



# Piezoelectric injector

# Catalogue

Update 08/2024





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## ABBREVIATIONS

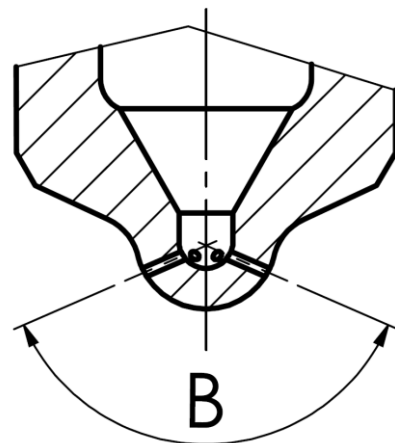
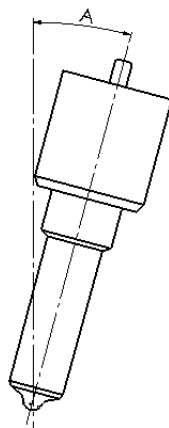
### - Holes

In this section are reported the information about how many micro holes there are and their diameter, in this following way: <N.microholes> x <Diameter microholes>

### - Angles

In this section are reported the information related to nozzle and micro holes angular position

Engine Angle	Spray Angle
A	B



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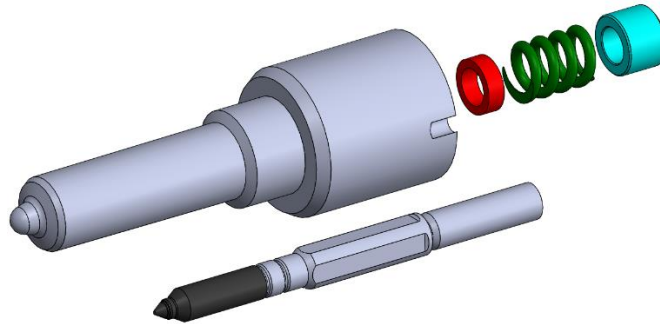
[3]

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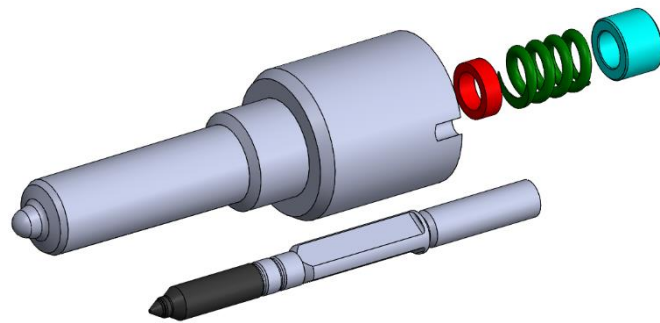
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## Bosch piezoelectric nozzle



FIRAD code	BOSCH® Stamping	BOSCH® Injector Code	BOSCH® Inj. Remanufactured Code	OE code	Vehicle/ Engine
<b>PEF 05AW</b>	F00VX30005 Superseded by F00VX30022	0 445 115 037 0 445 115 036 0 445 115 051 0 445 115 078	0 986 435 358	VOLKSWAGEN 059 130 277 AB VOLKSWAGEN 059 130 277 AA VOLKSWAGEN 059 130 277 AH VOLKSWAGEN 059 130 277 BD VOLKSWAGEN 059 130 277 Q	AUDI A4-A6-A8-Q7- Phaeton- Touareg
<b>PEF 22</b>	F00VX30022 Supersede F00VX30005	0 445 115 037 0 445 115 036 0 445 115 051 0 445 115 078	0 986 435 358	VOLKSWAGEN 059 130 277 AB VOLKSWAGEN 059 130 277 AA VOLKSWAGEN 059 130 277 AH VOLKSWAGEN 059 130 277 BD VOLKSWAGEN 059 130 277 Q	AUDI A4-A6-A8-Q7- Phaeton- Touareg



FIRAD code	BOSCH® Stamping	BOSCH® Injector Code	BOSCH® Inj. Remanufactured Code	OE code	Vehicle/ Engine
<b>PEF 02R</b>	F00VX30002	0 445 115 007	0 986 435 350	OPEL 93161695 OPEL 4431258 RENAULT 82 00 505 056 RENAULT 82 00 804 536 RENAULT 16 60 034 29R RENAULT 77 01 476 567 RENAULT 77 01 477 158	Renault (Espace-Laguna 2,0 DCi-Koleos)

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FIRAD code	BOSCH® Stamping	BOSCH® Injector Code	BOSCH® Inj. Remanufactured Code	OE code	Vehicle/ Engine
				RENAULT 82 00 409 398 RENAULT 82 00 340 068 VAUXHALL 93161695	
PEF 07	F00VX30007	0 445 115 008 0 445 115 048	0 986 435 354	BMW 13 53 7 801 940 BMW 13 53 7 805 685 BMW 7 792 721 BMW 13 53 7 807 207 BMW 7 785 685 BMW 13 53 7 807 208	BMW 2.0
		0 445 115 070	0 986 435 354	BMW 13 53 7 807 208 BMW 13 53 7 809 193 BMW 13 53 7 792 721	
PEF 10	F00VX20010	0 445 115 063 0 445 115 064	0 986 435 355	JEEP 68028 405AA CHRYSLER 68028 405AA MERCEDES 642 070 13 87 MERCEDES A 642 070 05 87 MERCEDES 642 070 13 87 80 MERCEDES A 642 070 18 87 MERCEDES A 642 070 13 87 80 MERCEDES 642 070 18 87 MERCEDES 642 070 05 87 MERCEDES A 642 070 13 87	Mercedes-Jeep-Crysler
PEF 14	F00VX40014	0 445 115 028 0 445 115 029	0 986 435 352	VOLKSWAGEN 076 130 277	VW CRAFTER 2,5 TDI
PEF 17	F00VX20017	0 445 115 068 0 445 115 069	0 986 435 356	MERCEDES A 646 070 14 87 MERCEDES 646 070 14 87	Mercedes - Vito - Sprinter
PEF 20	F00VX30020	0 445 115 042 0 445 115 091	0 986 435 362	CITROEN 96 592 291 LAND ROVER LR 001325 PEUGEOT 96 592 291 PEUGEOT PSA 96 592 29180 ROVER LR 0013 25	Citroen Land Rover
PEF 23	F00VX40023 (0)	0 445 115 080	0 986 435 353 0 986 435 388	AUDI 059 130 277 BB AUDI 059 130 277 AJ VOLKSWAGEN 059 130 277 AC VOLKSWAGEN 059 130 277 AJ VOLKSWAGEN 059 130 277 M	Audi A4 2.7 TDi Audi A6 2.7 TDi
PEF 26	F00VX30026	0 445 116 001	0 986 435 363	BMW 13 53 7 797 878 BMW 13 53 7 809 190 BMW 13 53 7 797 877	BMW 120-320-520 X3 2,0d
PEF 29	F00VX40029	0 445 116 034 0 445 116 035	0 445 116 029 0 986 435 369	VOLKSWAGEN 03L 130 277 C	AUDI A3-A4 2.0 TDI / VW GOLF- PASSAT 2.TD1
		0 445 116 029 0 445 116 030	0 986 435 360	AUDI 03L 130 277 SEAT 03L 130 277 SKODA 03L 130 277 VOLKSWAGEN 03L 130 277	
PEF 30	F00VX40030	0 445 116 014 0 445 116 015 0 445 116 022 0 445 116 023	0 986 435 357	AUDI 059 130 277 AR VOLKSWAGEN 059 130 277 AR	VW - Tuareg 3.0 / AUDI A4 - A6 2.7 -3.0 TDI

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PEF 31	F00VX40031	0 445 116 010 0 445 116 011	0 986 435 367 0 986 435 368	AUDI 03L 130 277 A VOLKSWAGEN 03L 130 277 A	VW Jetta
PEF 38	F00VX50038	0 445 120 104  0 445 120 207	0 986 435 539  0 986 435 540	MERCEDES 472 070 00 87 MERCEDES 472 070 03 87 MERCEDES 472 070 05 87 MERCEDES 472 070 07 87 MERCEDES A 472 070 08 87 MERCEDES A 472 070 00 87 MERCEDES A 472 070 03 87 MERCEDES A 472 070 05 87 MERCEDES A 472 070 07 87 MERCEDES 472 070 08 87	Mercedes
PEF 39	F00VX40039	0 445 117 019 0 445 117 020	0 986 435 412	AUDI 057 130 277 AM PORSCHE 958 110 128 30 VOLKSWAGEN 057 130 277 AM	VW- Audi (Q7 4,2 TDI)
PEF 41	F00VX30041	0 445 116 024	0 986 435 394	BMW 13 53 7 805 429 BMW 13 53 7 805 428	BMW 120d- 320d- 330d- 520d- 730d
PEF 42	F00VX40042 (0)	0 445 116 012 0 445 116 013  0 445 116 064	0 986 435 403	CITROEN 1980 W5 FORD 9X2Q9 K546 DA JAGUAR 02C2C40577 JAGUAR C2C 40577 LAND ROVER LR 017923 PEUGEOT 1980 W5 ROVER LR017923  CITROEN 1980 W5 FORD 9X2Q9 K546 DA FORD 9X2Q 9K546 DB FORD 9X2Q 9K546 DC JAGUAR 02C2C40577 JAGUAR C2C 40577 JAGUAR 02JDE37866 LAND ROVER LR095361 LAND ROVER LR 017923 PEUGEOT 1980 W5 ROVER LR01792	Citroen C5 -C6 Jaguar XF 3.0 – XJ 3.0 Peugeot 407 3.0
PEF 43	F00VX40043	0 445 116 025 0 445 116 026	0 986 435 404	MERCEDES A 642 070 11 87 MERCEDES 642 070 11 87 80 MERCEDES A 642 070 11 87 80 MERCEDES 642 070 11 87	Mercedes E300 / CLS350
PEF 45	F00VX40045	0 445 117 008	0 986 435 409	CHEVROLET 12 620 535 CHEVROLET 19 210 900 GMC 12620535 GMC 19210900	Chevrolet/GMC
PEF 51	F00VX40051	0 445 117 010	0 986 435 410	CHEVROLET 19 256 590 CHEVROLET 12 620 534 GMC 12620534 GMC 19256590 OPEL 12620534	Chevrolet/GMC Silverad/Sierra
PEF 54	F00VX20054	0 445 116 059	0 986 435 395	DODGE 68226 951AA FIAT 580540211	Citroen Jumper 3.0 Fiat Ducato

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				IVECO 58015420211 IVECO 504341488 LANCIA 5801540211 LANCIA L5801540211 PEUGOET 16 098 48980	Peugeot Boxer 3.0
		0 445 116 019		IVECO 504341488 IVECO 504385557	
PEF 55	F00VX40055	0 445 117 017	0 986 435 411	BMW 13 53 7 805 430	BMW 123d – 535d – 740d BMW X1 – X5 – X6
		0 445 117 001	0 986 435 411	BMW 13 53 7 800 600 BMW 13 53 7 800 599 BMW 13 53 7 812 055	
PEF 60	F00VX40060	0 445 117 016	0 986 435 415	FORD BC3Q 9K546 AD	Ford F250/350
		0 445 117 015		FORD BC3Q 9K546 AB	
		0 445 117 023 0 445 117 024		FORD BC3Q 9K546 AD FORD BC3Q 9K546 AB FORD BC3Z-9H529-B FORD BC3Z-9H529-A	
PEF 61	F00VX40061	0 445 116 018 0 445 116 017	0 986 435 420	HYUNDAI 33800-2F000 KIA MOTOR 33800-2F000	Hyundai Grand Santa Fe Hyundai Santa Fe Hyundai Sonata Hyundai ix35 KIA Carnival KIA Sorrento KIA Sportage
PEF 63	F00VX30063 (0)	0 445 116 037	0 986 435 429 0 986 435 457	LAND ROVER AHQ9K546BA LAND ROVER LR054298	Ford Kuga 2.2 d Land Rover Freelander 2.2 Land Rover Range Rover 4.4
PEF 65	F00VX40065 (0)	0 445 116 039 0 445 116 072	0 986 435 422	AUDI 059 130 277 CC AUDI 059 130 277 EH VOLKSWAGEN 059 130 277 CC VOLKSWAGEN 059 130 277 EH	Audi A4 – A5 – A6 – A7 – A8 Audi Q7
PEF 66	F00VX40066 (0)	0 445 117 021 0 445 117 022	0 986 435 413	AUDI 059 130 277 CD AUDI 059 130 277 EJ VOLKSWAGEN 059 130 277 CD VOLKSWAGEN 059 130 277 EJ	Audi A4 – A5 – A6 – A7 – A8 Audi Q7 Porsche Cayenne 3.0 Porsche Panamera 3.0 Volkswagen Touareg 3.0
		0 445 117 076	0 986 435 413	AUDI 059 130 277 EJ PORSCHE 958 110 128 11 VOLKSWAGEN 059 130 277 EJ VOLKSWAGEN 958 110 128 11	
PEF 67	F00VX20067	0 445 116 041	0 986 435 437	VM MOTORI 35 06 2005F	
PEF 68	F00VX40068	0 445 116 043 0 445 116 073	0 986 435 423	JAGUAR 02JDE36716 JAGUAR JDED36716 LAND ROVER LR022335 LAND ROVER LR056366 ROVER LR 022335 PEUGEOT 98 874 54480	Jaguar XF Land Rover Discovery Land Rover Freelander RangeRover Evoque 2.2
PEF 75	F00VX40075	0 445 117 026 0 445 117 027	0 986 435 453	AUDI 059 130 277 CH VOLKSWAGEN 059 130 277 CH	Audi A4 – A5 – A6 – A7 – A8 Audi Q5

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				VOLKSWAGEN 059 130 277 EK	Wolkswagen Tuareg 3.0
		0 445 117 075		AUDI 059 130 277 EK PORSCHE 95811012841 VOLKSWAGEN 059 130 277 EK VOLKSWAGEN 958 110 128 41	
PEF 77	F00VX50077	0 445 120 287 0 445 120 288	0 986 435 624	MERCEDES 471 070 05 87 MERCEDES 471 070 05 87 0080 MERCEDES A 471 070 05 87 MERCEDES A 471 070 05 87 0080	Mercedes ACTROS
PEF 79	F00VX30079 (0)	0 445 117 030	0 986 435 425	BMW 13 53 7 823 461 BMW 13 53 7 823 462	BMW 125d - 325d - 425d 525d - 640d - X1 - X3 - X4 - X5 - X6
PEF 80	F00VX40080	0 445 116 066 0 445 116 050	0 986 435 448	FORD CH2Q 9K556 AB JAGUAR 02C2D53044 JAGUAR C2D53044 LAND ROVER LR069236 ROVER LR069236	Land Rover Discovery Land Rover Range Rover
PEF 83	F00VX50083	0 445 120 302 0445 120 303	0 986 435 646	MERCEDES 472 070 10 87 MERCEDES 472 070 11 87 MERCEDES 472 070 12 87 MERCEDES A 472 070 10 87 MERCEDES A 472 070 11 87 MERCEDES A 472 070 12 87 MERCEDES RA4600701387 MERCEDES RA4720701187	Mercedes AROCS Mercedes ANTOS
PEF 115	F00VX40115	0 445 117 040 0 445 117 043	0 986 435 433	FORD FC3Q 9K546 AA FORD FC3Z9H529B FORD FC3Z9H529A	Ford F250/350/550/650/750
PEF 118	F00VX40118	0 445 117 041 0 445 117 042 0 445 117 083 0 445 117 084 0 445 117 067	0 986 435 441	AUDI 059 130 277 CR VOLKSWAGEN 059 130 277 CR VOLKSWAGEN 059 130 277 ED	A5 3.0 TDI
PEF 120	F00VX40120	0 445 117 044 0 445 117 069	0 986 435 455	AUDI 059 130 277 CT VOLKSWAGEN 059 130 277 CT VOLKSWAGEN 059 130 277 EE	Audi A6 – A7 -SQ5
PEF 125	F00VX40125	0 445 118 022 0 445 118 036		BMW 13 53 8 514 151 BMW 13 53 8 514 151-05 BMW 8 514 151 BMW 8 514 151-05	BMW 125d - 325d - 425d 525d - 640d - X1 - X3 - X4 - X5 - X6
PEF 126	F00VX40126	0 445 117 047 0 445 117 048		MERCEDES 654 070 01 87 MERCEDES A 654 070 01 87	MERCEDES A-B-C-CLS- GLA- E Sprinter - Vito
PEF 192	F00VX70192	0 445 124 056		MAN 51 10100 6202 NEO PLAN 51101006202	MAN Lion's coach MAN TGS TGS II TGS X NEO Cityliner NEO Skyliner NEO Tourliner

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PEF 376	B437176376	0 445 120 298 0 445 120 299	0 986 435 622	MERCEDES 470 070 00 87 MERCEDES 470 070 00 87 0080 MERCEDES A 470 070 00 87 0080 MERCEDES A 470 070 00 87	MERCEDES Actros – CapaCity – Citaro – Conecto - Integro

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## Bosch piezoelectric nozzle geometric features

FIRAD code	BOSCH® Stamping	Engine angle	Spray angle	Holes
PEF 02R	F00VX30002	0°	150°	6 x 0,140
PEF 05AW	F00VX30005	0°	158°	7 x 0,145
PEF 07	F00VX30007	0°	159°30'	6 x 0,155
PEF 10	F00VX20010	0°	157°	8 x 0,130
PEF 14	F00VX40014	24°	165°	7 x 0,140
PEF 17	F00VX20017	0°	158°	7 x 0,140
PEF 20	F00VX30020	0°	157°	7 x 0,120
PEF 22	F00VX30022	0°	158°	7 x 0,145
PEF 23	F00VX40023 (0)	0°	158°	8 x 0,135
PEF 26	F00VX30026	0°	159°	7 x 0,140
PEF 29	F00VX40029	0°	162°	8 x 0,120
PEF 30	F00VX40030	0°	158°	8 x 0,125
PEF 31	F00VX40031	0°	163°	8 x 0,115
PEF 38	F00VX50038	0°	141°	6 x 0,195
PEF 39	F00VX40039	0°	158°	8 x 0,120
PEF 41	F00VX30041	0°	160°	7 x 0,140
PEF 42	F00VX40042 (0)	0°	154°	8 x 0,125
PEF 43	F00VX40043	0°	157°	8 x 0,130
PEF 45	F00VX40045	0°	158°	7 x 0,135
PEF 51	F00VX40051	0°	160°	8 x 0,130
PEF 54	F00VX20054 (0)	0°	138°	8 x 01,40
PEF 55	F00VX40055 (0)	0°	158°	7 x 0,145
PEF 60	F00VX40060	0°	150°	8 x 0,145
PEF 61	F00VX40061	0°	156°	8 x 0,135
PEF 63	F00VX30063 (0)	0°	155°	8 x 0,115
PEF 65	F00VX40065 (0)	0°	158°	8 x 0,115
PEF 66	F00VX40066 (0)	0°	158°	8 x 0,105
PEF 67	F00VX20067	0°	145°	7 x 0,145
PEF 68	F00VX40068	0°	152°	8 x 0,125
PEF 75	F00VX40075	0°	158°	8 x 0,125
PEF 77	F00VX50077	0°	150°	8 x 0,190
PEF 79	F00VX40079 (0)	0°	157°	7 x 0,145

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FIRAD code	BOSCH <sup>®</sup> Stamping	Engine angle	Spray angle	Holes
PEF 80	F00VX40080	0°	154°	8 x 0,105
PEF 83	F00VX50083	0°	145°	7 x 0,210
PEF 115	F00VX40115	0°	150°	8 x 0,140
PEF 118	F00VX40118	0°	159°	8 x 0,115
PEF 120	F00VX40120	0°	157°	8 x 0,130
<b>PEF 125</b>	<b>F00VX40125</b>	<b>0°</b>	<b>159°</b>	<b>7 x 0,135</b>
PEF 126	F00VX40126	0°	151°	8 x 0,120
PEF 192	F00VX70192	0°	146°	12 x 0,185
PEF 376	B437176376	0°	146°	7 x 0,195

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