

**PRODUCT UPDATE – May 2025 (last update 18.03.2026)**



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.
<b>NBW6910A</b> <b>NBW6910B</b> <b>NBW6910C</b>		<b>VUM-U910A/E</b>	13x0,43x82°	10	Cooled	360	VUM-G014a	MAN B&W	32/40 CD	IMO1235
		<b>VUM-U910B/E</b>	13x0,39x82°	10	Cooled	360	VUM-G014b	MAN B&W	32/40 CD	IMO1611
		<b>VUM-U910C/E</b>	13x0,41x82°	10	Cooled	360	VUM-G014c	MAN B&W	32/40 CD	IMO1758

<b>NLG10ACA</b>		<b>LT-ACA</b>	8x0,34x145°	6	Uncooled			Rolls Royce Bergen Diesel	K	022822		
<b>NLG10ACC</b>		<b>LT-ACC</b>	9x0,35x145°	7	Uncooled							
<b>NLG10ACF</b>		<b>LT-ACF</b>	8x0,35x150°	7	Uncooled			Rolls Royce Bergen Diesel	K	022991		
<b>NLG10ADA</b>		<b>LT-ADA</b>	10x0,33x150°	7	Uncooled							
<b>NLG10LBD</b>		<b>LT-LBD</b>	8x0,20x150°	6	Uncooled			Deutz MWM	D440, D441	1215 2978 6.0530.01.3.0003 10 HOLES 9 HOLES 1215 2995 6.0530.01.3.0029		
<b>NLG10LGQ</b>		<b>LT-LGQ</b>	8x0,35x140°	6	Uncooled							
<b>NLG10LJG</b>		<b>LT-LJG</b>	8x0,25x150°	6	Uncooled							
<b>NLG10LUG</b>		<b>LT-LUG/E</b>	6x0,39x155°	6	Uncooled	350 bar	VTO-G043a					
<b>NLG10LXA</b>		<b>LT-LXA</b>	9x0,35+1x0,20	6	Uncooled							
<b>NLG10LXAA</b>		<b>LT-LXAA</b>	9x0,35x140°	6	Uncooled							
<b>NLG10LXW</b>		<b>LT-LXW</b>	8x0,31x150°	6	Uncooled	350 bar	VTO-G030a				D440 (K), D441 (K)	
<b>NLG10LYB</b>		<b>LT-LYB</b>	7x0,36x140°	6	Uncooled							
<b>NLG10LZQ</b>		<b>LT-LZQ</b>	8x0,36x140°	6	Uncooled							
<b>NLG10LZR</b>		<b>LT-LZR</b>	8x0,36x150°	6	Uncooled	350 bar	VTO-G030e				D440 (K), D441 (K)	
<b>NLG12AAH</b>		<b>LLT-AAH</b>	6x0,51x150°	7	Uncooled							1215 3004 6.0530.01.3.0039
											Deutz MWM	D440 (K), D441 (K)
							MTU				MA956	590 017 05 12

NLG1490A		LTB-U900A	8x0,42x144°	6	Uncooled					DLLZ145T900a		
NLG15BBE NLG15BBG		LTO-BBEm LTO-BBG	5x0,45x155° 8x0,37x132°	8 8	Uncooled Uncooled			Wärtsilä SWD	TM270 TE290	HL132T37H200P5		
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

<b>NLG15BGZ</b> <b>NLG15BJH</b> <b>NLG15BNE</b> <b>NLG15BPG/EV</b>		<b>LTO-BGZ</b> <b>LTO-BJH</b> <b>LTO-BNE</b> <b>LTO-BPG</b>	8x0,36x150° 8x0,36x150° 10x0,39x148° 10x0,39x148°	7 7 7 7	Cooled Uncooled Cooled Uncooled	320 bar 320 bar 320 bar 320 bar	VTO-G072 VTO-G071 VTO-G074a VTO-G248a	Wärtsilä Wärtsilä MAN B&W MAN B&W	WV22 WV22 28/32A 28/32A	
<b>NLG16089</b> <b>NLG16090</b>		<b>LTO-U9089a/E</b> <b>LTO-U9089b/E</b>	8x0,29x145° 9x0,28x145°	6 6	Uncooled Uncooled	450 bar 450 bar	VTO-G112a VTO-G112b	MAN B&W MAN B&W	16/24 16/24	
<b>NLG16108</b>		<b>LTO-U9108a</b>	8x0,34x159°	7	Uncooled					
<b>NLG16171</b>		<b>LTO-U9171w/EV1</b>	10x0,32x148°	7	Cooled					

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

<b>NLG60034</b>		<b>VUM-U934a/E</b>	9x0,45x148°	8	Uncooled	400 bar	VUM-G008	MAN B&W	27/38	
<b>NLG60036 NLG600361</b>		<b>VUM-U936a/E VUM-U936b/E</b>	8x0,29x145° 9x0,28x145°	6 6	Uncooled Uncooled			MAN B&W MAN B&W	16/24 16/24	
<b>NLG65906</b>		<b>VUO-U906</b>	1x2.5	8	Uncooled			Wärtsilä SWD	TMA330 TMA336 TEB450	
<b>NLG62BAA NLG62BAC NLG62BAD NLG62BAE</b>		<b>VUO-BAA VUO-BAC VUO-BAD VUO-BAE</b>	6x0,55x130° 6x0,45x130° 6x0,52x110° 6x0,40x110°	7 7 7 7	Uncooled Uncooled Uncooled Uncooled	350 bar 350 bar	VUO-G022c VUO-G022e	Deutz KHD Deutz KHD Deutz KHD Deutz KHD	BVM366 BVM545 BVM358 BVM536 BVM545	273797C3 273797A3 273797D3 273797J3

<b>NLG62BAF</b>		<b>VUO-BAF</b>	6x0,45x110°	7	Uncooled	350 bar	VUO-G022f	Deutz KHD	BVM545	273797K3
<b>NLG62BAG</b>		<b>VUO-BAG</b>	6x0,40x130°	7	Uncooled	350 bar	VUO-G022g	Deutz KHD	BVM545	273797L3
<b>NLG62BAK</b>		<b>VUO-BAK</b>	6x0,35x130°	7	Uncooled	350 bar	VUO-G022k	Deutz KHD	BVM536 BVM545	273797P3
<b>NLG62BAL</b>		<b>VUO-BAL</b>	6x0,30x130°	7	Uncooled	350 bar	VUO-G022l	Deutz KHD	BVM536 BVM545	
<b>NLG62BAM</b>		<b>VUO-BAM</b>	6x0,45x120°	7	Uncooled	350 bar	VUO-G022mb VUO-G022mc	Deutz KHD	BVM545	2032292KZ
<b>NLG62BAN</b>		<b>VUO-BAN</b>	6x0,40x120°	7	Uncooled	350 bar	VUO-G022n	Deutz KHD	BVM545	2032435KZ
<b>NLG62CAA</b>		<b>VUO-CAA</b>	6x0,55x110°	7	Uncooled	350 bar	VUO-G120a	Deutz KHD	BVM358	DO123-19-09-10
<b>NLG62CAB</b>		<b>VUO-CAB</b>	6x0,55x120°	7	Uncooled	350 bar	VUO-G320b	Deutz KHD	BVM350	DO123-19-09-20
<b>NLG62CAC</b>		<b>VUO-CAC</b>	6x0,50x110°	7	Uncooled	350 bar	VUO-G120c	Deutz KHD	BVM358	DO123-19-09-30
<b>NLG62CAD</b>		<b>VUO-CAD</b>	6x0,50x120°	7	Uncooled	350 bar	VUO-G320da	Deutz KHD	BVM350	DO123-19-09-40
<b>NLG62CAE</b>		<b>VUO-CAE</b>	6x0,60x120°	7	Uncooled			Deutz KHD	BVM350	D02020762
<b>NLG65944</b>		<b>VUO-U944a</b>	6x0,60x110°	8	Uncooled	350 bar	VUO-G220aa VUO-G220ab	Deutz KHD	BVM350 BVM358	
<b>NLG65945</b>		<b>VUO-U944b</b>	6x0,60x135°	8	Uncooled	350 bar	VUO-G420b	Deutz KHD	BVM350 BVM358	
<b>NLG65946</b>		<b>VUO-U944c</b>	6x0,65x110°	8	Uncooled	350 bar	VUO-G220c VUO-G220ca	Deutz KHD	BVM350 BVM358	

<b>NLG65909</b>		<b>VUO-U909ay/E</b>	8x0,52x130°	8	Cooled	350 bar	VUO-G055a	Deutz KHD	BVM540	2001658KZ0125-19
<b>NLG65910</b>		<b>VUO-U910a</b>	8x0,52x130°	8	Uncooled	350 bar	VUO-G056a	Deutz KHD	BVM540	2000506KZ0125-19
<b>NLG69A14</b>		<b>VUO-U9014a/E</b>	8x0,54x140°	8	Cooled	350 bar	VUO-G174a	Deutz KHD	BVM640	2092952
<b>NLG67376</b>		<b>VUO-U976a/E</b>	9x0,48x155°	8	Cooled			Deutz MWM Wärtsilä	D510, D511 Vasa 32	
<b>NLG67383</b>		<b>VUO-U976l/E</b>	10x0,48x160°	8	Cooled	350 bar	VUO-G058	Deutz MWM	D510, DG510	
<b>NLG67388</b>		<b>VUO-U976p/E</b>	10x0,48x150°	8	Cooled	350 bar	VUO-G058p	Deutz MWM	D510, DG510	
<b>NLG67389</b>		<b>VUO-U976q/E</b>	10x0,50x150°	8	Cooled	280 bar	VUO-G072	Deutz MWM	D510B	
<b>NLG67808</b>		<b>VUO-U988a/E</b>	9x0,48x155°	8	Uncooled			Wärtsilä	Vasa 32	

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

<b>NLG68C99</b>		<b>VUO-U999c/E</b>	9x0,51x130°	8	Cooled	350 bar	VUO-G054	Deutz MWM	D501	
<b>NLG70034</b>		<b>VUO-U9034b/E</b>	10x0,53x150°	8	Cooled	330 bar	VUO-G087b	Deutz MWM	TBD645	1243 0021
<b>NLG70137</b>		<b>VUO-U9037c/E</b>	12x0,50x150°	8	Cooled	450 bar	VUO-G106c	Caterpillar MaK	M32	E2/1 260 220 012
<b>NLG70196</b>		<b>VUO-U9096C/E</b>	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	

<b>NLG72104</b> <b>NLG72106</b> <b>NLG72107</b> <b>NLG72512</b>		<b>VUY-U904a</b> <b>VUY-U904c</b> <b>VUY-U904d</b> <b>VUY-U912</b>	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
<b>NLG72115</b> <b>NLG72116</b> <b>NLG72117</b>		<b>VUY-U905a</b> <b>VUY-U905b</b> <b>VUY-U905c</b>	10x0,46x130° 10x0,60x140° 10x0,55x140°	8 8 8	Uncooled Uncooled Uncooled			Hanshin Hanshin Hanshin	6LU32 6LU32 6LU32/6LU38	
<b>NLG72129</b>		<b>VUY-U909</b>	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 VVO-U953g/E	11x0,59x154° 11x0,59x155°	9 9	Cooled Cooled	450 bar	VVO-G036g	Wärtsilä Wärtsilä SWD	SW38 W38A	
NLG76176		VVO-U976L/E	12x0,57x155°	9	Uncooled					

NLG77A00		VVP-U900a	10x0,60x140°	10	Cooled			S.E.M.T. Pielstick	PC2-5 PC2-6	4 holes
NLG77A01		VVP-U900a	10x0,60x140°	10	Cooled			S.E.M.T. Pielstick	PC2-5 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		VVP-U900e	10x0,52x140°	10	Cooled			S.E.M.T. Pielstick	PC2-2 PC2-5	
NLG77F00		VVP-U900f	9x0,68x140°	10	Cooled			S.E.M.T. Pielstick		
NLG77I00		VVP-U900i	10x0,48x140°	10	Cooled			S.E.M.T. Pielstick		
NLG77L00	VVP-U900l	10x0,625x140°	10	Cooled			S.E.M.T. Pielstick	PC2-5		
NLG77M00	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
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NLG79502		VWW-U902a	1x2.0	10	Cooled					
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NZS1065		WAF 1065-140-45	10x0,65	12	Cooled			SKL	NVD48-42	G203011200
NZS1070		WAF 1070-140-45	10x0,70	12	Cooled			SKL	NVD48-42	G203017000