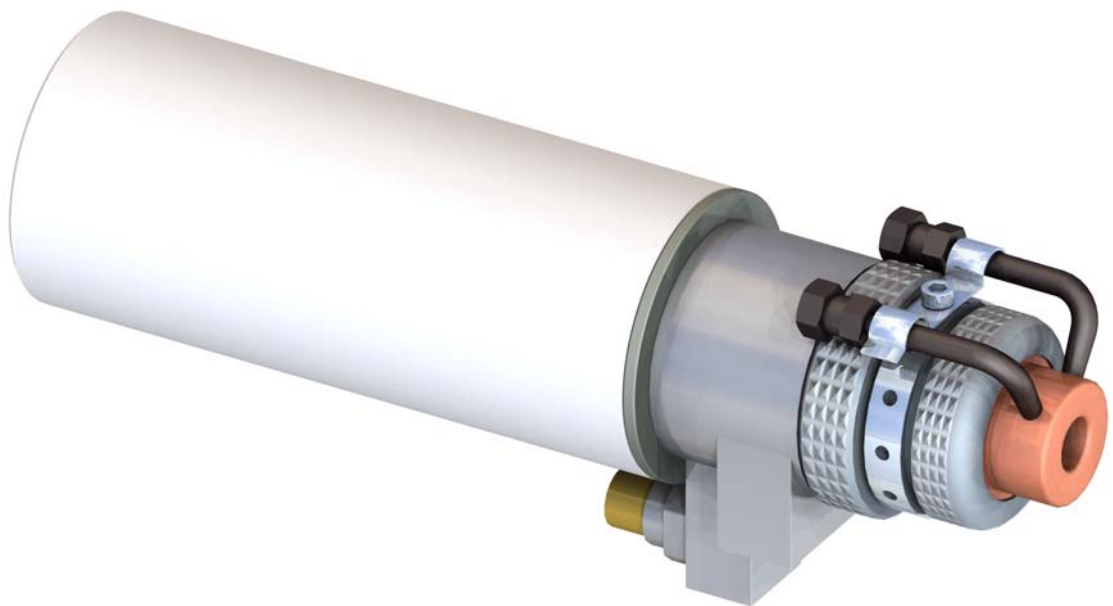


F4-VB Spray Gun Plasma Spraying

Parts List
PL 40333 EN 07



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Spare parts categories

C = Consumable Parts

Parts subjected to major wear during normal operation. These parts require replacement on a regular basis.

Recommended in order to avoid downtimes.

W = Wear Parts

Parts used for maintenance service. These parts are likely and expected to wear out during the life of the product.

Wear parts are not subject to warranty.

K = Critical Parts

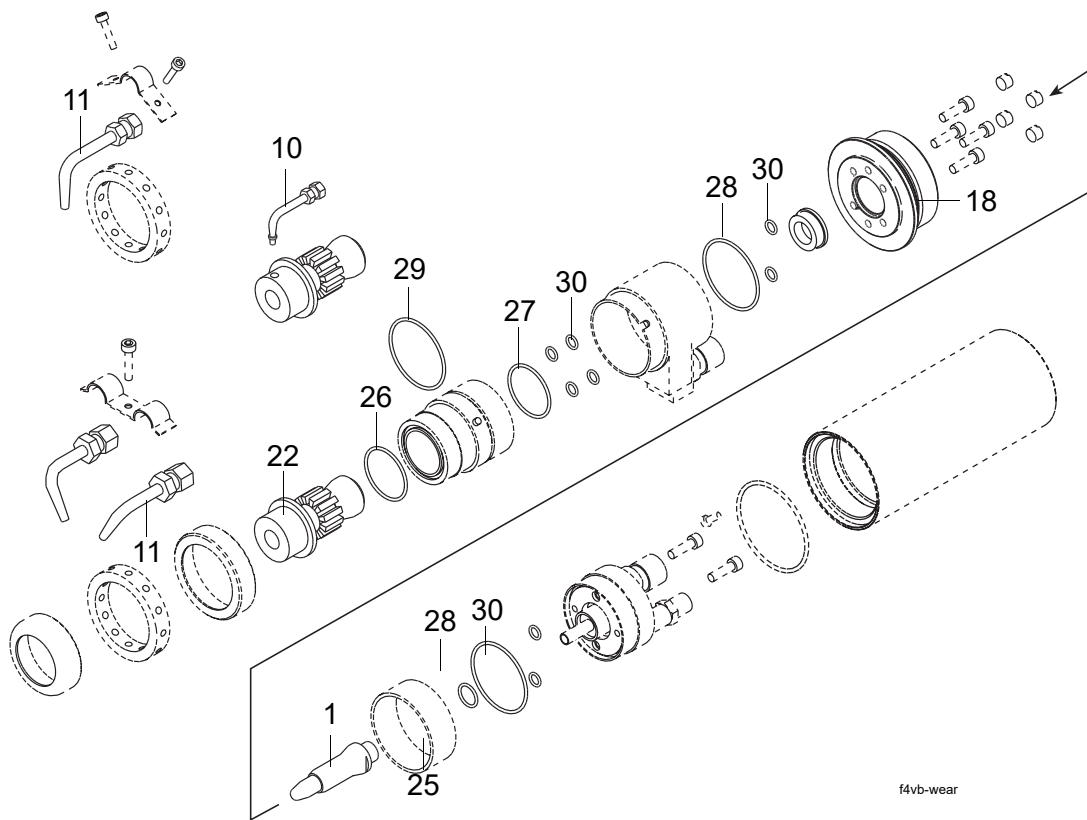
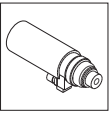
Parts recommended in order to guarantee maximum availability of component. This prevents downtime caused by delay in procurement.



Warranty Disclaimer

Installing non-Oerlikon Metco spare parts on Oerlikon Metco equipment.

1 List of recommended spare parts for F4-VB Spray Gun



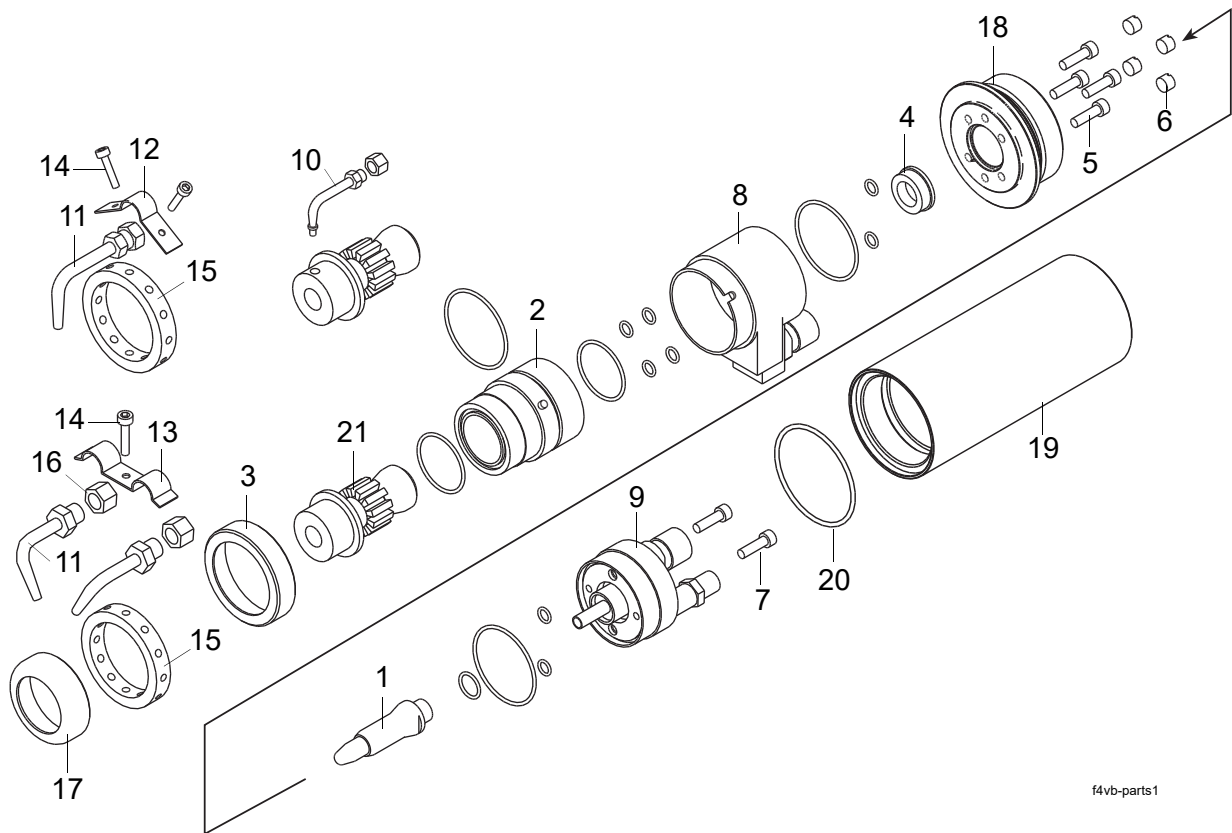
f4vb-wear

Pos.	Designation	Qty	Cat.	Old Art. no.	Art. no.
1	Electrode F4	1	C	300001(TF)	1072006
10, 11	Powder injector	--	C	depends on nozzle	
18	Insulating intermediate body	1	K	--	1050808
22	Nozzle	1	C	see page 7	
25	O-ring electrode 12.42x1.78	1	W	300032	1003458
26	O-ring nozzle front 29.87x1.78	1	W	300033	1003459
27	O-ring nozzle rear 23.47x2.62	1	W	300034	1003460
28	O-ring rear and front body (pkge of 2) 44x1	2	W	--	1038940
29	O-ring anode holder 42x1.5	1	W	300041	1003473
30	O-ring set (pkge of 8) 5.28x1.78	1	W	300031	1018799

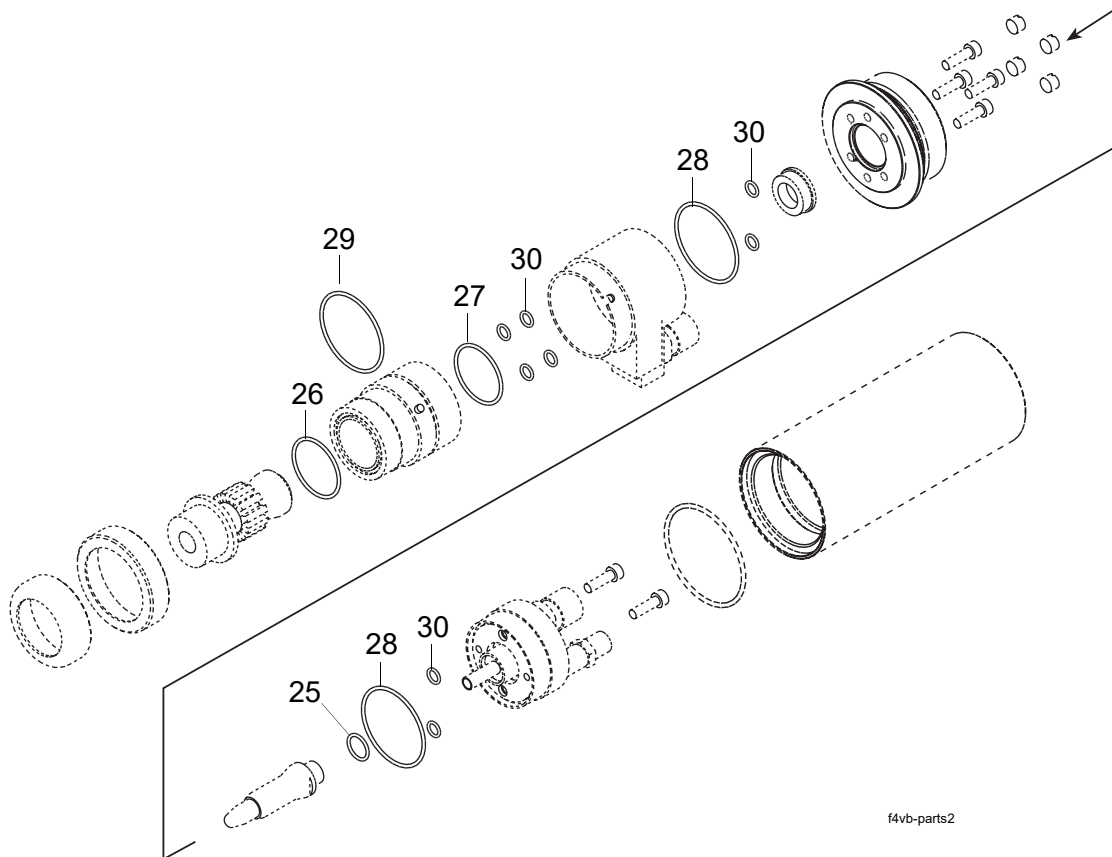
PL 40333 EN 07 Released on: 05/21/2019

2 Parts list

--	F4-VB complete	--	(320000)	1003578
----	----------------	----	----------	---------



Pos.	Designation	Qty	Old Art. no.	Art. no.
1	Electrode F4	1	300001(TF)	1072006
2	Anode holder	1	300006	1003421
3	Rear securing ring	1	300012	1003425
4	Gas distribution ring	1	300081	1003499
5	Screw socket head cap M4x10	4	300141	1003513
6	Insulating set screw M8x1	4	300140	1003512
7	Fastener M4x25	2	300142	1003514
8	Center body	1	320007	1003582
9	Rear body	1	320010	1003583
10	Screw fitting powder injector 3 mm	1	320019	1003587
11	Powder injector in conical support	2	see page 9 to 11	
12	Flat spring for 1 injector	4	320093	1037311
13	Flat spring for 2 injectors	2	320092	1037312
14	Socket head screw M4x12	8	300155-20	1008749
		4	300155-20	1008749
15	Injector mounting ring	1	320091	1003604
16	Plug nut (to close injector, if only one of two is used)	1	900460	1004386
17	Front lock ring	1	300012-01	1003426
18	Insulating intermediate body	1	--	1050808
19	Cover	1	--	1050809
20	O-Ring	1	--	1038236
21	Nozzle with clamps 2x180° / 10° / ø7mm (standard with delivery) For optional nozzles, see page 7 to 11	1	320138-01	1003608



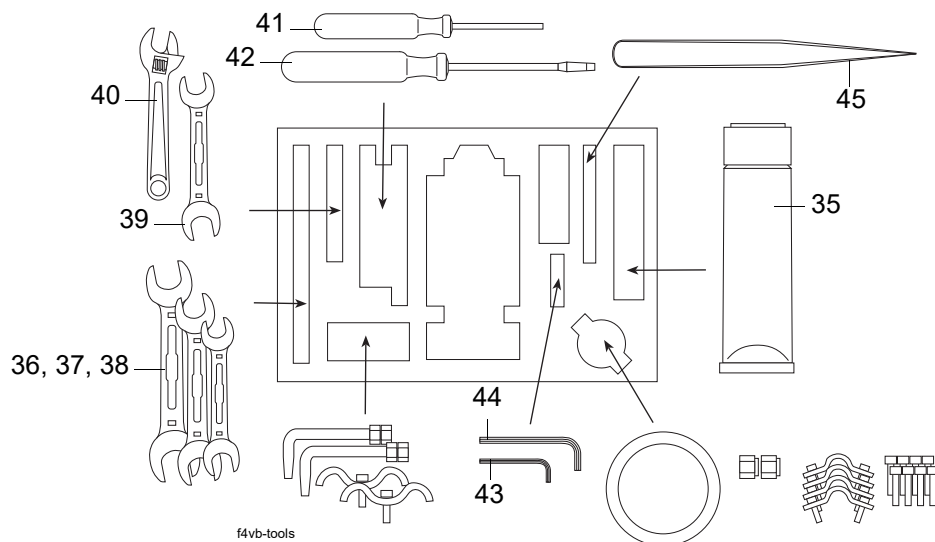
f4vb-parts2

Pos.	Designation	Qty	Old Art. no.	Art. no.
25	O-ring electrode 12.42x1.78	1	300032	1003458
26	O-ring nozzle front 29.87x1.78	1	300033	1003459
27	O-ring nozzle rear 23.47x2.62	1	300034	1003460
28	O-ring rear and front body (pkge of 2) 44x1	2	1003420	1038940
29	O-ring anode holder 42x1.5	1	300041	1003473
30	O-ring 5.28x1.78	8	300031-01	1003456

Options

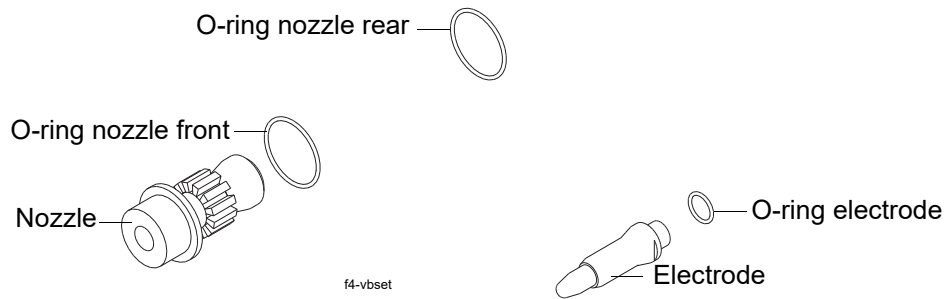
O-ring set	<i>includes</i>	1	300031-10	1018802
	O-ring electrode 12.42x1.78	1	300032	1003458
	O-ring nozzle front 29.87x1.78	1	300033	1003459
	O-ring nozzle rear 23.47x2.62	1	300034	1003460
	O-ring rear and front body (pkge of 2) 44x1	2	--	1038940
	O-ring anode holder 42x1.5	1	300041	1003473
	O-ring 5.28x1.78	8	300031-01	1003456

2.1 Tools for F4-VB spray gun



Pos.	Designation	Qty	Old Art. no.	Art. no.
--	F4 gun wood case	1	349000-50	1009358
--	Foam-rubber insert for wooden case	1	349000-68	1009369
35	O-ring grease	1	349020	1003770
36	Wrench 23x21	1	349010-01	1009372
37	Spanner 12x14	1	349010-04	1009375
38	Spanner 16x17	1	349010-06	1009377
39	Spanner 11/16" x 13/16"	1	349010-08	1009379
40	Adjustable wrench 150mm	1	349010-10	1009381
41	Hexagonal pin spanner 3,0 handle	1	349011-04	1009394
42	Screwdriver size 3	1	349012-02	1009400
43	Allen wrench size 1,3	1	349013-01	1009405
44	Allen wrench size 3,0	1	349013-06	1009410
45	Tweezers	1	349014-01	1009416

2.2 Nozzles and electrodes; complete sets for F4-VB spray gun



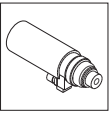
Designation	Old Art. no.	Art. no.
<i>Each set includes:</i>		
Electrode	300001(TF)	1072006
O-ring electrode 12.42x1.78	300032	1003458
O-ring nozzle front 29.87x1.78	300033	1003459
O-ring nozzle rear 23.47x2.62	300034	1003460
Nozzle (depending on nozzle bore diameter, position and number of injectors)	--	--

2.2.1 Version 1 - VPS nozzle for screw fitting powder injectors

- in general for coarse or difficult to melt powder
- efficient spray powder swirl into plasma stream
- shortened spray distance possible under standard chamber conditions
- limited range of the geometrical injection parameters (distance to the point of electrode, inlet angle)

		Ø D	Old Art. no.	Art. no.		
<p>4 x 90° / 10°</p>		6 mm	Nozzle Set	320037-20 1003596 320075-20 1018828		
		7 mm	Nozzle Set	320037-21 1008897 320075-21 1008920		
		8 mm	Nozzle Set	320037-22 1008898 320075-22 1008921		
		<p>2 x 45° / 180° / 10°</p>		6 mm	Nozzle Set	320037-30 1008899 320075-30 1008922
				7 mm	Nozzle Set	320037-31 1008900 320075-31 1008923
				8 mm	Nozzle Set	320037-32 1008901 320075-32 1008924
<p>2 x 180° / 10°</p>				6 mm	Nozzle Set	320037 1006726 320075 1018824
				7 mm	Nozzle Set	320037-01 1008895 320075-01 1008918
				8 mm	Nozzle Set	320037-02 1008896 320075-02 1008919
			3 mm	Powder injector, screw fitting	320019 1003587	

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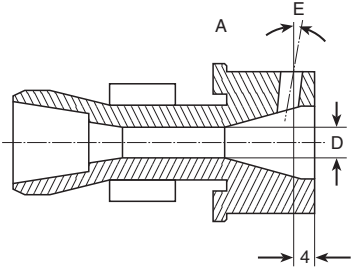
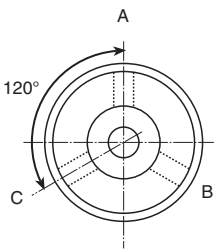
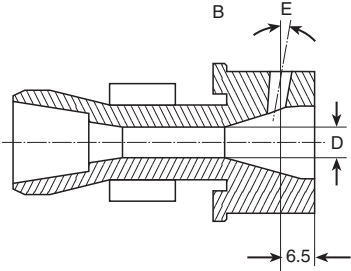
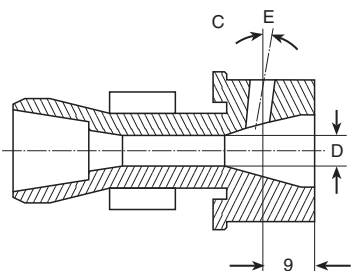
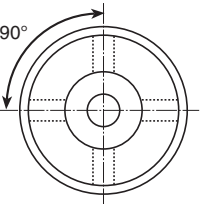
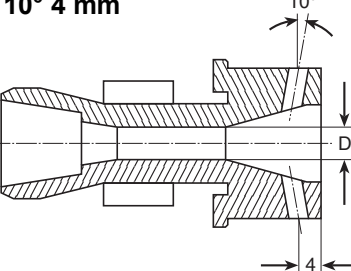
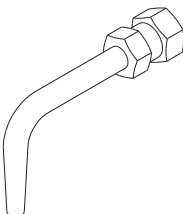
**2.2.2 Version 2 - VPS nozzle for injectors in conical support
(secured with special holders and springs)**

- in general for fine grained powder
- for plasma spraying without transferred arc
- minimal disturbance of the plasma stream
- centered powder injection
- longer spray distance under standard chamber conditions
- smaller plasma stream spray spot
- wide range of geometrical injection parameters (distance to point of electrode, inlet angle)
- higher kinetic energy of the powder particles in the pressure range of 40 to 80 mbar

		Ø D	Old Art. no.	Art. no.	
<p>2 x 45° / 180° / 10° 4mm</p>		6 mm	Nozzle	320130	1006737
			Set	320103	1006736
		7 mm	Nozzle	320130-01	1008933
			Set	320103-01	1008931
		8 mm	Nozzle	320130-02	1008934
			Set	320103-02	1008932
<p>2 x 180° / 10° 4mm</p>		6 mm	Nozzle	320138	1003607
			Set	320176	1006743
		7 mm	Nozzle (Standard)	320138-01	1003608
			Set	320176-01	1018833
		8 mm	Nozzle	320138-02	1003609
			Set	320176-02	1008955
<p>2 x 45° / 10° 4mm</p>		6 mm	Nozzle	320139	1003611
			Set	320177	1003615
		7 mm	Nozzle	320139-01	1008946
			Set	320177-01	1018839
		8 mm	Nozzle	320139-02	1008947
			Set	320177-02	1008958
<p>1 / 10° 4mm</p>		6 mm	Nozzle	320140	1006742
			Set	320182	1006748
		7 mm	Nozzle	320140-01	1008950
			Set	320182-01	1008969
		8 mm	Nozzle	320140-02	1008951
			Set	320182-02	1008970

Continued next page

**Version 2 - VPS nozzle for injectors in conical support
(secured with special holders and springs)**

		Ø D	E	Old Art. no.	Art. no.
<p>3 x 120° E = 10° / 15° / 20° 4 / 6.5 / 9 mm</p> 	6 mm	Nozzle	10°	320131	1006738
		Set	10°	320178	1006744
	7 mm	Nozzle	10°	320131-01	1008935
		Set	10°	320178-01	1008961
	8 mm	Nozzle	10°	320131-02	1008936
		Set	10°	320178-02	1008962
 	6 mm	Nozzle	15°	320132	1006739
		Set	15°	320179	1006745
	7 mm	Nozzle	15°	320132-01	1008937
		Set	15°	320179-01	1008963
	8 mm	Nozzle	15°	320132-02	1008938
		Set	15°	320179-02	1008964
	6 mm	Nozzle	20°	320133	1006740
		Set	20°	320180	1006746
	7 mm	Nozzle	20°	320133-01	1008939
		Set	20°	320180-01	1008965
	8 mm	Nozzle	20°	320133-02	1008940
		Set	20°	320180-02	1008966
<p>4 x 90° / 10° 4 mm</p>  	6 mm	Nozzle		320136	1006741
		Set		320181	1006747
	7 mm	Nozzle		320136-01	1008941
		Set		320181-01	1008967
	8 mm	Nozzle		320136-02	1008942
		Set		320181-02	1008968
	3 mm	Powder injector		320020	1003588
	2.5 mm	Powder injector		320021	1003590
	2 mm	Powder injector		320022	1003592
	1.5 mm	Powder injector		320023	1003593
	1 mm	Powder injector		320024	1006720

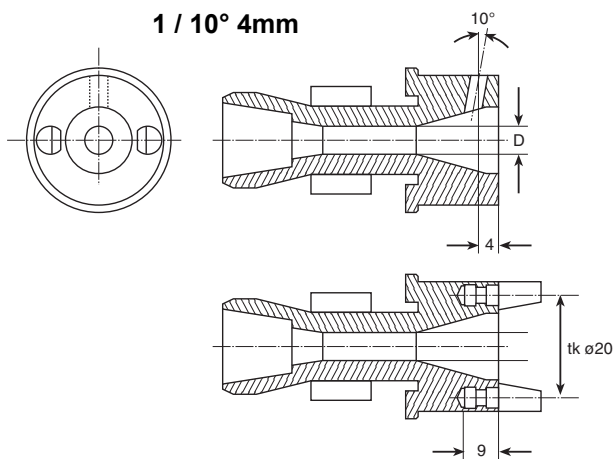


2.2.3 Version 3 - VPS nozzle with tungsten pins for spraying with a transferred arc using injectors with the conical support (secured with special holders and springs)

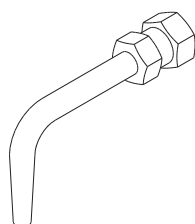
- in general for fine grained powder
- for plasma spraying with reversed transfer arc (RTA)
- minimal disturbance of the plasma stream
- centered powder injection
- longer spray distance under standard chamber conditions
- smaller plasma stream spray spot
- wide range of geometrical injection parameters (distance to point of electrode, inlet angle)
- higher kinetic energy of the powder particles in the pressure range of 40 to 80 mbar

	Ø D		Old Art. no.	Art. no.	
<p>2 x 180° / 10° 4mm</p>	6 mm	Nozzle	320138-10	1008944	
		Set	320176-10	1008956	
	7 mm	Nozzle	320138-11	1003610	
		Set	320176-11	1018836	
	8 mm	Nozzle	320138-12	1008945	
		Set	320176-12	1008957	
	--	Tungsten pin	320080-10	1008930	
	<p>2 x 45° / 10° 4mm</p>	6 mm	Nozzle	320139-10	1008948
			Set	320177-10	1008959
		7 mm	Nozzle	320139-11	1003612
Set			320177-11	1018841	
8 mm		Nozzle	320139-12	1008949	
		Set	320177-12	1008960	
--		Tungsten pin	320080-10	1008930	

Continued next page



6 mm	Nozzle	320140-10	1008952
	Set	320182-10	1018844
7 mm	Nozzle	320140-11	1008953
	Set	320182-11	1008971
8 mm	Nozzle	320140-12	1008954
	Set	320182-12	1008972
--	Tungsten pin	320080-10	1008930



3 mm	Powder injector	320020	1003588
2.5 mm	Powder injector	320021	1003590
2 mm	Powder injector	320022	1003592
1.5 mm	Powder injector	320023	1003593
1 mm	Powder injector	320024	1006720