Power packs.

WOMA®

Ultra-high pressure pumps.

WOMA®
Kärcher Group

Water as a tool

The power of innovation as a source of growth.
Development competence and high-performance technologies in action for progress.

Hydrodynamic power as a tool
… this classic fundamental idea of using the mechanical action of flowing water purposefully and efficiently has been the driving force of our work for almost 50 years.

Through our focused research and development, today, we have mastered systems with water pressures in excess of 58 000 psi / 4 000 bar – which is four times the water pressure at the deepest point in the oceans.

The basis of this productiveness is a vast range of high-pressure pumps which, due to their flexibility, have proven themselves outstandingly in many industrial sectors for decades. Depending on the requirement, we supply them as stand-alone machines or as a part of complete high-pressure systems, which we deliver as mobile or stationary units, with internal combustion engines or electric motors.

Other building blocks of our special availability philosophy are a 24-hour hotline with very fast reaction times and a prompt spare parts and rental service.

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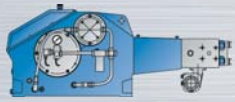

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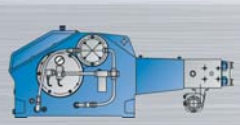

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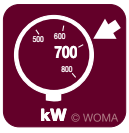
WOMA® Ultra-high pressure pumps

M-series (up to 58000 psi / 4000 bar) 70 M

Our M-series high-pressure plunger pumps feature our patented HCV® valve technology and have mastered operating pressures up to 58000 psi/4000 bar. They are ideally suited for cutting and demolition projects as well as for stripping coatings and de-rusting.

Being slow-speed pumps, their operation is low-wear, resulting in long life and longer operation between maintenance cycles. An auxiliary drive shaft makes it possible to double the output when required, by adding another pump to the drive train. The modular design allows you the flexibility to change the output power specifications by simply replacing an interchangeable plunger conversion set.
The M-series has gearbox cooling and satisfies both the ATEX as well as API standard*. Not least of all, this pump series can operate at suction flow temperatures up to 65 °C, and if required even up to 90 °C**.

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



Example of an available model

All illustrations are examples of available models only

WOMA® Ultra-high pressure pump 250 M

Technical Features

Basics

- Two height levels of the drive shaft by repositioning the pump
- Good accessibility in any assembly situation
- Very long life

Gear Box

- Proven industrial gear box with pressurized oil lubrication and 3 available gear ratios (WOMA® standard)

Pump head

- Stress-free pump head in central valve design
- High volumetric efficiency due to minimal dead space

Interchangeable plunger set

- Armoured cylinder
- Interchangeable plunger set system, equipped with hard metal plungers and dynamic sealing system
- Newly developed, static metal seals in the zone of dynamic stress
- Low-pulsation operation thanks to optimised valve kinematics
- Maintenance-friendly

HCV®-Technology

Hydrostatically Compensated Valves

The unique, patented central valve design

- Extremely long life
- Absorption of very high stresses
- High fatigue strength
- Minimal maintenance costs

Additional equipment

- Pneumatically operated 2/2-way directional bypass valve
- Check valve for 3/2-way directional functions

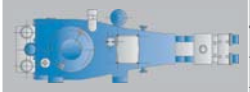
Special model

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

Directives and standards

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

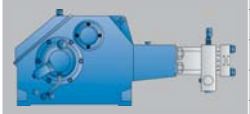
Features of the M-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
70 M 	10	-	-	-	825	52.3 / 39	2.0 / 7.4	43500 / 3000
	10	-	-	-	750	48.3 / 36	1.8 / 6.7	43500 / 3000
	12	-	-	-	825	65.7 / 49	3.0 / 11.2	36250 / 2500
	12	-	-	-	750	59.0 / 44	2.7 / 10.2	36250 / 2500
150 M	12	-	-	4.57	460	91.2 / 68	3.3 / 12.6	43500 / 3000
	12	-	3.69	-	488	96.6 / 72	3.5 / 13.4	43500 / 3000
	12	-	4.57	-	394	77.8 / 58	2.9 / 10.8	43500 / 3000
	12	2.96	-	-	507	100.6 / 75	3.7 / 13.9	43500 / 3000
	12	3.69	-	-	407	80.5 / 60	2.9 / 11.1	43500 / 3000
	12	4.57	-	-	328	64.4 / 48	2.4 / 9.0	43500 / 3000
Installation variations	14	-	-	4.57	460	105.9 / 79	4.6 / 17.6	36250 / 2500
	14	-	3.69	-	488	112.6 / 84	4.9 / 18.7	36250 / 2500
	14	-	4.57	-	394	91.2 / 68	4.0 / 15.1	36250 / 2500
	14	2.96	-	-	507	118.0 / 88	5.2 / 19.5	36250 / 2500
	14	3.69	-	-	407	93.9 / 70	4.1 / 15.6	36250 / 2500
	14	4.57	-	-	328	76.4 / 57	3.3 / 12.6	36250 / 2500
	16	-	-	4.57	460	114.0 / 85	6.3 / 23.7	29000 / 2000
	16	-	3.69	-	488	122.0 / 91	6.7 / 25.2	29000 / 2000
	16	-	4.57	-	394	98.0 / 73	5.4 / 20.3	29000 / 2000
	16	2.96	-	-	507	126.1 / 94	6.9 / 26.1	29000 / 2000
	16	3.69	-	-	407	100.6 / 75	5.5 / 21.0	29000 / 2000
	16	4.57	-	-	328	82.0 / 61	4.5 / 16.9	29000 / 2000
	18	-	-	4.57	460	111.3 / 83	8.1 / 30.8	21750 / 1500
	18	-	3.69	-	488	118.0 / 88	8.6 / 32.7	21750 / 1500
	18	-	4.57	-	394	95.2 / 71	7.0 / 26.4	21750 / 1500
	18	2.96	-	-	507	123.4 / 92	9.0 / 34.0	21750 / 1500
	18	3.69	-	-	407	99.2 / 74	7.2 / 27.3	21750 / 1500
	18	4.57	-	-	328	79.1 / 59	5.8 / 22.0	21750 / 1500
185 M	14	-	-	4.57	460	124.7 / 93	4.5 / 17.1	43500 / 3000
	14	-	3.69	-	488	131.4 / 98	4.8 / 18.2	43500 / 3000
	14	-	4.57	-	394	106.0 / 79	3.9 / 14.7	43500 / 3000
	14	2.96	-	-	507	136.8 / 102	5.0 / 18.9	43500 / 3000
	14	3.69	-	-	407	110.0 / 82	4.0 / 15.2	43500 / 3000
	14	4.57	-	-	328	88.5 / 66	3.2 / 12.2	43500 / 3000
Installation variations	15	-	-	4.57	460	134.1 / 100	5.3 / 19.9	40600 / 2800
	15	-	3.69	-	488	144.8 / 108	5.6 / 21.1	40600 / 2800
	15	-	4.57	-	394	115.3 / 86	4.5 / 17.1	40600 / 2800
	15	2.96	-	-	507	148.9 / 111	5.8 / 21.9	40600 / 2800
	15	3.69	-	-	407	119.3 / 89	4.6 / 17.6	40600 / 2800
	15	4.57	-	-	328	96.6 / 72	3.8 / 14.2	40600 / 2800
	16	-	-	4.57	460	139.5 / 104	6.1 / 23.0	36250 / 2500
	16	-	3.69	-	488	147.5 / 110	6.5 / 24.5	36250 / 2500
	16	-	4.57	-	394	119.3 / 89	5.2 / 19.7	36250 / 2500
	16	2.96	-	-	507	154.2 / 115	6.7 / 25.4	36250 / 2500
	16	3.69	-	-	407	123.4 / 92	5.4 / 20.4	36250 / 2500
	16	4.57	-	-	328	99.2 / 74	4.4 / 16.5	36250 / 2500

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

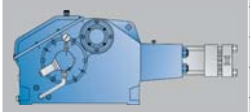
Features of the M-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
185 M	18	-	-	4.57	460	144.8 / 108	7.9 / 30	29000/2000
	18	-	3.69	-	488	154.2 / 115	8.4 / 31.8	29000/2000
	18	-	4.57	-	394	124.7 / 93	6.8 / 25.7	29000/2000
	18	2.96	-	-	507	159.6 / 119	8.7 / 33.1	29000/2000
	18	3.69	-	-	407	128.7 / 96	7.0 / 26.5	29000/2000
	18	4.57	-	-	328	103.3 / 77	5.0 / 19	29000/2000
250 M	15	-	-	4.52	464	144.8 / 108	5.3 / 20	43500/3000
	15	-	3.57	-	504	156.9 / 117	5.8 / 22	43500/3000
	15	-	4.52	-	398	123.4 / 92	4.8 / 18	43500/3000
	15	3.04	-	-	493	152.9 / 114	5.5 / 21	43500/3000
	15	3.57	-	-	420	130.1 / 97	5.0 / 19	43500/3000
	15	4.52	-	-	331	103.3 / 77	4.0 / 15	43500/3000
	16	-	-	4.52	464	155.6 / 116	6.1 / 23	40600/2800
	16	-	3.57	-	504	168.9 / 126	6.9 / 26	40600/2800
	16	-	4.52	-	398	132.8 / 99	5.3 / 20	40600/2800
	16	3.04	-	-	493	165.0 / 123	6.6 / 25	40600/2800
	16	3.57	-	-	420	140.8 / 105	5.5 / 21	40600/2800
	16	4.52	-	-	331	110.0 / 82	4.5 / 17	40600/2800
	18	-	-	4.52	464	178.4 / 133	7.7 / 29	36250/2500
	18	-	3.57	-	504	193.1 / 144	8.5 / 32	36250/2500
	18	-	4.52	-	398	152.9 / 114	6.9 / 26	36250/2500
	18	3.04	-	-	493	189.1 / 141	8.2 / 31	36250/2500
	18	3.57	-	-	420	161.0 / 120	7.1 / 27	36250/2500
	18	4.52	-	-	331	127.4 / 95	5.5 / 21	36250/2500
	20	-	-	4.52	464	181.0 / 135	9.8 / 37	29000/2000
	20	-	3.57	-	504	197.1 / 147	10.6 / 40	29000/2000
	20	-	4.52	-	398	156.6 / 116	8.5 / 32	29000/2000
	20	3.04	-	-	493	193.1 / 144	10.6 / 40	29000/2000
	20	3.57	-	-	420	163.6 / 122	9.0 / 34	29000/2000
	20	4.52	-	-	331	128.7 / 96	7.1 / 27	29000/2000
400 M	18	-	-	4.23	496	304.4 / 227	11.1 / 42	43500/3000
	18	-	3.60	-	500	307.1 / 229	11.1 / 42	43500/3000
	18	-	4.23	-	425	261.5 / 195	9.5 / 36	43500/3000
	18	2.96	-	-	506	311.1 / 232	11.4 / 43	43500/3000
	18	3.60	-	-	416	256.1 / 191	9.2 / 35	43500/3000
	18	4.23	-	-	354	217.2 / 162	7.9 / 30	43500/3000
	20	-	-	4.23	496	323.2 / 241	14.0 / 53	36250/2500
	20	-	3.60	-	500	324.5 / 242	14.0 / 53	36250/2500
	20	-	4.23	-	425	276.2 / 206	11.9 / 45	36250/2500
	20	2.96	-	-	506	329.9 / 246	14.3 / 54	36250/2500
	20	3.60	-	-	416	270.9 / 202	11.9 / 45	36250/2500
	20	4.23	-	-	354	230.7 / 172	10.0 / 38	36250/2500
	22	-	-	4.23	496	320.5 / 239	17,4 / 66	29000/2000
	22	-	3.60	-	500	323.2 / 241	17.7 / 67	29000/2000
	22	-	4.23	-	425	275.0 / 205	15.1 / 57	29000/2000
	22	2.96	-	-	506	327.2 / 244	17.7 / 67	29000/2000
	22	3.60	-	-	416	269.5 / 201	14.5 / 55	29000/2000
	22	4.23	-	-	354	229.3 / 171	12.4 / 47	29000/2000



1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Features of the M-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
550 M 	22	-	-	4.60	456	450.6 / 336	16.4 / 62	43500/3000
	22	-	3.96	-	454	449.2 / 335	16.4 / 62	43500/3000
	22	-	4.60	-	391	386.2 / 288	14.0 / 53	43500/3000
	22	3.30	-	-	454	449.2 / 335	16.4 / 62	43500/3000
	22	3.96	-	-	378	374.1 / 279	13.5 / 51	43500/3000
	22	4.60	-	-	326	321.8 / 240	11.6 / 44	43500/3000
	24	-	-	4.60	456	460.0 / 343	20.1 / 76	36250/2500
	24	-	3.96	-	454	458.6 / 342	19.8 / 75	36250/2500
	24	-	4.60	-	391	394.3 / 294	17.2 / 65	36250/2500
	24	3.30	-	-	454	458.6 / 342	19.8 / 75	36250/2500
	24	3.96	-	-	378	382.2 / 285	16.6 / 63	36250/2500
	24	4.60	-	-	326	328.5 / 245	14.3 / 54	36250/2500
	26	-	-	4.60	456	540.4 / 403	23.5 / 89	36250/2500
	26	-	3.96	-	454	537.7 / 401	23.2 / 88	36250/2500
	26	-	4.60	-	391	462.6 / 345	20.1 / 76	36250/2500
	26	3.30	-	-	454	537.8 / 401	23.2 / 88	36250/2500
	26	3.96	-	-	378	447.9 / 334	19.5 / 74	36250/2500
	26	4.60	-	-	326	386.2 / 288	16.6 / 63	36250/2500
	28	-	-	4.60	456	516.3 / 385	28.0 / 106	29000/2000
	28	-	3.96	-	454	513.6 / 383	27.7 / 105	29000/2000
	28	-	4.60	-	391	442.5 / 330	24.0 / 91	29000/2000
	28	3.30	-	-	454	513.6 / 383	27.7 / 105	29000/2000
	28	3.96	-	-	378	427.8 / 319	23.2 / 88	29000/2000
	28	4.60	-	-	326	368.8 / 275	20.1 / 76	29000/2000
1000 M	22	-	-	4.23	496	910.5 / 679	33.0 / 125	43500/3000
	22	-	3.69	-	488	895.8 / 668	32.5 / 123	43500/3000
	22	-	4.23	-	425	780.5 / 582	28.3 / 107	43500/3000
	22	3.00	-	-	500	917.2 / 684	33.3 / 126	43500/3000
	22	3.69	-	-	406	745.6 / 556	26.9 / 102	43500/3000
	22	4.23	-	-	354	650.4 / 485	23.5 / 89	43500/3000
	24	-	-	4.23	496	930.7 / 694	40.4 / 153	36250/2500
	24	-	3.69	-	488	914.6 / 682	39.6 / 150	36250/2500
	24	-	4.23	-	425	796.6 / 594	34.6 / 131	36250/2500
	24	3.00	-	-	500	937.4 / 699	40.7 / 154	36250/2500
	24	3.69	-	-	406	761.2 / 568	33.0 / 125	36250/2500
	24	4.23	-	-	354	663.8 / 495	28.8 / 109	36250/2500
	26	-	-	4.23	496	898.5 / 670	48.9 / 185	29000/2000
	26	-	3.69	-	488	882.4 / 658	48.1 / 182	29000/2000
	26	-	4.23	-	425	769.7 / 574	41.7 / 158	29000/2000
	26	3.00	-	-	500	905.2 / 675	49.1 / 186	29000/2000
	26	3.69	-	-	406	734.9 / 548	39.9 / 151	29000/2000
	26	4.23	-	-	354	641.0 / 478	34.9 / 132	29000/2000

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Subject to change WOMA® GmbH

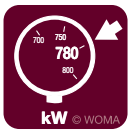
WOMA® Ultra-high pressure pumps

Z- series (21 760 psi / 1 500 bar) 150 Z I 185

With operating pressures up to 21 750 psi / 1 500 bar and rated volume up to 160 gpm / 605 l/min[1], this series is ideal for hand tool operations like heavy concrete removal, stripping of coatings and de-scaling.

This series offers gear box cooling and being slow speed pumps, are low wear, resulting in long life and longer operation between maintenance cycles. The modular design provides a greater degree of flexibility as you can change the output parameters simply by changing the interchangeable plunger set. An auxiliary shaft end multiplies the possibilities further, because you can connect a second pump and thus double the output. The pumps are designed for suction flow temperatures up to 65 °C or 90 °C* in special cases. The series meets the ATEX standards as well as the API standards**.

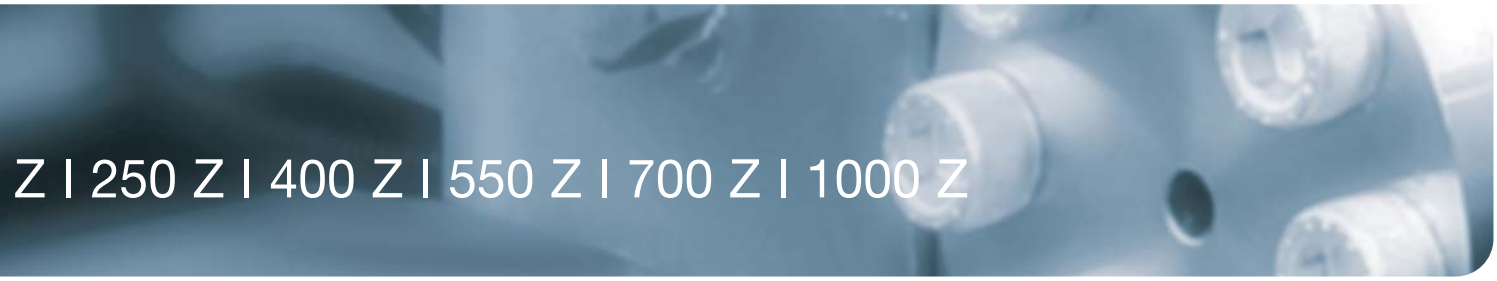
* optional, ** pressure-dependent and volume flow-dependent
[1] 1 liter ≙ 0.2641 US.liq.gal



Example of an available model

WOMA® Ultra-high pressure pump 400 Z

All illustrations are examples of available models only



Z I 250 Z I 400 Z I 550 Z I 700 Z I 1000 Z

Technical Features

Gear Box

- Proven industrial Gear Box with pressurized oil lubrication and 3 available gear ratios (WOMA® standard)

Pump head

- Stress-free pump head in central valve design
- High volumetric efficiency due to minimal dead space
- Low-pulsation operation thanks to optimised valve kinematics
- High life expectancy of all pump head components due to the use of materials with high strength and yield
- Maintenance-friendly due to ease of assembly and access

Interchangeable plunger set

- Interchangeable plunger set system, equipped with ceramic, hard metal or steel plungers and dynamic sealing system

Additional equipment

- Pressure regulation valve with pneumatic activation
- Pneumatically controlled 2/2-way directional relief valve
- Pneumatically actuated check valve for 3/2-way directional function
- Pneumatically controlled high-pressure valves for the simultaneous operation of several users

Special model

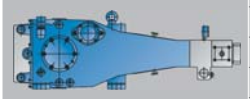
- Set and valves in special materials for aggressive media being pumped, e.g. sea water
- Water temperatures above 65 °C

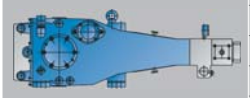
Directives and standards

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

Features of the Z-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
150 Z	19	-	-	4.57	460	128.7 / 96	9.2 / 35	21750/1500
	19	-	3.69	-	487	135.4 / 101	9.8 / 37	21750/1500
	19	-	4.57	-	393	110.0 / 82	7.9 / 30	21750/1500
	19	2.96	-	-	506	142.1 / 106	10.3 / 39	21750/1500
	19	3.69	-	-	406	114.0 / 85	8.2 / 31	21750/1500
	19	4.57	-	-	328	91.2 / 68	6.6 / 25	21750/1500
	20	-	-	4.57	460	119.3 / 89	10.3 / 39	18125/1250
	20	-	3.69	-	487	124.7 / 93	10.8 / 41	18125/1250
	20	-	4.57	-	393	100.6 / 75	8.7 / 33	18125/1250
	20	2.96	-	-	506	131.4 / 98	11.4 / 43	18125/1250
	20	3.69	-	-	406	103.3 / 77	9.0 / 34	18125/1250
	20	4.57	-	-	328	83.1 / 62	7.1 / 27	18125/1250
	22	-	-	4.57	460	115.3 / 86	12.4 / 47	14500/1000
	22	-	3.69	-	487	122.0 / 91	13.2 / 50	14500/1000
	22	-	4.57	-	393	97.9 / 73	10.6 / 40	14500/1000
	22	2.96	-	-	506	127.4 / 95	13.7 / 52	14500/1000
	22	3.69	-	-	406	103.3 / 77	11.1 / 42	14500/1000
	22	4.57	-	-	328	83.1 / 62	9.0 / 34	14500/1000
	26	-	-	4.57	460	123.4 / 92	17.7 / 67	10875/750
	26	-	3.69	-	487	130.1 / 97	18.8 / 71	10875/750
	26	-	4.57	-	393	106.0 / 79	15.3 / 58	10875/750
	26	2.96	-	-	506	135.4 / 101	19.6 / 74	10875/750
	26	3.69	-	-	406	110.0 / 82	15.9 / 60	10875/750
	26	4.57	-	-	328	88.5 / 66	12.7 / 48	10875/750
	30	-	-	4.57	460	124.7 / 93	23.8 / 90	8265/570
	30	-	3.69	-	487	132.8 / 99	25.1 / 95	8265/570
	30	-	4.57	-	393	107.3 / 80	20.3 / 77	8265/570
	30	2.96	-	-	506	138.1 / 103	26.2 / 99	8265/570
	30	3.69	-	-	406	110.0 / 82	20.9 / 79	8265/570
	30	4.57	-	-	328	89.8 / 67	17.0 / 64	8265/570
	35	-	-	4.57	460	124.7 / 93	32.5 / 123	6090/420
	35	-	3.69	-	487	132.8 / 99	34.3 / 130	6090/420
	35	-	4.57	-	393	107.3 / 80	27.7 / 105	6090/420
	35	2.96	-	-	506	138.1 / 103	36.0 / 136	6090/420
	35	3.69	-	-	406	111.3 / 83	28.8 / 109	6090/420
	35	4.57	-	-	328	89.8 / 67	23.2 / 88	6090/420
185 Z	20	-	-	4.57	460	138.1 / 103	10.0 / 38	21750/1500
	20	-	3.69	-	488	146.2 / 109	10.6 / 40	21750/1500
	20	-	4.57	-	394	118.0 / 88	8.5 / 32	21750/1500
	20	2.96	-	-	507	152.9 / 114	11.1 / 42	21750/1500
	20	3.69	-	-	407	122.0 / 91	9.0 / 34	21750/1500
	20	4.57	-	-	328	97.9 / 73	7.1 / 27	21750/1500
	22	-	-	4.57	460	146.2 / 109	12.2 / 46	18850/1300
	22	-	3.69	-	488	155.6 / 116	13.0 / 49	18850/1300
	22	-	4.57	-	394	124.7 / 93	10.6 / 40	18850/1300
	22	2.96	-	-	507	161.0 / 120	13.5 / 51	18850/1300
	22	3.69	-	-	407	128.7 / 96	10.8 / 41	18850/1300
	22	4.57	-	-	328	104.6 / 78	8.7 / 33	18850/1300





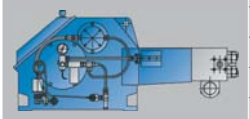
1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Features of the Z-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
185 Z	26	-	-	4.57	460	151.5 / 113	17.4 / 66	13775/950
	26	-	3.69	-	488	161.0 / 120	18.5 / 70	13775/950
	26	-	4.57	-	394	130.1 / 97	15.1 / 57	13775/950
	26	2.96	-	-	507	167.6 / 125	19.3 / 73	13775/950
	26	3.69	-	-	407	134.1 / 100	15.3 / 58	13775/950
	26	4.57	-	-	328	108.6 / 81	12.4 / 47	13775/950
	28	-	-	4.57	460	150.2 / 112	20.3 / 77	11600/800
	28	-	3.69	-	488	158.2 / 118	21.7 / 82	11600/800
	28	-	4.57	-	394	128.7 / 96	17.4 / 66	11600/800
	28	2.96	-	-	507	165.0 / 123	22.5 / 85	11600/800
	28	3.69	-	-	407	132.8 / 99	18.0 / 68	11600/800
	28	4.57	-	-	328	107.3 / 80	14.5 / 55	11600/800
250 Z	24	-	-	4.52	464	201.2 / 150	15.1 / 57	21750/1500
	24	-	3.57	-	504	218.6 / 163	16.4 / 62	21750/1500
	24	-	4.52	-	398	173.0 / 129	12.9 / 49	21750/1500
	24	3.04	-	-	493	213.2 / 159	15.9 / 60	21750/1500
	24	3.57	-	-	420	182.4 / 136	13.5 / 51	21750/1500
	24	4.52	-	-	331	143.5 / 107	10.6 / 40	21750/1500
	26	-	-	4.52	464	206.5 / 154	17.7 / 67	18850/1300
	26	-	3.57	-	504	224.0 / 167	19.3 / 73	18850/1300
	26	-	4.52	-	398	177.0 / 132	15.1 / 57	18850/1300
	26	3.04	-	-	493	220.0 / 164	18.8 / 71	18850/1300
	26	3.57	-	-	420	186.4 / 139	15.9 / 60	18850/1300
	26	4.52	-	-	331	147.5 / 110	12.7 / 48	18850/1300
	28	-	-	4.52	464	214.6 / 160	20.6 / 78	16675/1150
	28	-	3.57	-	504	232.0 / 173	22.2 / 84	16675/1150
	28	-	4.52	-	398	183.7 / 137	17.7 / 67	16675/1150
	28	3.04	-	-	493	228.0 / 170	21.9 / 83	16675/1150
	28	3.57	-	-	420	193.1 / 144	18.5 / 70	16675/1150
	28	4.52	-	-	331	152.9 / 114	14.5 / 55	16675/1150
	30	-	-	4.52	464	213.2 / 159	24.0 / 91	14500/1000
	30	-	3.57	-	504	233.3 / 174	26.2 / 99	14500/1000
	30	-	4.52	-	398	185.1 / 138	20.6 / 78	14500/1000
	30	3.04	-	-	493	229.3 / 171	25.4 / 96	14500/1000
	30	3.57	-	-	420	194.4 / 145	21.7 / 82	14500/1000
	30	4.52	-	-	331	154.2 / 115	17.2 / 65	14500/1000
	35	-	-	4.52	464	214.6 / 160	32.5 / 123	10440/720
	35	-	3.57	-	504	232.0 / 173	35.1 / 133	10440/720
	35	-	4.52	-	398	183.7 / 137	27.7 / 105	10440/720
	35	3.04	-	-	493	228.0 / 170	34.3 / 130	10440/720
	35	3.57	-	-	420	193.1 / 144	29.3 / 111	10440/720
	35	4.52	-	-	331	152.9 / 114	23.2 / 88	10440/720

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Features of the Z-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
400 Z 	26	-	-	4.23	496	346.0 / 258	25.9 / 98	21750/1500
	26	-	3.60	-	500	348.7 / 260	26.2 / 99	21750/1500
	26	-	4.23	-	425	296.4 / 221	22.2 / 84	21750/1500
	26	2.96	-	-	506	352.7 / 263	26.4 / 100	21750/1500
	26	3.60	-	-	416	289.7 / 216	21.7 / 82	21750/1500
	26	4.23	-	-	354	246.7 / 184	18.5 / 70	21750/1500
	28	-	-	4.23	496	351.3 / 262	30.1 / 114	18850/1300
	28	-	3.60	-	500	354.0 / 264	30.4 / 115	18850/1300
	28	-	4.23	-	425	301.7 / 225	25.9 / 98	18850/1300
	28	2.96	-	-	506	358.0 / 267	30.6 / 116	18850/1300
	28	3.60	-	-	416	295.0 / 220	25.1 / 95	18850/1300
	28	4.23	-	-	354	250.8 / 187	21.4 / 81	18850/1300
	30	-	-	4.23	496	359.3 / 268	34.6 / 131	16675/1150
	30	-	3.60	-	500	362.1 / 270	34.9 / 132	16675/1150
	30	-	4.23	-	425	308.4 / 230	29.6 / 112	16675/1150
	30	2.96	-	-	506	367.4 / 274	34.9 / 132	16675/1150
	30	3.60	-	-	416	301.7 / 225	29.1 / 110	16675/1150
	30	4.23	-	-	354	256.1 / 191	24.6 / 93	16675/1150
	35	-	-	4.23	496	367.4 / 274	47.8 / 181	12325/850
	35	-	3.60	-	500	370.1 / 276	48.3 / 183	12325/850
	35	-	4.23	-	425	315.1 / 235	40.9 / 155	12325/850
	35	2.96	-	-	506	375.5 / 280	48.9 / 185	12325/850
	35	3.60	-	-	416	308.4 / 230	40.2 / 152	12325/850
	35	4.23	-	-	354	262.8 / 196	34.1 / 129	12325/850
	45	-	-	4.23	496	363.4 / 271	81.1 / 307	7250/500
	45	-	3.60	-	500	366.1 / 273	81.4 / 308	7250/500
	45	-	4.23	-	425	312.5 / 233	69.5 / 263	7250/500
	45	2.96	-	-	506	371.5 / 277	82.7 / 313	7250/500
	45	3.60	-	-	416	305.7 / 228	67.9 / 257	7250/500
	45	4.23	-	-	354	260.2 / 194	57.9 / 219	7250/500
	50	-	-	4.23	496	360.7 / 269	100.1 / 379	5800/400
	50	-	3.60	-	500	363.4 / 271	100.9 / 382	5800/400
	50	-	4.23	-	425	309.8 / 231	85.9 / 325	5800/400
	50	2.96	-	-	506	368.8 / 275	102.2 / 387	5800/400
	50	3.60	-	-	416	303.1 / 226	84.0 / 318	5800/400
	50	4.23	-	-	354	257.5 / 192	71.3 / 270	5800/400

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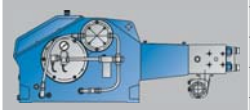
Features of the Z-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
550 Z 	30	-	-	4.60	457	456.0 / 340	33.0 / 125	21750/1500
	30	-	3.96	-	455	454.6 / 339	33.0 / 125	21750/1500
	30	-	4.60	-	391	391.6 / 292	28.3 / 107	21750/1500
	30	3.30	-	-	455	454.6 / 339	33.0 / 125	21750/1500
	30	3.96	-	-	379	378.2 / 282	27.5 / 104	21750/1500
	30	4.60	-	-	326	325.9 / 243	23.5 / 89	21750/1500
	35	-	-	4.60	457	544.4 / 406	45.4 / 172	18850/1300
	35	-	3.96	-	455	541.8 / 404	45.4 / 172	18850/1300
	35	-	4.60	-	391	466.7 / 348	39.1 / 148	18850/1300
	35	3.30	-	-	455	541.8 / 404	45.4 / 172	18850/1300
	35	3.96	-	-	379	452.0 / 337	37.8 / 143	18850/1300
	35	4.60	-	-	326	388.9 / 290	32.5 / 123	18850/1300
	40	-	-	4.60	457	555.2 / 414	60.5 / 229	14500/1000
	40	-	3.96	-	455	552.5 / 412	60.2 / 228	14500/1000
	40	-	4.60	-	391	476.1 / 355	51.8 / 196	14500/1000
	40	3.30	-	-	455	552.5 / 412	60.2 / 228	14500/1000
	40	3.96	-	-	379	461.3 / 344	50.2 / 190	14500/1000
	40	4.60	-	-	326	397.0 / 296	43.1 / 163	14500/1000
	45	-	-	4.60	457	568.6 / 424	77.4 / 293	11600/800
	45	-	3.96	-	455	566.0 / 422	76.9 / 291	11600/800
	45	-	4.60	-	391	486.8 / 363	66.3 / 251	11600/800
	45	3.30	-	-	455	566.0 / 422	76.9 / 291	11600/800
	45	3.96	-	-	379	472.0 / 352	64.2 / 243	11600/800
	45	4.60	-	-	326	406.3 / 303	76.6 / 290	11600/800
	50	-	-	4.60	457	574.0 / 428	96.2 / 364	9425/650
	50	-	3.96	-	455	572.6 / 427	95.6 / 362	9425/650
	50	-	4.60	-	391	492.1 / 367	82.4 / 312	9425/650
	50	3.30	-	-	455	572.6 / 427	95.6 / 362	9425/650
	50	3.96	-	-	379	476.1 / 355	79.8 / 302	9425/650
	50	4.60	-	-	326	410.3 / 306	68.7 / 260	9425/650
700 Z	30	-	-	3.96	530	529.7 / 395	38.3 / 145	21750/1500
	30	-	3.45	-	522	521.6 / 389	37.8 / 143	21750/1500
	30	3.30	-	-	455	454.6 / 339	33.0 / 125	21750/1500
	30	-	3.30	-	545	545.8 / 407	39.6 / 150	21750/1500
	35	-	-	3.96	530	633.0 / 472	52.8 / 200	18850/1300
	35	-	3.45	-	522	622.2 / 464	52.0 / 197	18850/1300
	35	3.30	-	-	455	541.8 / 404	45.4 / 172	18850/1300
	40	-	-	3.96	530	645.0 / 481	70.3 / 266	14500/1000
	40	-	3.45	-	522	634.3 / 473	68.9 / 261	14500/1000
	40	3.30	-	-	455	552.5 / 412	60.2 / 228	14500/1000
	45	-	-	3.96	530	659.8 / 492	89.8 / 340	11600/800
	45	-	3.45	-	522	649.0 / 484	88.2 / 334	11600/800
	45	3.30	-	-	455	566.0 / 422	76.9 / 291	11600/800
	50	-	-	3.96	530	667.8 / 498	111.7 / 423	9425/650
	50	-	3.45	-	522	657.1 / 490	109.9 / 416	9425/650
	50	3.30	-	-	455	572.6 / 427	95.6 / 362	9425/650

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Features of the Z-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
1000 Z	30	-	-	4.23	496	954.8 / 712	69.2 / 262	21750/1500
	30	-	3.69	-	488	941.4 / 702	68.2 / 258	21750/1500
	30	-	4.23	-	425	816.7 / 609	59.2 / 224	21750/1500
	30	3.00	-	-	500	962.8 / 718	69.7 / 264	21750/1500
	30	3.69	-	-	406	780.5 / 582	56.5 / 214	21750/1500
	30	4.23	-	-	354	682.6 / 509	49.4 / 187	21750/1500
	35	-	-	4.23	496	954.8 / 712	94.3 / 357	15950/1100
	35	-	3.69	-	488	938.7 / 700	92.7 / 351	15950/1100
	35	-	4.23	-	425	818.0 / 610	80.8 / 306	15950/1100
	35	3.00	-	-	500	962.8 / 718	95.1 / 360	15950/1100
	35	3.69	-	-	406	780.5 / 582	77.1 / 292	15950/1100
	35	4.23	-	-	354	679.9 / 507	67.1 / 254	15950/1100
	40	-	-	4.23	496	962.8 / 718	123.1 / 466	12325/850
	40	-	3.69	-	488	946.7 / 706	121.0 / 458	12325/850
	40	-	4.23	-	425	824.7 / 615	105.4 / 399	12325/850
	40	3.00	-	-	500	970.9 / 724	124.2 / 470	12325/850
	40	3.69	-	-	406	787.2 / 587	100.6 / 381	12325/850
	40	4.23	-	-	354	686.6 / 512	87.7 / 332	12325/850
	45	-	-	4.23	496	1 020.5 / 761	158.5 / 600	10150/700
	45	-	3.69	-	488	1 005.8 / 750	156.1 / 591	10150/700
	45	-	4.23	-	425	874.3 / 652	135.8 / 514	10150/700
	45	3.00	-	-	500	1 029.9 / 768	159.8 / 605	10150/700
	45	3.69	-	-	406	835.4 / 623	129.7 / 491	10150/700
	45	4.23	-	-	354	728.2 / 543	113.1 / 428	10150/700

Example of an available model

All illustrations are examples of available models only

Setup example:
Ultra-high pressure water jet system
with 1000 Z boxer pump

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Subject to change WOMA® GmbH

EN 837-1
1.4571
NiFe
35000
50000
53000
3500
psi
bar
Kl.1,0
WOMA

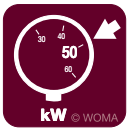
WOMA® Ultra-high pressure pumps

Y-series (14500 psi / 1000 bar) 70 Y

The high-pressure plunger pump of the Y-series is especially compact. With operating pressures up to 14500 psi/ 1000 bar, this type is the most powerful in its class; it has been developed for concrete removal projects, stripping of coatings or cleaning of tube bundles.

These pumps have an auxiliary shaft end that can be used to connect a second pump, so that you can double the output in no time at all. The modular design gives you additional flexibility, because all you have to do to vary the output characteristics is to change the interchangeable plunger set. The pump, which can be delivered in keeping with the ATEX and API standards* has gear box cooling and being a slowspeed pump, is low wear and offers long life between maintenance cycles. In contrast to other, comparable pumps in this class, it can withstand suction flow temperatures up to 65 °C or 90 °C** without any problem.

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



Example of an available model

WOMA® Ultra-high pressure pump 70 Y

All illustrations are only examples of available models

Technical Features

Basics

- Extremely compact construction thanks to the Y-arrangement of intake and pressure channel to the valve area
- Very long life
- Low weight

Gear Box

- Proven industrial gear box with dust and splash protection (WOMA® standard)

Pump head

- Very flat, two-part pump head
- Stress-free pump head
- Made from corrosion-resistant, high-strength stainless steel

Interchangeable plunger set

- Interchangeable plunger set for various rated volumes and operating pressures
- Special valve seat design
- Additional sealing water system
- High volumetric efficiency
- Maintenance-friendly

Additional equipment

- Pressure control valve with manual or pneumatic control
- Pneumatically controlled 2/2-way directional relief valve
- Full lift safety valve
- Plunger of special materials

Special model

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

Directives and standards

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

Features of the Y-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
70 Y	15	-	-	-	1000	53.6 / 40	6.1 / 23	14500/1000
	15	-	-	-	750	40.2 / 30	4.5 / 17	14500/1000
	16	-	-	-	1000	61.7 / 46	6.9 / 26	14500/1000
	16	-	-	-	750	45.6 / 34	5.0 / 19	14500/1000
	18	-	-	-	1000	67.1 / 50	8.7 / 33	12325/850
	18	-	-	-	750	49.6 / 37	6.5 / 25	12325/850
	20	-	-	-	1000	68.4 / 51	10.8 / 41	10150/700
	20	-	-	-	750	51.0 / 38	8.0 / 30	10150/700

Example of an available model

Setup example:
Ultra-high pressure water jet unit
with Ultra-high pressure pump 70 Y

All illustrations are examples of available models only

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Subject to change WOMA® GmbH

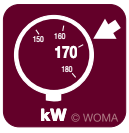
WOMA® Ultra-high pressure pumps

02 - series (10890 psi / 750 bar) 702 | 1002 | 1

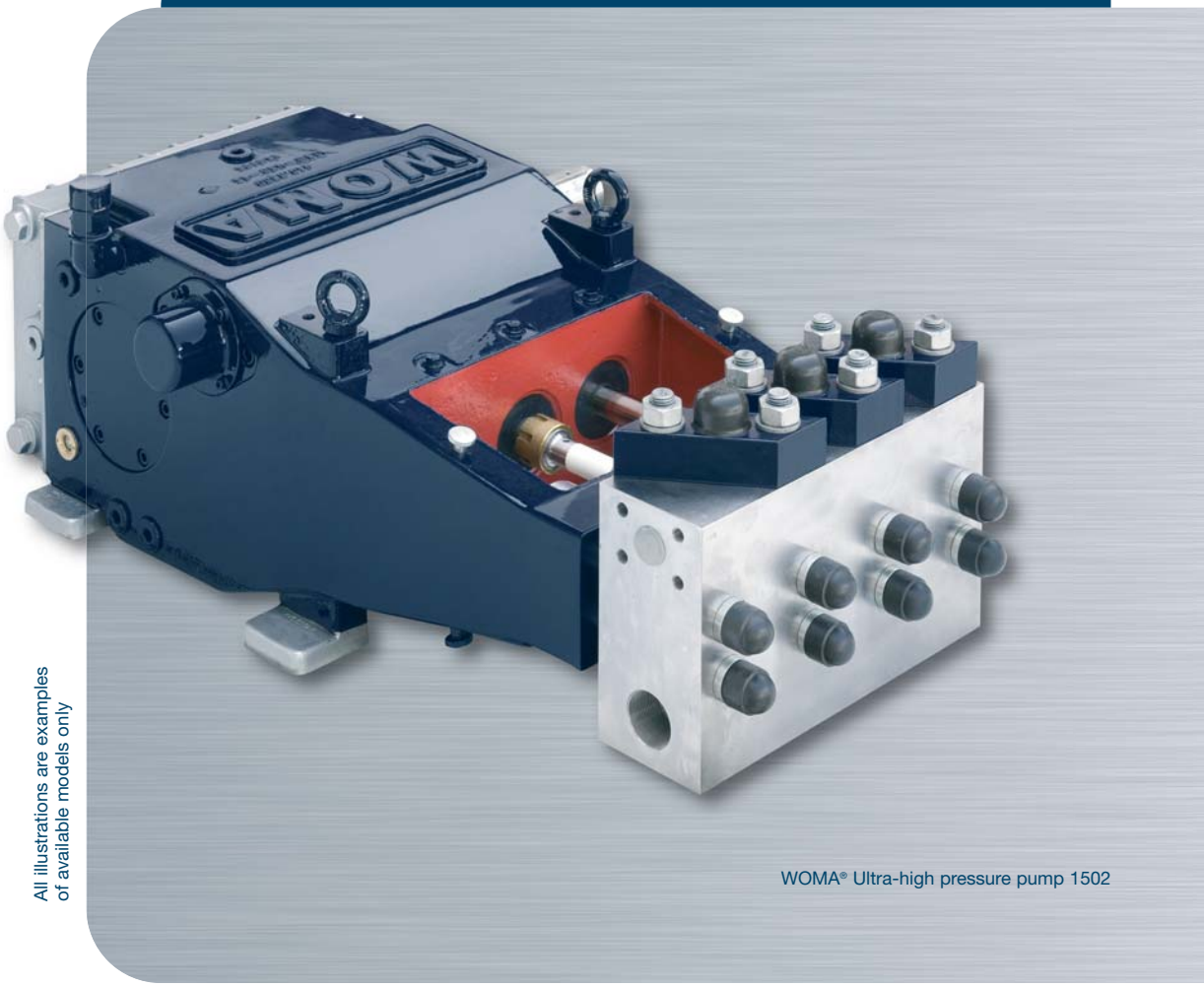
The 02-series line of high-pressure pumps are rated up to 10875 psi/750 bar operating pressure and volumes of up to 229 l/min.[1] This series is ideal for cleaning pipes, tube bundles, sewer lines, tanks and containers.

The modular design provides a high degree of flexibility allowing you to vary the output parameters by a simple exchange of the interchangeable plunger sets. This series features gear box cooling and being a low speed pump, is extremely easy on components ensuring long life and longer time between maintenance intervals. The pumps are equipped with an auxiliary shaft which allows coupling of a second pump thus doubling the output. A special feature of this series is that it can operate with inlet water temperatures of up to 65 °C with possibilities to accept up to 90 °C*. Additionally, this pump meets ATEX and API standards**.

* optional, ** pressure-dependent and volume flow-dependent
[1] 1 liter ≙ 0.2641 US.liq.gal



Example of an available model



WOMA® Ultra-high pressure pump 1502

All illustrations are examples of available models only

Technical Features

Gear Box

- Proven industrial gear box with pressurized oil lubrication and 3 available gear ratios

Pump head

- Service-friendly pump head in block construction of treated forged steel
- Mounting flange with inner thread
- Wear-resistant valve seats

Interchangeable plunger set

- Maintenance-free plunger seals with lamellar seal packing
- High-quality ceramic plunger
- Long life
- WOMA interchangeable plunger set system:
  Fast re-tooling to other operating pressure/ discharge ratings

Additional equipment

- Pressure regulation valve with pneumatic control
- Pneumatically controlled 2/2-way directional relief valve
- Pneumatically controlled 3/2-way directional relief valve
- Pneumatically controlled high-pressure valves for the simultaneous operation of several users

Special model

- 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 (pressure and volume flow-dependent)
- Quality management system according to DIN ISO EN 9001

Features of the 02-series

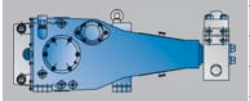
	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
702	20	-	-	-	1000	63.0 / 47	10.3 / 39	9425/650
	20	-	-	-	750	47.0 / 35	7.7 / 29	9425/650
	24	-	-	-	1000	64.4 / 48	15.3 / 58	6525/450
	24	-	-	-	750	49.6 / 37	11.4 / 43	6525/450
	26	-	-	-	1000	67.1 / 50	18.0 / 68	5800/400
	26	-	-	-	750	49.6 / 37	13.5 / 51	5800/400
	30	-	-	-	1000	67.1 / 50	24.0 / 91	4350/300
	30	-	-	-	750	49.6 / 37	18.0 / 68	4350/300
	35	-	-	-	1000	68.4 / 51	33.0 / 125	3190/220
	35	-	-	-	750	51.0 / 38	24.8 / 94	3190/220
	40	-	-	-	1000	68.4 / 51	43.6 / 165	2465/170
	40	-	-	-	750	51.0 / 38	32.5 / 123	2465/170
	45	-	-	-	1000	69.7 / 52	55.2 / 209	1960/135
	45	-	-	-	750	51.0 / 38	41.5 / 157	1960/135
1002	22	-	3.63	-	495	75.1 / 56	10.6 / 40	10875/750
	22	3.00	-	-	500	75.1 / 56	10.6 / 40	10875/750
	22	3.63	-	-	413	61.7 / 46	8.7 / 33	10875/750
	26	-	3.63	-	495	75.1 / 56	14.5 / 55	7975/550
	26	3.00	-	-	500	76.4 / 57	14.8 / 56	7975/550
	26	3.63	-	-	413	63.0 / 47	12.2 / 46	7975/550
	35	-	3.63	-	495	77.8 / 58	27.5 / 104	4350/300
	35	3.00	-	-	500	77.8 / 58	27.7 / 105	4350/300
	35	3.63	-	-	413	64.4 / 48	22.7 / 86	4350/300
	40	-	3.63	-	495	77.8 / 58	35.9 / 136	3335/230
	40	3.00	-	-	500	77.8 / 58	36.2 / 137	3335/230
	40	3.63	-	-	413	64.4 / 48	29.9 / 113	3335/230
	45	-	3.63	-	495	76.4 / 57	45.4 / 172	2610/180
	45	3.00	-	-	500	77.8 / 58	46.0 / 174	2610/180
	45	3.63	-	-	413	64.4 / 48	37.8 / 143	2610/180
1502	26	-	-	4.57	459	122.0 / 91	17.7 / 67	10875/750
	26	-	3.69	-	488	131.4 / 98	19.0 / 72	10875/750
	26	-	4.57	-	393	106.0 / 79	15.3 / 58	10875/750
	26	2.96	-	-	507	135.4 / 101	19.5 / 74	10875/750
	26	3.69	-	-	407	110.0 / 82	15.9 / 60	10875/750
	26	4.57	-	-	328	88.5 / 66	12.7 / 48	10875/750
	30	-	-	4.57	459	124.7 / 93	23.8 / 90	8195/565
	30	-	3.69	-	488	132.8 / 99	25.4 / 96	8195/565
	30	-	4.57	-	393	106.0 / 79	20.3 / 77	8195/565
	30	2.96	-	-	507	136.8 / 102	26.2 / 99	8195/565
	30	3.69	-	-	407	110.0 / 82	21.1 / 80	8195/565
	30	4.57	-	-	328	88.5 / 66	16.9 / 64	8195/565

Installation variations

Installation variations

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

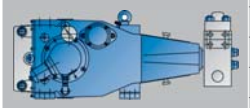
Features of the 02-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
	35	-	-	4.57	459	126.1 / 94	33.0 / 125	6020/415
	35	-	3.69	-	488	134.1 / 100	35.1 / 133	6020/415
	35	-	4.57	-	393	108.6 / 81	28.3 / 107	6020/415
	35	2.96	-	-	507	139.5 / 104	36.5 / 138	6020/415
	35	3.69	-	-	407	112.6 / 84	29.3 / 111	6020/415
	35	4.57	-	-	328	89.8 / 67	23.5 / 89	6020/415
	40	-	-	4.57	459	128.7 / 96	43.3 / 164	4640/320
	40	-	3.69	-	488	135.4 / 101	46.0 / 174	4640/320
	40	-	4.57	-	393	110.0 / 82	37.0 / 140	4640/320
	40	2.96	-	-	507	140.8 / 105	47.8 / 181	4640/320
	40	3.69	-	-	407	114.0 / 85	38.3 / 145	4640/320
	40	4.57	-	-	328	91.2 / 68	30.9 / 117	4640/320
	45	-	-	4.57	459	126.1 / 94	54.7 / 207	3625/250
	45	-	3.69	-	488	135.4 / 101	58.4 / 221	3625/250
	45	-	4.57	-	393	108.6 / 81	47.0 / 178	3625/250
	45	2.96	-	-	507	139.5 / 104	60.5 / 229	3625/250
	45	3.69	-	-	407	112.6 / 84	48.6 / 184	3625/250
	45	4.57	-	-	328	91.2 / 68	39.1 / 148	3625/250
1852	28	-	-	4.57	460	138.1 / 103	19.8 / 75	10875/750
	28	-	3.69	-	488	146.2 / 109	21.1 / 80	10875/750
	28	-	4.57	-	394	119.3 / 89	17.4 / 66	10875/750
	28	2.96	-	-	507	154.2 / 115	21.9 / 83	10875/750
	28	3.69	-	-	407	123.4 / 92	17.7 / 67	10875/750
	28	4.57	-	-	328	99.2 / 74	14.3 / 54	10875/750
	30	-	-	4.57	460	151.5 / 113	23.8 / 90	10150/700
	30	-	3.69	-	488	162.3 / 121	25.4 / 96	10150/700
	30	-	4.57	-	394	131.4 / 98	20.3 / 77	10150/700
	30	2.96	-	-	507	169.0 / 126	26.2 / 99	10150/700
Installation variations	30	3.69	-	-	407	134.1 / 100	21.1 / 80	10150/700
	30	4.57	-	-	328	112.6 / 84	16.9 / 64	10150/700
	35	-	-	4.57	460	156.9 / 117	33.0 / 125	7540/520
	35	-	3.69	-	488	166.3 / 124	35.1 / 133	7540/520
	35	-	4.57	-	394	134.1 / 100	28.3 / 107	7540/520
	35	2.96	-	-	507	173.0 / 129	36.5 / 138	7540/520
	35	3.69	-	-	407	139.5 / 104	29.3 / 111	7540/520
	35	4.57	-	-	328	112.6 / 84	23.5 / 89	7540/520
	40	-	-	4.57	460	161.0 / 120	43.3 / 164	5800/400
	40	-	3.69	-	488	170.3 / 127	46.0 / 174	5800/400
	40	-	4.57	-	394	136.8 / 102	37.0 / 140	5800/400
	40	2.96	-	-	507	178.4 / 133	47.8 / 181	5800/400
	40	3.69	-	-	407	140.8 / 105	38.3 / 145	5800/400
	40	4.57	-	-	328	114.0 / 85	30.9 / 117	5800/400
	45	-	-	4.57	460	162.3 / 121	54.7 / 207	4640/320
	45	-	3.69	-	488	174.3 / 130	58.4 / 221	4640/320
	45	-	4.57	-	394	140.8 / 105	47.0 / 178	4640/320
	45	2.96	-	-	507	181.0 / 135	60.5 / 229	4640/320
	45	3.69	-	-	407	143.5 / 107	48.6 / 184	4640/320
	45	4.57	-	-	328	116.6 / 87	39.1 / 148	4640/320

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Features of the 02-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
2502	30	-	-	4.52	464	161.0 / 120	24.0 / 91	10875/750
	30	-	3.57	-	504	174.3 / 130	26.2 / 99	10875/750
	30	-	4.52	-	398	138.1 / 103	20.6 / 78	10875/750
	30	3.04	-	-	493	170.3 / 127	25.4 / 96	10875/750
	30	3.57	-	-	420	144.8 / 108	21.7 / 82	10875/750
	30	4.52	-	-	331	114.0 / 85	17.2 / 65	10875/750
	35	-	-	4.52	464	191.8 / 143	32.8 / 124	9425/650
	35	-	3.57	-	504	207.9 / 155	35.4 / 134	9425/650
	35	-	4.52	-	398	163.6 / 122	28.0 / 106	9425/650
	35	3.04	-	-	493	203.8 / 152	34.9 / 132	9425/650
	35	3.57	-	-	420	173.0 / 129	29.6 / 112	9425/650
	35	4.52	-	-	331	136.8 / 102	23.2 / 88	9425/650
	40	-	-	4.52	464	195.8 / 146	43.9 / 166	7250/500
	40	-	3.57	-	504	211.9 / 158	47.6 / 180	7250/500
	40	-	4.52	-	398	167.6 / 125	37.5 / 142	7250/500
	40	3.04	-	-	493	207.9 / 155	46.5 / 176	7250/500
	40	3.57	-	-	420	177.0 / 132	39.6 / 150	7250/500
	40	4.52	-	-	331	139.5 / 104	31.2 / 118	7250/500
	45	-	-	4.52	464	199.8 / 149	55.5 / 210	5800/400
	45	-	3.57	-	504	217.2 / 162	60.2 / 228	5800/400
	45	-	4.52	-	398	171.6 / 128	47.6 / 180	5800/400
	45	3.04	-	-	493	213.2 / 159	58.9 / 223	5800/400
	45	3.57	-	-	420	181.0 / 135	50.2 / 190	5800/400
	45	4.52	-	-	331	142.1 / 106	39.6 / 150	5800/400



Installation variations

Example of an available model

All illustrations are examples of available models only

Setup example:
Ultra-high pressure water jet unit
with Ultra-high pressure pump 1502

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

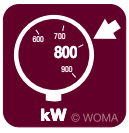
Subject to change WOMA® GmbH

ARP®-series (5800 psi / 400 bar) 150 ARP® I 18

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/min[1] 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 ≙ 0.2641 US.liq.gal



Example of an available model

WOMA® Ultra-high pressure pump 150 ARP®

All illustrations are examples of available models only

Technical Features

The Basics

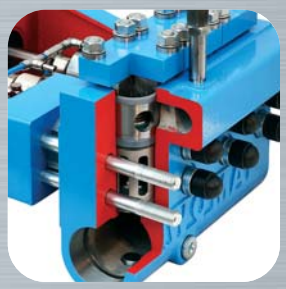
- Pumping impure media with granular or fibrous solids of varying sizes and geometries
- Low flow speeds in the suction and pressure valves

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

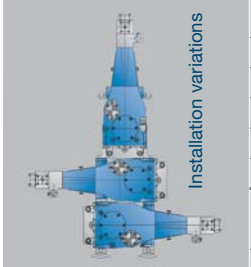
- ATEX 94/9/EC
- API 674 (dependent on pressure flow and volume flow)
- Quality management system according to DIN ISO EN 9001

Features of the ARP®-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
150 ARP® - Niro	40	-	-	4.57	459	126.1 / 94	43.3 / 164	4640/320
	40	-	3.69	-	487	134.1 / 100	46.0 / 174	4640/320
	40	-	4.57	-	393	107.3 / 80	37.0 / 140	4640/320
	40	2.96	-	-	506	139.5 / 104	47.8 / 181	4640/320
	40	3.69	-	-	406	112.6 / 84	38.3 / 145	4640/320
	40	4.57	-	-	328	89.9 / 67	30.9 / 117	4640/320
150 ARP® - GGG	45	-	-	4.57	459	127.4 / 95	54.7 / 207	3625/250
	45	-	3.69	-	487	134.1 / 100	58.1 / 220	3625/250
	45	-	4.57	-	393	108.6 / 81	47.0 / 178	3625/250
	45	2.96	-	-	506	140.8 / 105	60.5 / 229	3625/250
	45	3.69	-	-	406	112.6 / 84	48.3 / 183	3625/250
	45	4.57	-	-	328	91.2 / 68	39.1 / 148	3625/250
Installation variations	50	-	-	4.57	459	124.7 / 93	67.6 / 256	2900/200
	50	-	3.69	-	487	132.8 / 99	71.9 / 272	2900/200
	50	-	4.57	-	393	107.3 / 80	57.9 / 219	2900/200
	50	2.96	-	-	506	138.1 / 103	74.8 / 283	2900/200
	50	3.69	-	-	406	111.3 / 83	60.0 / 227	2900/200
	50	4.57	-	-	328	89.8 / 67	48.3 / 183	2900/200
	55	-	-	4.57	459	128.7 / 96	81.9 / 310	2465/170
	55	-	3.69	-	487	136.8 / 102	86.9 / 329	2465/170
	55	-	4.57	-	393	110.0 / 82	70.0 / 265	2465/170
	55	2.96	-	-	506	142.1 / 106	90.3 / 342	2465/170
	55	3.69	-	-	406	114.0 / 85	72.4 / 274	2465/170
	55	4.57	-	-	328	92.5 / 69	58.4 / 221	2465/170
	60	-	-	4.57	459	126.1 / 94	97.5 / 369	2030/140
	60	-	3.69	-	487	134.1 / 100	103.6 / 392	2030/140
	60	-	4.57	-	393	108.6 / 81	83.5 / 316	2030/140
	60	2.96	-	-	506	139.5 / 104	107.5 / 407	2030/140
	60	3.69	-	-	406	111.3 / 83	86.1 / 326	2030/140
	60	4.57	-	-	328	89.8 / 67	69.7 / 264	2030/140
185 ARP® - Niro	40	-	-	4.57	460	144.8 / 108	41.7 / 158	5365/370
	40	-	3.69	-	488	154.2 / 115	44.4 / 168	5365/370
	40	-	4.57	-	394	124.7 / 93	35.9 / 136	5365/370
	40	2.96	-	-	507	159.6 / 119	46.2 / 175	5365/370
	40	3.69	-	-	407	128.7 / 96	37.0 / 140	5365/370
	40	4.57	-	-	328	103.3 / 77	29.9 / 113	5365/370
	45	-	-	4.57	460	159.6 / 119	53.1 / 201	4640/320
	45	-	3.69	-	488	169.0 / 126	56.5 / 214	4640/320
	45	-	4.57	-	394	136.8 / 102	45.7 / 173	4640/320
	45	2.96	-	-	507	175.7 / 131	58.7 / 222	4640/320
	45	3.69	-	-	407	140.8 / 105	47.0 / 178	4640/320
	45	4.57	-	-	328	114.0 / 85	38.0 / 144	4640/320

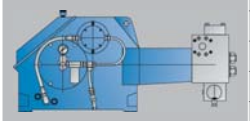
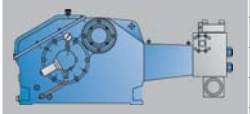
1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Features of the ARP®-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
185 ARP® - GGG	50	-	-	4.57	460	158.2 / 118	67.4 / 255	3625/250
	50	-	3.69	-	488	167.6 / 125	71.6 / 271	3625/250
	50	-	4.57	-	394	135.4 / 101	58.1 / 220	3625/250
	50	2.96	-	-	507	173.0 / 129	74.2 / 281	3625/250
	50	3.69	-	-	407	139.5 / 104	60.0 / 227	3625/250
	50	4.57	-	-	328	111.3 / 83	48.6 / 184	3625/250
 Installation variations	55	-	-	4.57	460	161.0 / 120	81.6 / 309	3045/210
	55	-	3.69	-	488	170.3 / 127	86.7 / 328	3045/210
	55	-	4.57	-	394	138.1 / 103	70.3 / 266	3045/210
	55	2.96	-	-	507	177.0 / 132	90.1 / 341	3045/210
	55	3.69	-	-	407	142.1 / 106	72.4 / 274	3045/210
	55	4.57	-	-	328	114.0 / 85	59.0 / 223	3045/210
	60	-	-	4.57	460	165.0 / 123	97.2 / 368	2610/180
	60	-	3.69	-	488	174.3 / 130	103.3 / 391	2610/180
	60	-	4.57	-	394	140.8 / 105	83.5 / 316	2610/180
	60	2.96	-	-	507	181.0 / 135	107.3 / 406	2610/180
	60	3.69	-	-	407	146.2 / 109	86.1 / 326	2610/180
	60	4.57	-	-	328	118.0 / 88	69.7 / 264	2610/180
	65	-	-	4.57	460	161.0 / 120	114.4 / 433	2175/150
	65	-	3.69	-	488	171.6 / 128	121.3 / 459	2175/150
	65	-	4.57	-	394	138.1 / 103	98.3 / 372	2175/150
	65	2.96	-	-	507	178.3 / 133	126.0 / 477	2175/150
	65	3.69	-	-	407	143.5 / 107	101.0 / 382	2175/150
	65	4.57	-	-	328	114.0 / 85	81.9 / 310	2175/150
250 ARP® - Niro	50	-	-	4.52	464	199.8 / 149	66.3 / 251	4640/320
	50	-	3.57	-	504	216.0 / 161	72.1 / 273	4640/320
	50	-	4.52	-	398	170.3 / 127	56.8 / 215	4640/320
	50	3.04	-	-	493	211.9 / 158	70.5 / 267	4640/320
	50	3.57	-	-	420	179.7 / 134	60.0 / 227	4640/320
	50	4.52	-	-	331	142.1 / 106	47.3 / 179	4640/320
250 ARP® - GGG	55	-	-	4.52	464	189.1 / 141	83.0 / 314	3625/250
	55	-	3.57	-	504	206.5 / 154	90.1 / 341	3625/250
	55	-	4.52	-	398	162.3 / 121	71.1 / 269	3625/250
	55	3.04	-	-	493	201.1 / 150	88.0 / 333	3625/250
	55	3.57	-	-	420	171.2 / 128	75.0 / 284	3625/250
	55	4.52	-	-	331	135.4 / 101	59.2 / 224	3625/250
Installation variations	60	-	-	4.52	464	225.3 / 168	98.5 / 373	3625/250
	60	-	3.57	-	504	245.4 / 183	107.0 / 405	3625/250
	60	-	4.52	-	398	193.1 / 144	84.5 / 320	3625/250
	60	3.04	-	-	493	240.0 / 179	104.9 / 397	3625/250
	60	3.57	-	-	420	203.8 / 152	89.3 / 338	3625/250
	60	4.52	-	-	331	161.0 / 120	70.3 / 266	3625/250
	65	-	-	4.52	464	224.0 / 167	115.7 / 438	3045/210
	65	-	3.57	-	504	242.7 / 181	125.7 / 476	3045/210
	65	-	4.52	-	398	191.8 / 143	99.3 / 376	3045/210
	65	3.04	-	-	493	237.4 / 177	123.1 / 466	3045/210
	65	3.57	-	-	420	202.5 / 151	104.9 / 397	3045/210
	65	4.52	-	-	331	159.6 / 119	82.4 / 312	3045/210

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Features of the ARP®-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
400 ARP® 	55	-	-	4.23	496	374.1 / 279	121.3 / 459	4930/340
	55	-	3.60	-	500	376.8 / 281	122.3 / 463	4930/340
	55	-	4.23	-	425	320.5 / 239	103.8 / 393	4930/340
	55	2.96	-	-	506	382.2 / 285	123.6 / 468	4930/340
	55	3.60	-	-	416	313.8 / 234	101.7 / 385	4930/340
	55	4.23	-	-	354	266.9 / 199	86.4 / 327	4930/340
	65	-	-	4.23	496	372.8 / 278	169.3 / 641	3480/240
	65	-	3.60	-	500	375.5 / 280	170.7 / 646	3480/240
	65	-	4.23	-	425	319.2 / 238	145.0 / 549	3480/240
	65	2.96	-	-	506	380.8 / 284	172.8 / 654	3480/240
	65	3.60	-	-	416	312.5 / 233	142.1 / 538	3480/240
	65	4.23	-	-	354	266.9 / 199	120.7 / 457	3480/240
	75	-	-	4.23	496	374.1 / 279	223.2 / 845	2610/180
	75	-	3.60	-	500	376.8 / 281	224.8 / 851	2610/180
	75	-	4.23	-	425	320.5 / 239	191.5 / 725	2610/180
	75	2.96	-	-	506	382.2 / 285	228.0 / 863	2610/180
	75	3.60	-	-	416	313.8 / 234	187.6 / 710	2610/180
	75	4.23	-	-	354	266.9 / 199	159.8 / 605	2610/180
550 ARP® 	65	-	-	4.60	456	606.1 / 452	161.1 / 610	5800/400
	65	-	3.96	-	454	603.5 / 450	160.6 / 608	5800/400
	65	-	4.60	-	391	519.0 / 387	138.2 / 523	5800/400
	65	3.30	-	-	454	603.5 / 450	160.6 / 608	5800/400
	65	3.96	-	-	378	502.9 / 375	133.7 / 506	5800/400
	65	4.60	-	-	326	433.1 / 323	115.2 / 436	5800/400
	70	-	-	4.60	456	584.7 / 436	188.4 / 713	4785/330
	70	-	3.96	-	454	582.0 / 434	187.6 / 710	4785/330
	70	-	4.60	-	391	500.2 / 373	161.4 / 611	4785/330
	70	3.30	-	-	454	582.0 / 434	187.6 / 710	4785/330
	70	3.96	-	-	378	484.1 / 361	156.4 / 592	4785/330
	70	4.60	-	-	326	417.1 / 311	134.5 / 509	4785/330
	75	-	-	4.60	456	591.4 / 441	217.2 / 822	4205/290
	75	-	3.96	-	454	588.7 / 439	216.4 / 819	4205/290
	75	-	4.60	-	391	506.9 / 378	186.2 / 705	4205/290
	75	3.30	-	-	454	588.7 / 439	216.4 / 819	4205/290
	75	3.96	-	-	378	490.9 / 366	180.2 / 682	4205/290
	75	4.60	-	-	326	422.4 / 315	155.1 / 587	4205/290
700 ARP®	65	-	-	3.96	530	704.0 / 525	187.3 / 709	5800/400
	65	-	3.45	-	522	693.3 / 517	184.4 / 698	5800/400
	65	3.30	-	-	455	603.5 / 450	160.6 / 608	5800/400
	70	-	-	3.96	530	678.5 / 506	219.0 / 829	4785/330
	70	-	3.45	-	522	667.9 / 498	215.3 / 815	4785/330
	70	3.30	-	-	455	582.0 / 434	187.6 / 710	4785/330
	75	-	-	3.96	530	688.0 / 513	252.3 / 955	4205/290
	75	-	3.45	-	522	675.9 / 504	248.3 / 940	4205/290
	75	3.30	-	-	455	588.7 / 439	216.4 / 819	4205/290

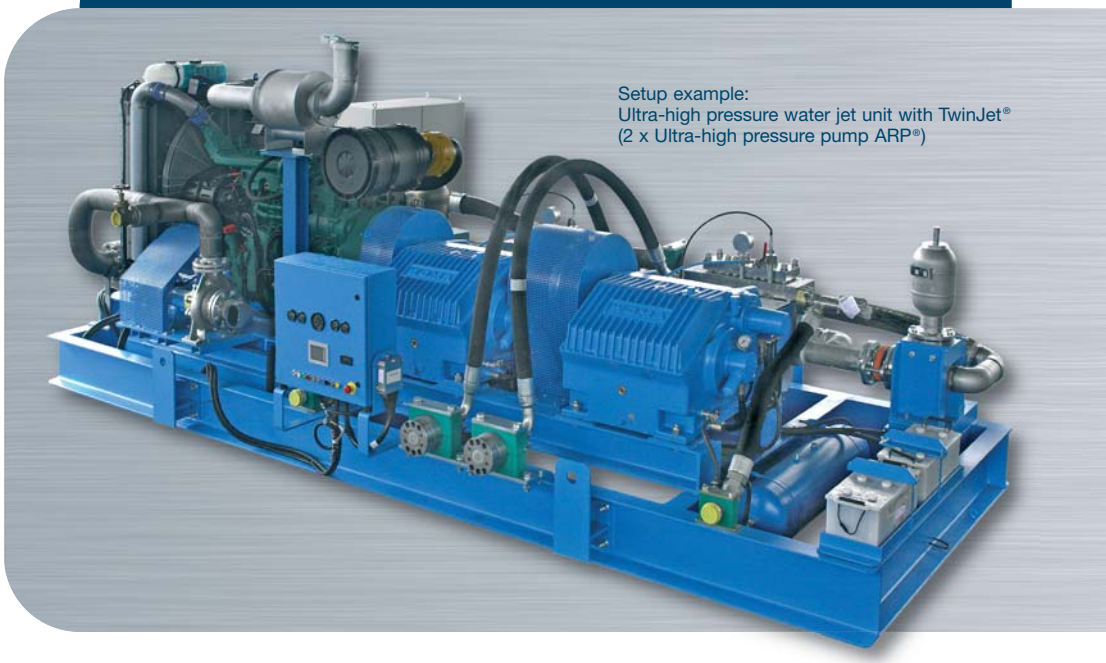
1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Features of the ARP®-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
1000 ARP®	55	-	-	4.23	496	877.0 / 654	233.3 / 883	5800/400
	55	-	3.69	-	488	861.0 / 642	229.0 / 867	5800/400
	55	-	4.23	-	425	751.0 / 560	200.0 / 757	5800/400
	55	3.00	-	-	500	882.3 / 658	234.8 / 889	5800/400
	55	3.69	-	-	406	717.4 / 535	191.0 / 723	5800/400
	55	4.23	-	-	354	626.2 / 467	166.4 / 630	5800/400
	65	-	-	4.23	496	1017.8 / 759	328.1 / 1242	4785/330
	65	-	3.69	-	488	1000.4 / 746	322.3 / 1220	4785/330
	65	-	4.23	-	425	871.7 / 650	281.3 / 1065	4785/330
	65	3.00	-	-	500	1024.5 / 764	330.5 / 1251	4785/330
	65	3.69	-	-	406	832.8 / 621	268.7 / 1017	4785/330
	65	4.23	-	-	354	726.8 / 542	234.3 / 887	4785/330
	70	-	-	4.23	496	1024.5 / 764	382.3 / 1447	4135/285
	70	-	3.69	-	488	1005.8 / 750	375.7 / 1422	4135/285
	70	-	4.23	-	425	877.0 / 654	327.8 / 1241	4135/285
	70	3.00	-	-	500	1031.2 / 769	385.2 / 1458	4135/285
	70	3.69	-	-	406	838.1 / 625	313.0 / 1185	4135/285
	70	4.23	-	-	354	730.8 / 545	273.2 / 1034	4135/285
	75	-	-	4.23	496	1039.3 / 775	440.4 / 1667	3625/250
	75	-	3.69	-	488	1020.5 / 761	432.7 / 1638	3625/250
	75	-	4.23	-	425	890.4 / 664	377.5 / 1429	3625/250
	75	3.00	-	-	500	1046.0 / 780	443.5 / 1679	3625/250
	75	3.69	-	-	406	850.2 / 634	360.6 / 1365	3625/250
	75	4.23	-	-	354	741.6 / 553	314.6 / 1191	3625/250

Example of an available model

All illustrations are examples of available models only



1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

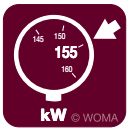
WOMA® Ultra-high pressure pumps

03 - series (3625 psi / 250 bar) 503 I 1003 I 15

Operating pressures up to 3625 psi/250 bar and rated volume up to approx. 400 l/min[1] make this series a specialist for de-scaling operations as well as drain and pipe cleaning.

The series, developed in keeping with the ATEX- and API-standards*, has a modular design, which opens up a variety of possibilities, allowing you to vary the output parameters simply by changing the interchangeable plunger set. The pump is designed for suction flow temperatures up to 65 °C with possibilities for up to 90 °C**. That makes the 03-series unequalled. The high-pressure plunger pumps of this series are slow-speed pumps and are therefore especially low-wear during operation. This increases the operating time between maintenance cycles. An auxiliary shaft to which you can connect a second pump, gives the system the ability to double the output.

* pressure-dependent and volume flow-dependent, ** optional
[1] 1 liter ≙ 0.2641 US.liq.gal



Example of an available model

WOMA® Ultra-high pressure pump 1503

All illustrations are examples of available models only

Technical Features

Gear Box

- Proven gear box with 3 available ratios (WOMA® standard)

Pump head

- Optimised-flow valve arrangement
- Maintenance-free plunger or piston seals
- Long life
- Stress alternation-free pump head

Interchangeable plunger set

- Plunger seals with lamellar sealing package
- High-quality plunger of ceramic or special steel

Additional equipment

- Pressure control valve with manual or pneumatic control
- Full lift safety valve

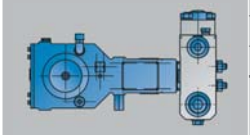
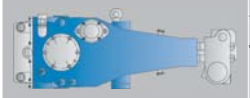
Special model

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

Directives and standards

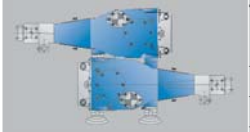
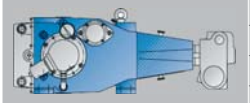
- ATEX 94/9/EC
- API 674 (pressure and volume flow-dependent)
- Quality management system according to DIN ISO EN 9001

Features of the 03-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
503 	30	-	-	-	1000	45.6 / 34	19.6 / 74	3625/250
	30	-	-	-	750	33.5 / 25	14.8 / 56	3625/250
	30	-	-	-	625	28.2 / 21	12.2 / 46	3625/250
	30	-	-	-	500	22.8 / 17	9.8 / 37	3625/250
	35	-	-	-	1000	49.6 / 37	27.0 / 102	2900/200
	35	-	-	-	750	37.5 / 28	20.1 / 76	2900/200
	35	-	-	-	625	30.8 / 23	16.6 / 63	2900/200
	35	-	-	-	500	24.1 / 18	13.5 / 51	2900/200
	40	-	-	-	1000	52.3 / 39	35.1 / 133	2320/160
	40	-	-	-	750	38.9 / 29	26.4 / 100	2320/160
	40	-	-	-	625	32.2 / 24	22.0 / 83	2320/160
	40	-	-	-	500	25.5 / 19	17.4 / 66	2320/160
	45	-	-	-	1000	52.3 / 39	44.7 / 169	1815/125
	45	-	-	-	750	38.9 / 29	33.6 / 127	1815/125
	45	-	-	-	625	32.2 / 24	28.0 / 106	1815/125
	45	-	-	-	500	25.5 / 19	22.2 / 84	1815/125
1003 Installation variations	50	-	3.63	-	495	77.8 / 58	55.5 / 210	2175/150
	50	3.00	-	-	500	79.1 / 59	56.0 / 212	2175/150
	50	3.63	-	-	413	65.7 / 49	46.2 / 175	2175/150
1503  Installation variations	50	-	3.69	-	488	132.8 / 99	70.5 / 267	2900/200
	50	2.96	-	-	507	136.8 / 102	73.4 / 278	2900/200
	50	3.69	-	-	406	110.0 / 82	59.0 / 223	2900/200
	55	-	3.69	-	488	136.8 / 102	85.9 / 325	2465/170
	55	2.96	-	-	507	142.1 / 106	89.0 / 337	2465/170
	55	3.69	-	-	406	114.0 / 85	71.3 / 270	2465/170
	60	-	3.69	-	488	134.1 / 100	102.2 / 387	2030/140
	60	2.96	-	-	507	139.5 / 104	106.2 / 402	2030/140
	60	3.69	-	-	406	111.3 / 83	85.3 / 323	2030/140

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

Features of the 03-series

	Plunger-diameter (mm)	Gear ratio: Pinion shaft (rpm) 1500	Gear ratio: Pinion shaft (rpm) 1800	Gear ratio: Pinion shaft (rpm) 2100	Crankshaft (rpm)	Required driving power (HP/kW)	Max. flow rate (USG pm/l/min)	Max. operating pressure (psi/bar)
1853	50	-	-	4.57	460	155.6 / 116	66.0 / 250	3625/250
	50	-	3.69	-	488	165.0 / 123	70.3 / 266	3625/250
	50	-	4.57	-	394	132.8 / 99	56.8 / 215	3625/250
	50	2.96	-	-	507	170.3 / 127	73.0 / 276	3625/250
	50	3.69	-	-	407	136.8 / 102	58.7 / 222	3625/250
	50	4.57	-	-	328	110.0 / 82	47.3 / 179	3625/250
	55	-	-	4.57	460	158.2 / 118	80.3 / 304	3045/210
	55	-	3.69	-	488	167.6 / 125	85.3 / 323	3045/210
	55	-	4.57	-	394	135.4 / 101	69.0 / 261	3045/210
Installation variations	55	2.96	-	-	507	174.3 / 130	88.8 / 336	3045/210
	55	3.69	-	-	407	139.5 / 104	71.1 / 269	3045/210
	55	4.57	-	-	328	112.6 / 84	57.3 / 217	3045/210
	60	-	-	4.57	460	162.3 / 121	95.9 / 363	2610/180
	60	-	3.69	-	488	171.7 / 128	102.0 / 386	2610/180
	60	-	4.57	-	394	138.1 / 103	82.2 / 311	2610/180
	60	2.96	-	-	507	178.3 / 133	106.0 / 401	2610/180
	60	3.69	-	-	407	143.5 / 107	84.8 / 321	2610/180
	60	4.57	-	-	328	115.3 / 86	68.4 / 259	2610/180
2503	50	-	-	4.52	464	158.2 / 118	68.4 / 259	3625/250
	50	-	3.57	-	504	171.7 / 128	74.2 / 281	3625/250
	50	-	4.52	-	398	135.4 / 101	58.6 / 222	3625/250
	50	3.04	-	-	493	167.6 / 125	72.6 / 275	3625/250
	50	3.57	-	-	420	142.1 / 106	61.8 / 234	3625/250
	50	4.52	-	-	331	112.6 / 84	48.9 / 185	3625/250
	55	-	-	4.52	464	189.1 / 141	83.0 / 314	3625/250
	55	-	3.57	-	504	206.5 / 154	90.1 / 341	3625/250
	55	-	4.52	-	398	162.3 / 121	71.1 / 269	3625/250
	55	3.04	-	-	493	201.2 / 150	88.0 / 333	3625/250
Installation variations	55	3.57	-	-	420	171.7 / 128	75.0 / 284	3625/250
	55	4.52	-	-	331	135.4 / 101	59.2 / 224	3625/250

1mm = 0.03937 inch • 1 kW ≙ 1.341 HP, 1 kW ≙ 1.36 PS • 1 liter ≙ 0.2641 US.liq.gal • 1 l/min. = 0.26417 USG pm = 0.22 IMPG pm • 1 USG pm = 3.785 liter/s • 1 bar = 14.503 psi

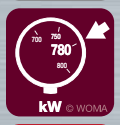
WOMA® icons

Low consumption ensures high environmental safety.

Due to the uniquely high overall efficiency, our high-pressure pumps reduce energy consumption to a minimum.

Especially light weight due to use of special materials.

Noise-insulating technologies ensure low-noise operation.



Maximum power rating (see icon).

Maximum operating pressure (see icon).

High system safety through the intelligent WOMATIC 4 controller.

Low fuel consumption through innovative pressure-rpm regulation.

Fitted with 2 high-pressure systems (TwinJet®-technology).

optional:

Available in explosion-proof design.

Available with wireless control.

Available with diesel drive.

Available with petrol drive.

Available with electrical drive.

WOMA® Group.
Always at your service.

**For things to go like clockwork for you,
we offer, world-wide**

- a reliable 24-hour service covering consultancy, maintenance work and repairs.
- a spare-parts service – from consulting to prompt delivery.
- a rental service – for fast, short-term requirements related to additional high-pressure technology.

For further information:
Phone: +49 2065 304-0
Fax: +49 2065 304-200
E-mail: info@woma.de

Service Hotline: +49 173 9606 400
Servive E-mail: service@woma.de

Accessories: Ultra-high pressure pumps	702	1002	1502	1852	2502	503	1003	1503	1853	2503	150 ARP
Pressure control unit as spill-valve 2/2-way, continuously variable, manually operated	●	●	●	●	●	●	●	●	●	●	●
Pressure control unit as spill-valve 2/2-way, continuously variable, Pn-operated	●	●	●	●	●	●	●	●	●	●	●
Pressure control unit as spill-valve 3/2-way, continuously variable, Pn-operated	●	●	●	●	●		●	●	●	●	●
On/off valve with bypass valve, Pn-actuated	●	●	●	●	●		●	●	●	●	
Threaded joint for overflow valve 3/2-way Pn-valve for separate mounting (3 pieces)							●	●	●	●	●
Pressure connection for by-pass valve, manual/Pn and 2/2-way directional switch-over valve							●	●	●	●	●
Pressure connection for by-pass 3/2-way Pn											
Pressure flange	●	●	●	●	●						
Suction valve lifter – PN											●
Suction valve lifter – manual											●
Pump head – sea water resistant	●	●	●	●	●						
Pump head – special steel							●	●	●	●	●
Full lift safety valve	●	●	●	●	●		●	●	●	●	●
Gauge	●	●	●	●	●	●	●	●	●	●	●
RAL colour shade as requested by customer	●	●	●	●	●	●	●	●	●	●	●
Painting RAL 5011	●	●	●	●	●	●	●	●	●	●	●
Gearbox oil filling	●	●	●	●	●	●	●	●	●	●	●
Water temperature monitoring (non-ATEX-conformant)											
Operating overpressure securing burst disc						●					
Cooling water line, internal		●	●	●	●		●	●	●	●	●
Pressurized oil lubrication, visually monitored	●	●	●	●	●		●	●	●	●	●
Pressurized oil lubrication, electrically monitored	●	●	●	●	●		●	●	●	●	●
Assembly set for retro-feet	●	●	●	●			●	●	●		●
Cascade with connections (in case of precompression not being present)											●

185 ARP	250 ARP	400 ARP	550 ARP	700 ARP	1000 ARP	70 Y	150 Z	185 Z	250 Z	400 Z	550 Z	700 Z	1000 Z	70 M	150 M	185 M	250 M	400 M	550 M	1000 M
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Kärcher Group

Water as a tool

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