



Our complete range of
NOZZLES FOR WOODWARD-L'ORANGE® INJECTORS
 suitable for large engines applications

On 9 September 1933, Rudolf L'Orange and his brother Harro founded the L'Orange Brothers Engine Accessories Company in Stuttgart. They developed and invented new injection systems such as the "zweimengendüse" for continuous atomization. The company was sold to MTU Germany in 1985 and then incorporated into the Tognum Group in 2006 (Rolls-Royce Power Systems AG since 2014). In 2018 Rolls-Royce Power Systems sold the company to its competitor Woodward in the USA. Nowadays **Woodward L'Orange GmbH** is a German engineering manufacturing company headquartered in Stuttgart. It is one of the leading manufacturers of injection systems for large diesel engines worldwide. It developed and produced the first common-rail system for large diesel engines. Woodward L'Orange is a supplier to engine builders from 1000 to 40000 kW. It designs and produces injection parts for most 4-stroke engines for both **marine and power plant applications**.

Check out in next pages our nozzles and parts

Woodward-L'Orange

SEVEN Part Number	Photo	Stamping	Spray details	Ø	Cooled/ Uncooled	Opening Pressure (bar)	Injector Reference	Engine Brand	Engine type	Note and other ref.
NBW6910A NBW6910B NBW6910C		VUM-U910A/E VUM-U910B/E VUM-U910C/E	13x0,43x82° 13x0,39x82° 13x0,41x82°	10 10 10	Cooled Cooled Cooled	360 360 360	VUM-G014a VUM-G014b VUM-G014c	MAN B&W MAN B&W MAN B&W	32/40 CD 32/40 CD 32/40 CD	IMO1235 IMO1611 IMO1758

NLG10ACA NLG10ACC NLG10ACF NLG10ADA NLG10LBD NLG10LGQ NLG10LJG NLG10LUG NLG10LXA NLG10LXAA NLG10LXW NLG10LYB NLG10LZQ NLG10LZR NLG12AAH		LT-ACA LT-ACC LT-ACF LT-ADA LT-LBD LT-LGQ LT-LJG LT-LUG/E LT-LXA LT-LXA LT-LXW LT-LYB LT-LZQ LT-LZR LLT-AAH	8x0,34x145° 9x0,35x145° 8x0,35x150° 10x0,33x150° 8x0,20x150° 8x0,35x140° 8x0,25x150° 6x0,39x155° 9x0,35+1x0,20 9x0,35x140° 8x0,31x150° 7x0,36x140° 8x0,36x140° 8x0,36x150° 6x0,51x150°	6 7 7 7 6 6 6 6 6 6 6 6 6 6 7	Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled	 350 bar 350 bar 350 bar	 VTO-G043a VTO-G030a VTO-G030e	 Rolls Royce Bergen Diesel Rolls Royce Bergen Diesel Deutz MWM Deutz MWM Deutz MWM MTU	 K K D440, D441 D440 (K), D441 (K) D440 (K), D441 (K) MA956	 022822 022991 1215 2978 6.0530.01.3.0003 10 HOLES 9 HOLES 1215 2995 6.0530.01.3.0029 1215 3004 6.0530.01.3.0039 590 017 05 12
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NLG1490A		LTB-U900A	8x0,42x144°	6	Uncooled					DLLZ145T900a
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NLG15BBE NLG15BBG		LTO-BBEm LTO-BBG	5x0,45x155° 8x0,37x132°	8 8	Uncooled Uncooled			Wärtsilä SWD	TM270 TE290	HL132T37H200P5
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NLG15BEV NLG15BFH NLG15BFW NLG15BGR NLG15BHE NLG15BKV NLG15BKZ NLG15BLJ NLG15BLQ NLG15BMW NLG15BPF NLG15BPJ		LTO-BEV LTO-BFH LTO-BFW LTO-BGR LTO-BHE LTO-BKV LTO-BKZ LTO-BLJ LTO-BLQ LTO-BMW LTO-BPF/E LTO-BPJ	6x0,40x130° 5x0,38x110° 4x0,50x110° 4x0,55x110° 8x0,32x145° 10x0,39x148° 9x0,41x156° 10x0,33x150° 8x0,33x148° 8x0,33x148° 8x0,325x145° 10x0,32x148°	7 7 7 7 7 7 7 7 7 7 7 6	Uncooled Uncooled Uncooled Uncooled Cooled Cooled Cooled Cooled Cooled Uncooled Uncooled Cooled			VTO-G056a VTO-G087a VTO-G061b VTO-G061c VTO-G058a VTO-G087c VTO-G069a VTO-G249a VTO-G087d	Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK MAN B&W MAN B&W MAN B&W Rolls Royce Bergen Diesel MAN B&W MAN B&W MAN B&W MAN B&W	M282AK M281 M331 - M332 M282 23/30 23/30A 28/32 28/32 K 23/30A 23/30 23/30A 23/30A	IMO-17.06
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NLG15BGZ NLG15BJH NLG15BNE NLG15BPG/EV		LTO-BGZ	8x0,36x150°	7	Cooled	320 bar	VTO-G072	Wärtsilä	WV22	
		LTO-BJH	8x0,36x150°	7	Uncooled	320 bar	VTO-G071	Wärtsilä	WV22	
		LTO-BNE	10x0,39x148°	7	Cooled	320 bar	VTO-G074a	MAN B&W	28/32A	
		LTO-BPG	10x0,39x148°	7	Uncooled	320 bar	VTO-G248a	MAN B&W	28/32A	
NLG16089 NLG16090		LTO-U9089a/E	8x0,29x145°	6	Uncooled	450 bar	VTO-G112a	MAN B&W	16/24	
		LTO-U9089b/E	9x0,28x145°	6	Uncooled	450 bar	VTO-G112b	MAN B&W	16/24	
NLG16108		LTO-U9108a	8x0,34x159°	7	Uncooled					
NLG16171		LTO-U9171w/EV1	10x0,32x148°	7	Cooled					

NLG15BME NLG15BMQ NLG15BNG		LTO-BME/E	7x0,43x145°	7	Uncooled	355 bar	VTO-G247a	Deutz KHD	BVM628	
		LTO-BMQ	7x0,41x140°	7	Uncooled	355 bar	VTO-G247b	Deutz KHD	BVM628	
		LTO-BNG	7x0,41x145°	7	Uncooled	355 bar	VTO-G247c	Deutz KHD	BVM628	
NLG15BNZ		LTO-BNZ	10x0,36x130°	7	Cooled			Wärtsilä Wichmann		old version
NLG15BNZ1		LTO-BNZ	10x0,36x130°	7	Cooled			Wärtsilä Wichmann	WX28	new version
NLG30UBQ NLG30UDR NLG30UFP		LU-UBQ LU-UDR LU-UFP	8x0,45x130° 8x0,40x130° 6x0,45x115°	8 8 8	Uncooled Uncooled Uncooled			Caterpillar MaK Caterpillar MaK Caterpillar MaK	M581 - M582 M451 M451	
NLG60033		VUM-U933	1x3,0	8	Uncooled			MAN B&W	GV23,5/33; GV30/45; VV30/45	
NLG60Y33		VUM-U933y	1x3,0	8	Uncooled			MAN B&W	GV23,5/33; GV30/45; VV30/45	

NLG60034		VUM-U934a/E	9x0,45x148°	8	Uncooled	400 bar	VUM-G008	MAN B&W	27/38	
NLG60036 NLG600361		VUM-U936a/E VUM-U936b/E	8x0,29x145° 9x0,28x145°	6 6	Uncooled Uncooled			MAN B&W MAN B&W	16/24 16/24	
NLG65906		VUO-U906	1x2.5	8	Uncooled			Wärtsilä SWD	TMA330 TMA5336 TEB450	
NLG62BAA NLG62BAC NLG62BAD NLG62BAE NLG62BAF NLG62BAG NLG62BAK NLG62BAL		VUO-BAA VUO-BAC VUO-BAD VUO-BAE VUO-BAF VUO-BAG VUO-BAK VUO-BAL	6x0,55x130° 6x0,45x130° 6x0,52x110° 6x0,40x110° 6x0,45x110° 6x0,40x130° 6x0,35x130° 6x0,30x130°	7 7 7 7 7 7 7 7	Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled	350 bar 350 bar 350 bar 350 bar 350 bar 350 bar 350 bar 350 bar	VUO-G022c VUO-G022e VUO-G022f VUO-G022g VUO-G022k VUO-G022l	Deutz KHD Deutz KHD Deutz KHD Deutz KHD Deutz KHD Deutz KHD Deutz KHD Deutz KHD	BVM366 BVM545 BVM358 BVM536 BVM545 BVM545 BVM536 BVM545 BVM536 BVM545	273797C3 273797A3 273797D3 273797J3 273797K3 273797L3 273797P3

NLG62BAM		VUO-BAM	6x0,45x120°	7	Uncooled	350 bar	VUO-G022mb VUO-G022mc	Deutz KHD	BVM545	2032292KZ
NLG62BAN		VUO-BAN	6x0,40x120°	7	Uncooled	350 bar	VUO-G022n	Deutz KHD	BVM545	2032435KZ
NLG62CAA		VUO-CAA	6x0,55x110°	7	Uncooled	350 bar	VUO-G120a	Deutz KHD	BVM358	DO123-19-09-10
NLG62CAB		VUO-CAB	6x0,55x120°	7	Uncooled	350 bar	VUO-G320b	Deutz KHD	BVM350	DO123-19-09-20
NLG62CAC		VUO-CAC	6x0,50x110°	7	Uncooled	350 bar	VUO-G120c	Deutz KHD	BVM358	DO123-19-09-30
NLG62CAD		VUO-CAD	6x0,50x120°	7	Uncooled	350 bar	VUO-G320da	Deutz KHD	BVM350	DO123-19-09-40
NLG62CAE		VUO-CAE	6x0,60x120°	7	Uncooled			Deutz KHD	BVM350	D02020762
NLG65944		VUO-U944a	6x0,60x110°	8	Uncooled	350 bar	VUO-G220aa VUO-G220ab	Deutz KHD	BVM350 BVM358	
NLG65945		VUO-U944b	6x0,60x135°	8	Uncooled	350 bar	VUO-G420b	Deutz KHD	BVM350 BVM358	
NLG65946		VUO-U944c	6x0,65x110°	8	Uncooled	350 bar	VUO-G220c VUO-G220ca	Deutz KHD	BVM350 BVM358	
NLG65909		VUO-U909ay/E	8x0,52x130°	8	Cooled	350 bar	VUO-G055a	Deutz KHD	BVM540	2001658KZ0125-19
NLG65910		VUO-U910a	8x0,52x130°	8	Uncooled	350 bar	VUO-G056a	Deutz KHD	BVM540	2000506KZ0125-19
NLG69A14		VUO-U9014a/E	8x0,54x140°	8	Cooled	350 bar	VUO-G174a	Deutz KHD	BVM640	2092952
NLG67376		VUO-U976a/E	9x0,48x155°	8	Cooled			Deutz MWM Wärtsilä	D510, D511 Vasa 32	
NLG67383		VUO-U976l/E	10x0,48x160°	8	Cooled	350 bar	VUO-G058	Deutz MWM	D510, DG510	
NLG67388		VUO-U976p/E	10x0,48x150°	8	Cooled	350 bar	VUO-G058p	Deutz MWM	D510, DG510	
NLG67389		VUO-U976q/E	10x0,50x150°	8	Cooled	280 bar	VUO-G072	Deutz MWM	D510B	
NLG67808		VUO-U988a/E	9x0,48x155°	8	Uncooled			Wärtsilä	Vasa 32	

NLG65934 NLG65935		VUO-U932c VUO-U932d	1x4.0 1x4.0	8 8	Cooled Cooled	350 bar 350 bar	VUO-G038c/E	Wärtsilä SWD Wärtsilä SWD	TM410 TM410	
NLG67169		VUO-U969a	1x4.0	8	Cooled	260 bar 260 bar 260 bar 350 bar 350 bar	VUO-G036g VUO-G036r VUO-G136fb VUO-G136ib VUO-G236fb VUO-G236ib	Caterpillar MaK	M551 M552	
NLG66744 NLG66746 NLG66748 NLG66750 NLG66752 NLG66754 NLG66954 NLG66956 NLG66957 NLG66958 NLG66959 NLG66960 NLG66961 NLG66962 NLG66963 NLG66964 NLG66965 NLG66966 NLG67050 NLG67052 NLG69013		VUO-U954acy/E VUO-U954aey/E VUO-U954afy/E VUO-U954by/E VUO-U954fy/E VUO-U954gy/E VUO-U955a/E VUO-U955b/E VUO-U955c/E VUO-U955d/E VUO-U955e/E VUO-U955f/E VUO-U955g/E VUO-U955h/E VUO-U955k/E VUO-U955i/E VUO-U955l/E VUO-U955m/E VUO-U967l VUO-U967ly VUO-U9013by/E	8x0,60x140° 6x0,55x130° 8x0,53x140° 9x0,42x130° 6x0,50x110° 6x0,55x110° 5x0,55x120° 9x0,42x130° 9x0,40x130° 9x0,45x130° 5x0,60x110° 6x0,55x110° 6x0,60x110° 6x0,50x110° 8x0,60x140° 6x0,45x110° 8x0,47x140° 8x0,53x140° 9x0,50x140° 9x0,50x140° 	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 	Cooled Cooled Cooled Cooled Cooled Cooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Uncooled Cooled	260 bar 300 bar 300 bar 300 bar 260 bar 300 bar 260 bar 300 bar 300 bar 260 bar 300 bar 300 bar 260 bar 300 bar 300 bar 320 bar 260 bar	VUO-G065 VUO-G080b VUO-G080f VUO-G080g VUO-G047b VUO-G079b VUO-G047f VUO-G247f VUO-G079f VUO-G047h VUO-G247h VUO-G079h VUO-G066 VUP-G007ly VUO-G048a	Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK Caterpillar MaK S.E.M.T. Pielstick S.E.M.T. Pielstick Caterpillar MaK	M35 M453 M453 M453 M453 M453 M453 M453 M453 M453 M35 M453 PA6V280 PA6V280 M453	Heavy Oil

NLG68C99		VUO-U999c/E	9x0,51x130°	8	Cooled	350 bar	VUO-G054	Deutz MWM	D501	
NLG70034		VUO-U9034b/E	10x0,53x150°	8	Cooled	330 bar	VUO-G087b	Deutz MWM	TBD645	1243 0021
NLG70137		VUO-U9037c/E	12x0,50x150°	8	Cooled	450 bar	VUO-G106c	Caterpillar MaK	M32	E2/1 260 220 012
NLG70196		VUO-U9096C/E	9x0,48x155°	8	Cooled	320 bar	VUO-G097c	Wärtsilä	WV32	009420080
NLG70215		VUO-U9115p/E	10x0,54x158°	9,00	Uncooled			Wärtsilä	W32F	PAAE014820

NLG70241		VUO-U9141d/EV	9x0,335x156°		Uncooled	450 bar	VUO-G260dV	MAN	L21/31	D11.22107-1724
NLG70279		VUO-U9179c/EE	12x0,51x150°	8	Cooled					
NLG70281		VUO-U9181a	10x0,315x156°		Uncooled		VUO-G286A VUO-G315A	MAN	21/31	
NLG72104 NLG72106 NLG72107 NLG72512		VUY-U904a VUY-U904c VUY-U904d VUY-U912	5x0,55x140° 5x0,50x140° 8x0,35x130° 5x0,50x140°	8 8 8 8	Uncooled Uncooled Uncooled Cooled					U1A 5-50 140 U1A 550 140 5 U1A 835 130 U1AF 550 140 52

NLG72115 NLG72116 NLG72117		VUY-U905a	10x0,46x130°	8	Uncooled			Hanshin	6LU32	
		VUY-U905b	10x0,60x140°	8	Uncooled			Hanshin	6LU32	
		VUY-U905c	10x0,55x140°	8	Uncooled			Hanshin	6LU32/6LU38	
NLG72129		VUY-U909	5x0,50x140°	8	Cooled			SKL	NVD48-A2U	U1A550-140
NLG75V01		VVM-U901	1x4.50	11	Uncooled			MAN	RV/40/54	E11221050084
NLG76135		VVO-U935K	10x0,71x150°	10	Uncooled			Wärtsilä	W46	

NLG76143 NLG76153		VVO-U943g/E	11x0,59x154°	9	Cooled				Wärtsilä	SW38	
		VVO-U953g/E	11x0,59x155°	9	Cooled	450 bar	VVO-G036g		Wärtsilä SWD	W38A	
NLG76176		VVO-U976L/E	12x0,57x155°	9	Uncooled						
NLG77A00		VVP-U900a	10x0,60x140°	10	Cooled				S.E.M.T. Pielstick	PC2-5	4 holes
NLG77A01		VVP-U900a	10x0,60x140°	10	Cooled				S.E.M.T. Pielstick	PC2-6	6 holes
NLG77B00		VVP-U900b	10x0,55x140°	10	Cooled				S.E.M.T. Pielstick	PC2-3DF PC2-5LCV	4 holes
NLG77B01		VVP-U900b	10x0,55x140°	10	Cooled				S.E.M.T. Pielstick	PC2-3DF PC2-5LCV	6 holes
NLG77C00		VVP-U900c	10x0,65x140°	10	Cooled				S.E.M.T. Pielstick	PC2-5 PC2-6	4 holes
NLG77C01		VVP-U900c	10x0,65x140°	10	Cooled				S.E.M.T. Pielstick	PC2-5 PC2-6	6 holes
NLG77D00		VVP-U900d	10x0,50x140°	10	Cooled				S.E.M.T. Pielstick	PC2-2 PC2-5	

NLG77E00 NLG77F00 NLG77I00 NLG77L00 NLG77M00		VVP-U900e	10x0,52x140°	10	Cooled			S.E.M.T. Pielstick	PC2-2	
		VVP-U900f	9x0,68x140°	10	Cooled			S.E.M.T. Pielstick	PC2-5	
		VVP-U900i	10x0,48x140°	10	Cooled			S.E.M.T. Pielstick		
		VVP-U900l	10x0,625x140°	10	Cooled			S.E.M.T. Pielstick	PC2-5	
		VVP-U900m	10x0,725x140°	10	Cooled			S.E.M.T. Pielstick	PC2-5	
NLG78101		VXP-U901a	10x1,00x140°	13	Cooled					
NLG79105		VXW-U905	1x3.0	10	Cooled					
NLG79200		VWK-U900A/E	11x0,72x150°	11	Uncooled			Caterpillar MaK	M43	J1/1
NLG79201		VWK-U901A/E	11x0,71x150°	11	Cooled			Caterpillar MaK	M43	J4/4
NLG79301		VWM-U901	1x4,5	10	Uncooled			MAN	DZ53/76/80	4D14852

NLG79502		VWW-U902a	1x2.0	10	Cooled					
NZS1065 NZS1070		WAF 1065-140-45 WAF 1070-140-45	10x0,65 10x0,70	12 12	Cooled Cooled			SKL SKL	NVD48-42 NVD48-42	G203011200 G203017000