ASTRAG Estate (F35_) 2.0 DI	02.98	60	82	1995
OPEL ASTRAG Estate (F35_) 2.0 DTI 16V	08.99	74	101	1995
OPEL ASTRAG Hatchback (F48_,F08_) 2.0 DI	02.98	60	82	1995
OPEL ASTRAG Hatchback (F48_,F08_) 2.0 Dtl 16v	08.99	74	101	1995
OPEL ASTRAG Saloon(F69_) 2.0 DI	09.98	60	82	1995
OPEL ASTRAG Saloon(F69_) 2.0 DTI 16V	08.99	74	101	1995
VAUXH ASTRAMk IV 1.7DTI 16V Saloon	02.00	55	75	1686
VAUXH ASTRAMk IV 1.7TD Saloon	09.98-08.00	50	68	1700
VAUXH ASTRAMk IV 2.0DI Saloon	09.98	60	82	1995
VAUXH ASTRAMk IV 2.0DTI 16V Saloon	08.99	74	101	1995
VAUXH ASTRAMk IV ESTATE 1.7 DTI 16V	02.00	55	75	1686
VAUXH ASTRAMk IV ESTATE 1.7 TD	02.98-08.00	50	68	1700
VAUXH ASTRAMk IV ESTATE 2.0 DI	02.98	60	82	1995
VAUXH ASTRAMk IV ESTATE 2.0 DTI 16V	08.99	74	101	1995
VAUXH ASTRAMk IV Hatchback 1.7 DTI 16V	02.00	55	75	1686
VAUXH ASTRAMk IV Hatchback 1.7 TD	02.98-08.00	50	68	1700
VAUXH ASTRAMk IV Hatchback 2.0 TD	02.98	60	82	1995
VAUXH ASTRAMk IV Hatchback 2.0 TD	08.99	74	101	1995
VAUXH ASTRAMk IV Hatchback 2.0 TD	08.98	50	68	1700
VAUXH ASTRAMk IV Hatchback 2.0 DI Box	08.98	60	82	1995
VAUXH ASTRAMk IV Hatchback 2.0 DI Box	04.04	74	100	1995

Application

Description	Year	KW	HP	CC
VAUXH COMBO 1.7 DI 16V Box	09.01	48	65	1686
VAUXH COMBO 1.7 DT1I 16V Box	10.01	55	75	1686
VAUXH CORSA Mk II 1.7 DI 16V Hatchback	09.00	48	65	1686
VAUXH CORSA Mk II 1.7 DTI 16V Hatchback	09.00	55	75	1686
VAUXH CORSAVAN Mk II 1.7 DI 16V Box	09.00	48	65	1686
VAUXH CORSAVAN Mk II 1.7 DTI 16V Box	09.00	55	75	1686
VAUXH OMEGA 2.0 DTI 16V Saloon	10.98-09.00	74	101	1995
VAUXH OMEGA 2.0 DTI 16V Estate	10.98-09.00	74	101	1995
VAUXH VECTRA 2.0 DI 16V Saloon	11.96	60	82	1995
VAUXH VECTRA 2.0 DTI 16V Saloon	06.97	74	101	1995
VAUXH VECTRA 2.0 DI 16V Estate	11.96	60	82	1995
VAUXH VECTRA 2.0 DI 16V Estate	06.97	74	101	1995
VAUXH VECTRA 2.0 DTI 16V Hatchback	06.97	74	101	1995
VAUXH VECTRA 2.0 DI 16V Hatchback	11.96	60	82	1995
VAUXH ZAFIRA 2.0 DI 16V MPV	10.99	60	82	1995
VAUXH ZAFIRA 2.0 DTI 16V MPV	04.99	74	101	1995

Interchange

BOSCH 0 281 002 216 0 281 002 217
V.W 028 906 461

Application

Description	Year	KW	HP	CC
AUDI A4(8D2,B5) 1.9 TDI Saloon	10.95-11.00	81	110	1896
AUDI A4(8D2,B5) 1.9 TDI Saloon	01.95-11.00	66	90	1896
AUDI A4(8D2,B5) 1.9 TDI Saloon	12.95-11.00	55	75	1896
AUDI A4(8D2,B5) 1.9 TDI Saloon	03.00-11.00	85	116	1896
AUDI A4(8D2,B5) 1.9 TDI Quattro Saloon	09.96-11.00	81	110	1896
AUDI A4(8D2,B5) 1.9 TDI Quattro Saloon	03.00-11.00	85	116	1896
AUDI A4 Avant(8D5,B5) 1.9 TDI Estate	03.00-09.01	85	115	1896
AUDI A4 Avant(8D5,B5) 1.9 TDI Estate	02.96-09.01	66	90	1896
AUDI A4 Avant(8D5,B5) 1.9 TDI Estate	02.96-09.01	81	110	1896
AUDI A4 Avant(8D5,B5) 1.9 TDI quattro Estate	09.96-09.01	81	110	1896
AUDI A4 Avant(8D5,B5) 1.9 TDI quattro Estate	03.00-09.01	85	115	1896
AUDI A6(4B,C5) 1.9 TDI Saloon	02.97	81	110	1896
AUDI A6(4B,C5) 1.9 TDI Saloon	07.00	85	115	1896
AUDI A6 Avant (4B,C5) 1.9 TDI Estate	07.00	85	115	1896
AUDI A6 Avant (4B,C5) 1.9 TDI Estate	12.97	81	110	1896
SEAT CORDOBA(6K2) 1.9 TDI Hatchback	06.99-10.02	81	110	1896
SEAT CORDOBA(6K2) 1.9 TDI Hatchback	06.99-10.02	86	90	1896
SEAT CORDOBA Vario(6K5) 1.9 TDI Estate	06.99	66	90	1896
SEAT CORDOBA Vario(6K5) 1.9 TDI Estate	06.99	81	110	1896
SEAT IBIZA III(6K1) 1.9 TDI Hatchback	08.99-02.02	81	110	1896
SEAT IBIZA III(6K1) 1.9 TDI Hatchback	08.99-02.02	66	90	1896
VW CADY II Box(9K9A) 1.9 TDI	09.96-01.04	66	90	1896
VW CADY II Estate (9K9B) 1.9 TDI	10.96-01.04	66	90	1896
VW LT 28-35 II Bus (2DM) 2.5 SDI	07.96	55	75	2461
VW LT 28-35 II Bus (2DM) 2.5 TDI	05.99	80	109	2461
VW LT 28-35 II Bus (2DM) 2.5 TDI	05.99	66	90	2461
VW LT 28-35 II Box (2DX0AE) 2.5 SDI	09.96	55	75	2461
VW LT 28-35 II Box (2DX0AE) 2.5 TDI	05.99	80	109	2461
VW LT 28-35 II Box (2DX0AE) 2.5 TDI	05.99	66	90	2461

VW LT 28-35 II Flatbed/chassis (2DX0FE) 2.5 SDI	09.96	55	75	2461
VW LT 28-35 II Flatbed/chassis (2DX0FE) 2.5 TDI	05.99	80	109	2461
VW LT 28-35 II Flatbed/chassis (2DX0FE) 2.5 TDI	05.99	66	90	2461
VW PASSAT (3B2) 1.9 TDI Saloon	02.00-11.00	74	101	1896
VW PASSAT (3B2) 1.9 TDI Saloon	10.96-11.00	81	110	1896
VW PASSAT (3B2) 1.9 TDI Saloon	08.98-11.00	85	115	1896
VW PASSAT (3B2) 1.9 TDI Saloon	10.96-11.00	66	90	1896
VW PASSAT (3B2) 1.9 TDI Syncro/4moton Saloon	10.96-11.00	81	110	1896
VW PASSAT (3B2) 1.9 TDI Saloon	11.00	74	101	1896
VW PASSAT Variant (3B5) 1.9 TDI Estate	02.00-11.00	74	101	1896
VW PASSAT Variant (3B5) 1.9 TDI Estate	06.97-11.00	66	90	1896
VW PASSAT Variant (3B5) 1.9 TDI Estate	06.97-11.00	81	110	1896
VW PASSAT Variant (3B5) 1.9 TDI Estate	08.98-11.00	85	115	1896
VW PASSAT (3B5) 1.9 TDI Syncro/4moton Estate	06.97-11.00	81	110	1896
VW PASSAT Variant (3B6) 1.9 TDI Estate	11.00	74	101	1896
VW POLO CLASSIC(6KV2) 110 1.9 TDI Saloon	06.98-09.01	81	110	1896
VW POLO CLASSIC(6KV2) 90 1.9 TDI Saloon	09.96-09.01	66	90	1896
VW POLO Variant (6KV5) 1.9 TDI Estate	05.97-09.01	66	90	1896
VW POLO Variant (6KV5) 1.9 TDI Estate	06.98-09.01	81	110	1896
VW TRANSPORTER IV Box(70XA) 2.5TDI	12.98	65	88	2461
VW TRANSPORTER IV Box(70XA) 2.5TDI	09.95	75	102	2461
VW TRANSPORTER IV Box(70XA) 2.5TDI Syncro	09.95	75	102	2461
VW TRANSPORTER IV Bus(70XB,70XC,7DB,7DW) 2.5TDI	05.98	65	88	2461
VW TRANSPORTER IV Bus(70XB,70XC,7DB,7DW) 2.5TDI	09.95	75	102	2461
VW TRANSPORTER IV Bus(70XB,70XC,7DB,7DW) 2.5TDI Syncro	01.96	75	102	2461
VW TRANSPORTER IV Flatbed/Chassis(70XD) 2.5TDI	05.98	65	88	2461
VW TRANSPORTER IV Flatbed/Chassis(70XD) 2.5TDI	09.95	75	102	2461
VW TRANSPORTER IV Flatbed/Chassis(70XD) 2.5TDI Syncro	05.98	75	102	2461

Interchange

BOSCH 0 281 002 309
FIAT 46 559 804 60 816 137 55 193 048

Application

Description	Year	KW	HP	CC
ALFA 147(937) 1.6 16V T.SPARK(937AXB1A)Hatch	01.01	88	120	1598
ALFA 147(937) 1.6 16V T.SPARK ECO(937AXA1A)	01.01	76	103	1598
ALFA 147(937) 2.0 16V T.SPARK(937AXC1_)Hatch	01.01	110	150	1970
ALFA 156(932) 1.6 16V T.SPARK((932A4)saloon	09.97	88	120	1598
ALFA 156(932) 1.8 16V T.SPARK((932A31_)saloon	10.00	103	140	1747
ALFA 156(932) 1.9 JTD(932A2B,932A2C)Saloon	05.01	85	115	1910
ALFA 156(932) 1.9 JTD(932A2B_)Saloon	10.00-05.01	81	110	1910
ALFA 156(932) 2.0 16V T.SPARK(932A21_)Saloon	10.00-03.02	110	150	1970
ALFA 156(932) 2.4 JTD(932A1B_)Saloon	10.00	103	140	2387
ALFA 156(932) 2.4 JTD(932AXC)Saloon	03.02	110	150	2387
ALFA 156 Sportwagon (932)1.6 16V T.SPARK (932A4) Estate	05.00	88	120	1598
ALFA 156 Sportwagon (932)1.8 16V T.SPARK (932B31_) Estate	10.00	103	140	1747
ALFA 156 Sportwagon (932)1.9 JTD(932B2B, 932B2C) Estate	05.01	85	115	1910
ALFA 156 Sportwagon (932)1.9 JTD(932B2B_)Estate	10.00-05.01	81	110	1910
ALFA 156 Sportwagon (932)2.0 16V T.SPARK (932B21_)Estate	10.00-03.02	110	150	1970