

Ultra-high pressure pumps, ARP®-series
 1000 ARP® | 700 ARP® | 550 ARP® | 400 ARP®
 250 ARP® | 185 ARP® | 150 ARP®

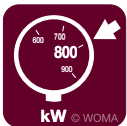
WOMA® Pumps

This series was specially developed for pumping water that is contaminated with granular or fibrous solids. The ARP®-high-pressure plunger pumps have operating pressures up to 5800 psi/400 bar and volumes up to 1700 l/min¹⁾ and always work reliably with fluids containing abrasives.

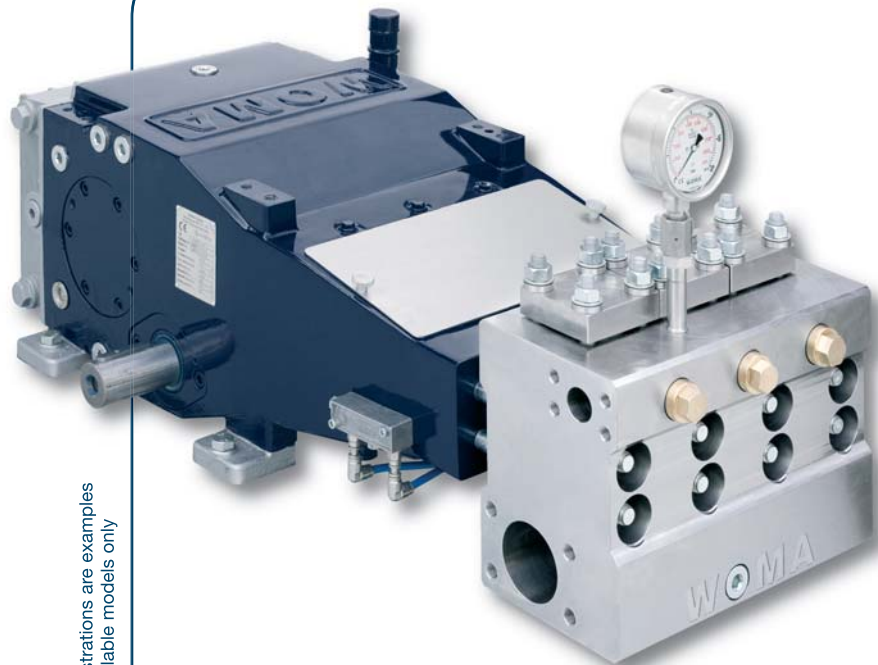
Differing from other pumps in this rating class, this series is designed for suction flow temperatures up to 65 °C – a temperature resistance that can be flexibly increased to up to 90 °C*. You can vary the rating parameters through a simple replacement of the interchangeable plunger set; this is possible due to the modular design of the pump. The pump satisfies both the ATEX as well as the API standard** and has gearbox cooling. An auxiliary drive shaft allows additional flexibility, by allowing the addition of a second pump to the drive train, thus doubling the output. The pumps of the ARP®-series have been developed as slow-speed pumps. For you, this means particularly long life and longer operation between maintenance cycles.

* optional, ** pressure-dependent and volume flow-dependent

¹⁾ 1 liter $\hat{=}$ 3.785 US.liq.gal



Example of an available model



All illustrations are examples of available models only

WOMA® Ultra-high pressure pump 150 ARP®

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WOMA® Pumps

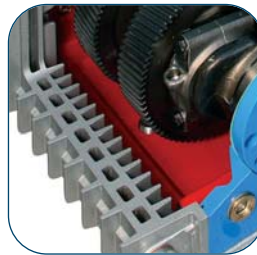
Technical Features

The Basics

- ❑ Pumping impure media with granular or fibrous solids of varying sizes and geometries
- ❑ Low flow speeds in the suction and pressure valves

The Technology

- ❑ All components that are subject to increased wear from solid particles are easily accessible and can be installed or removed very easily
- ❑ Suction and pressure lines need not be removed when installing/dismantling the valves
- ❑ Reliable sealing even under abrasive stress due to the elastic characteristics of the inserts on the plug valves
- ❑ The valve seats, which can be flipped over, are equipped with two precision-manufactured seating surfaces and as a result can be used twice
- ❑ The working chambers of the cylinders can be emptied individually by use of the valve lifters in the depressurized state



Gearbox cooling



Crankshaft



Pressure and suction valves
(can be flipped 180°)

Permissible limiting values

- ❑ Temperature: max. 65 °C
- ❑ Concentration of solids*: 1.5 – 3%
- ❑ Grain size: 50 – 350 µm

*Percentage by mass, depending on the grain size

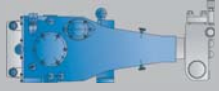

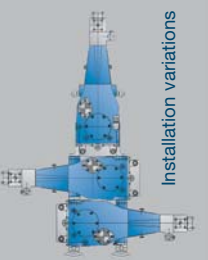

Special models

- ❑ Pump head, interchangeable plunger set and valves in special materials for aggressive media being pumped, e.g. sea water
- ❑ Water temperatures above 65 °C

Directives and standards






- ❑ ATEX 94/9/EC
- ❑ API 674 (dependent on pressure flow and volume flow)
- ❑ Quality management system according to DIN ISO EN 9001

Features of the ARP®-series

	Plunger diameter (mm)	Gear ratio			Crankshaft speed (1/min)	Required driving power (kW)	Max. flow rate (l/min)*	Max. permissible operating pressure (psi / bar)
		Drive speed (1/min) 1500	Drive speed (1/min) 1800	Drive speed (1/min) 2100				
	40	-	-	4.57	459	94	164	4640/320
	40	-	3.69	-	487	100	174	4640/320
	40	-	4.57	-	393	80	140	4640/320
	40	2.96	-	-	506	104	181	4640/320
	40	3.69	-	-	406	84	145	4640/320
	40	4.57	-	-	328	67	117	4640/320
	45	-	-	4.57	459	95	207	3625/250
	45	-	3.69	-	487	100	220	3625/250
	45	-	4.57	-	393	81	178	3625/250
	45	2.96	-	-	506	105	229	3625/250
	45	3.69	-	-	406	84	183	3625/250
	45	4.57	-	-	328	68	148	3625/250
 Installation variations	50	-	-	4.57	459	93	256	2900/200
	50	-	3.69	-	487	99	272	2900/200
	50	-	4.57	-	393	80	219	2900/200
	50	2.96	-	-	506	103	283	2900/200
	50	3.69	-	-	406	83	227	2900/200
	50	4.57	-	-	328	67	183	2900/200
	55	-	-	4.57	459	96	310	2465/170
	55	-	3.69	-	487	102	329	2465/170
	55	-	4.57	-	393	82	265	2465/170
	55	2.96	-	-	506	106	342	2465/170
	55	3.69	-	-	406	85	274	2465/170
	55	4.57	-	-	328	69	221	2465/170
	60	-	-	4.57	459	94	369	2030/140
	60	-	3.69	-	487	100	392	2030/140
	60	-	4.57	-	393	81	316	2030/140
	60	2.96	-	-	506	104	407	2030/140
	60	3.69	-	-	406	83	326	2030/140
	60	4.57	-	-	328	67	264	2030/140
	40	-	-	4.57	460	108	158	5365/370
	40	-	3.69	-	488	115	168	5365/370
	40	-	4.57	-	394	93	136	5365/370
	40	2.96	-	-	507	119	175	5365/370
	40	3.69	-	-	407	96	140	5365/370
	40	4.57	-	-	328	77	113	5365/370
	45	-	-	4.57	460	119	201	4640/320
	45	-	3.69	-	488	126	214	4640/320
	45	-	4.57	-	394	102	173	4640/320
	45	2.96	-	-	507	131	222	4640/320
	45	3.69	-	-	407	105	178	4640/320
	45	4.57	-	-	328	85	144	4640/320

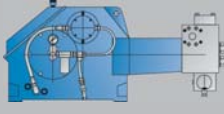


* 1 liter = 3.785 US.liq.gal

Features of the ARP®-series

	Plunger diameter (mm)	Gear ratio			Crankshaft speed (1/min)	Required driving power (kW)	Max. flow rate (l/min)*	Max. permissible operating pressure (psi/bar)
		Drive speed (1/min) 1500	Drive speed (1/min) 1800	Drive speed (1/min) 2100				
	50	-	-	4.57	460	118	255	3625/250
	50	-	3.69	-	488	125	271	3625/250
	50	-	4.57	-	394	101	220	3625/250
	50	2.96	-	-	507	129	281	3625/250
	50	3.69	-	-	407	104	227	3625/250
	50	4.57	-	-	328	83	184	3625/250
	55	-	-	4.57	460	120	309	3045/210
	55	-	3.69	-	488	127	328	3045/210
	55	-	4.57	-	394	103	266	3045/210
	55	2.96	-	-	507	132	341	3045/210
	55	3.69	-	-	407	106	274	3045/210
	55	4.57	-	-	328	85	223	3045/210
	60	-	-	4.57	460	123	368	2610/180
	60	-	3.69	-	488	130	391	2610/180
	60	-	4.57	-	394	105	316	2610/180
	60	2.96	-	-	507	135	406	2610/180
	60	3.69	-	-	407	109	326	2610/180
	60	4.57	-	-	328	88	264	2610/180
	50	-	-	4.52	464	149	251	4640/320
	50	-	3.57	-	504	161	273	4640/320
	50	-	4.52	-	398	127	215	4640/320
	50	3.04	-	-	493	158	267	4640/320
	50	3.57	-	-	420	134	227	4640/320
	50	4.52	-	-	331	106	179	4640/320
	55	-	-	4.52	464	141	314	3625/250
	55	-	3.57	-	504	154	341	3625/250
	55	-	4.52	-	398	121	269	3625/250
	55	3.04	-	-	493	150	333	3625/250
	55	3.57	-	-	420	128	284	3625/250
	55	4.52	-	-	331	101	224	3625/250
	60	-	-	4.52	464	168	373	3625/250
	60	-	3.57	-	504	183	405	3625/250
	60	-	4.52	-	398	144	320	3625/250
	60	3.04	-	-	493	179	397	3625/250
	60	3.57	-	-	420	152	338	3625/250
	60	4.52	-	-	331	120	266	3625/250
	65	-	-	4.52	464	167	438	3045/210
	65	-	3.57	-	504	181	476	3045/210
	65	-	4.52	-	398	143	376	3045/210
	65	3.04	-	-	493	177	466	3045/210
	65	3.57	-	-	420	151	397	3045/210
	65	4.52	-	-	331	119	312	3045/210


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Features of the ARP®-series

	Plunger diameter (mm)	Gear ratio			Crankshaft speed (1/min)	Required driving power (kW)	Max. flow rate (l/min)*	Max. permissible operating pressure (psi / bar)	
		Drive speed (1/min) 1500	Drive speed (1/min) 1800	Drive speed (1/min) 2100					
400 ARP® 	55	-	-	4.23	496	279	459	4930/340	
	55	-	3.60	-	500	281	463	4930/340	
	55	-	4.23	-	425	239	393	4930/340	
	55	2.96	-	-	506	285	468	4930/340	
	55	3.60	-	-	416	234	385	4930/340	
	55	4.23	-	-	354	199	327	4930/340	
	65	-	-	4.23	496	278	641	3480/240	
	65	-	3.60	-	500	280	646	3480/240	
	65	-	4.23	-	425	238	549	3480/240	
	65	2.96	-	-	506	284	654	3480/240	
	65	3.60	-	-	416	233	538	3480/240	
	65	4.23	-	-	354	199	457	3480/240	
	75	-	-	4.23	496	279	845	2610/180	
	75	-	3.60	-	500	281	851	2610/180	
	75	-	4.23	-	425	239	725	2610/180	
	75	2.96	-	-	506	285	863	2610/180	
	75	3.60	-	-	416	234	710	2610/180	
	75	4.23	-	-	354	199	605	2610/180	
	550 ARP® 	65	-	-	4.60	456	452	610	5800/400
		65	-	3.96	-	454	450	608	5800/400
		65	-	4.60	-	391	387	523	5800/400
65		3.30	-	-	454	450	608	5800/400	
65		3.96	-	-	378	375	506	5800/400	
65		4.60	-	-	326	323	436	5800/400	
70		-	-	4.60	456	436	713	4785/330	
70		-	3.96	-	454	434	710	4785/330	
70		-	4.60	-	391	373	611	4785/330	
70		3.30	-	-	454	434	710	4785/330	
70		3.96	-	-	378	361	592	4785/330	
70		4.60	-	-	326	311	509	4785/330	
75		-	-	4.60	456	441	822	4205/290	
75		-	3.96	-	454	439	819	4205/290	
75		-	4.60	-	391	378	705	4205/290	
75		3.30	-	-	454	439	819	4205/290	
75		3.96	-	-	378	366	682	4205/290	
75		4.60	-	-	326	315	587	4205/290	
700 ARP® 		65	-	-	3.96	530	525	709	5800/400
		65	-	3.45	-	522	517	698	5800/400
		65	3.30	-	-	455	450	608	5800/400
	70	-	-	3.96	530	506	829	4785/330	
	70	-	3.45	-	522	498	815	4785/330	
	70	3.30	-	-	455	434	710	4785/330	
	75	-	-	3.96	530	513	955	4205/290	
	75	-	3.45	-	522	504	940	4205/290	
	75	3.30	-	-	455	439	819	4205/290	

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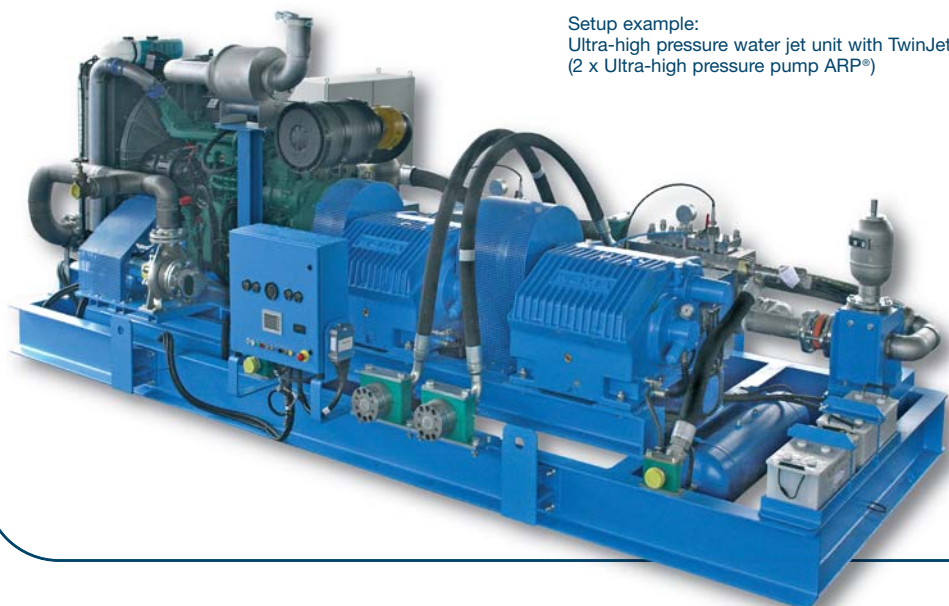
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	Plunger diameter (mm)	Gear ratio			Crankshaft speed (1/min)	Required driving power (kW)	Max. flow rate (l/min)*	Max. permissible operating pressure (psi /bar)
		Drive speed (1/min) 1500	Drive speed (1/min) 1800	Drive speed (1/min) 2100				
1000 ARP® 	55	-	-	4.23	496	654	883	5800/400
	55	-	3.69	-	488	642	867	5800/400
	55	-	4.23	-	425	560	757	5800/400
	55	3.00	-	-	500	658	889	5800/400
	55	3.69	-	-	406	535	723	5800/400
	55	4.23	-	-	354	467	630	5800/400
	65	-	-	4.23	496	759	1242	4785/330
	65	-	3.69	-	488	746	1220	4785/330
	65	-	4.23	-	425	650	1065	4785/330
	65	3.00	-	-	500	764	1251	4785/330
	65	3.69	-	-	406	621	1017	4785/330
	65	4.23	-	-	354	542	887	4785/330
	70	-	-	4.23	496	764	1447	4135/285
	70	-	3.69	-	488	750	1422	4135/285
	70	-	4.23	-	425	654	1241	4135/285
	70	3.00	-	-	500	769	1458	4135/285
	70	3.69	-	-	406	625	1185	4135/285
	70	4.23	-	-	354	545	1034	4135/285
	75	-	-	4.23	496	775	1667	3625/250
	75	-	3.69	-	488	761	1638	3625/250
	75	-	4.23	-	425	664	1429	3625/250
	75	3.00	-	-	500	780	1679	3625/250
	75	3.69	-	-	406	634	1365	3625/250
	75	4.23	-	-	354	553	1191	3625/250

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Example of an available model

All illustrations are examples of available models only



Setup example:
Ultra-high pressure water jet unit with TwinJet®
(2 x Ultra-high pressure pump ARP®)