

# WOMA® HIGH-PRESSURE PUMPS

Reliable and powerful plunger pumps from 250 – 4,000 bar.



## WATER AS A TOOL

WOMA high-pressure plunger pumps are characterised by their solid construction and excellent workmanship. The diverse range of pumps offers the right high-pressure pump for almost every high-pressure application, especially in the field of high-pressure water jet technology. Among the numerous options available for WOMA pumps is the Twin-Concept. In the range of gearbox sizes 150 to 700, this concept allows a second pump of a smaller or equal size to be connected to the free end of the drive shaft. In addition, all pumps apart from the 3-series are available as ATEX versions on request.

WOMA also offers a large selection of accessories ranging from pressure gauges, switching and regulating devices, through to various safety devices. The WOMA experts will always be glad to help you choose the right pump, regulating devices and accessories. Our application engineers will also advise you on site: together we will work with you to determine the ideal settings for pumps, devices and accessories to solve the individual application task.





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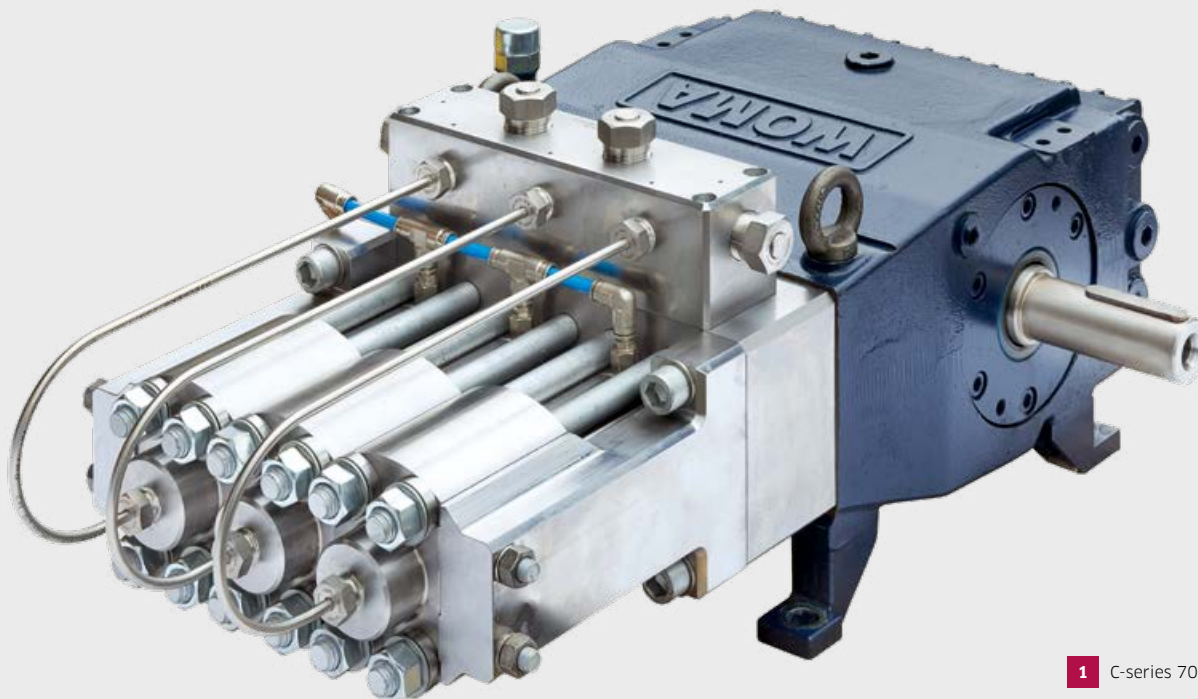
A close-up photograph of a water jet cutting machine. A high-pressure nozzle is positioned above a metal workpiece, with a fine, bright water jet cutting through it. A large plume of white mist or steam is being ejected from the cut. The background is dark and industrial.

**4,000  
BAR**

## **C-SERIES (4,000 BAR)**

### **Power packs for water jet cutting.**

The high-pressure plunger pump from the C-series delivers the highest pressure level in the WOMA pump portfolio. This pump has been specially developed for water jet cutting applications.



1 C-series 70C

Energy efficiency and productivity are the two greatest influencing factors that determine success and failure in water jet cutting. Featuring a water section that is a totally new development specially adapted to the needs of the water jet cutting sector, together with the proven and durable 70 gearbox end of the WOMA pumps, the 70C high-pressure pump combines these two requirements to perfection.

The pump is capable of delivering pressures up to 4,000 bar in continuous operation. The pressure and flow rate can be infinitely controlled with a variable drive, for instance for making first cuts. Inside the

pump, high-quality materials are used for the plunger, valves and seals in a cartridge design which promise a long service life. If any wear occurs in one of the three individually constructed high-pressure strands, it can be easily detected at the leakage holes and, thanks to the single strand and cartridge design, the high-pressure strand that needs to be serviced can be dismantled in just a few minutes. A new cartridge is quickly and easily installed so that the pump is immediately ready for use again. The subsequent overhaul of the removed cartridge, parallel to the running pump operation, is also carried out quickly and with inexpensive spare parts.

## TECHNICAL DATA

### Performance data 70C

Pinion shaft		Crank shaft	P9		P9		P9	
750 1/min	870 1/min		4,000 bar		3,500 bar		3,000 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min
1.00		870	35	4.7	32	5.0	29	5.3
1.00		750	30	4	28	4.3	25	4.5



**3,000  
BAR**



## **M-SERIES (3,000 BAR)**

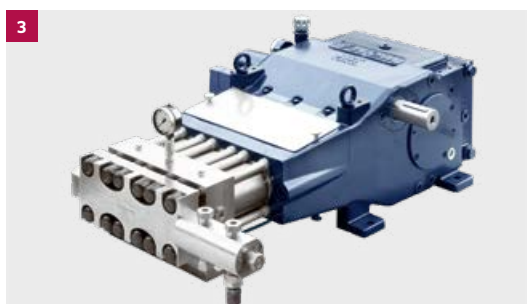
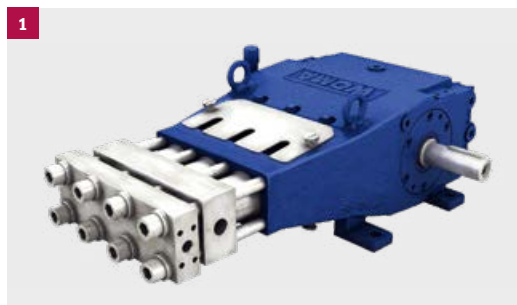
**Power packs with extremely high pressures.**

In combination with the wide range of WOMA water tools, the M-series high-pressure plunger pump with its operating pressures of up to 3,000 bar is the right choice for cutting, dismantling or decoating work.

The M-series offers a suitable high-pressure pump for applications requiring ultra-high-pressures.

The range starts with the compact 70M with a required driving power of 45 kW through to the 1000M Boxer pump, which demands a corresponding driving power of 713 kW. What all the pumps from the M-series have in common is extreme stability due to their premium quality materials in combination with accurate manufacturing and a well thought-out design.

The robust carbide plungers are leaded in precise guide rings, cooled by the sealing water system, and protected against dirt or damage for a long service life. The proven central valve design is decisive for the outstanding efficiency of the M-series.



- 1 M-series 70M
- 2 M-series 150M
- 3 M-series 190M
- 4 M-series 250M
- 5 M-series 330M
- 6 M-series 400M
- 7 M-series 550M
- 8 M-series 1000M

# TECHNICAL DATA

## Performance data 70M

Pinion shaft		Crank shaft	P10		P12	
750 1/min	750 1/min		3,000 bar		2,500 bar	
Gear ratio		1/min	kW	l/min	kW	l/min
1.00		825	33	6.0	45	9.8
		750	30	5.5	41	8.9

## Performance data 150M

Pinion shaft		Crank shaft	P12		P14		P16		P18	
1,500 1/min	1,800 1/min		3,000 bar*		2,500 bar		2,000 bar		1,500 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
2.96		507	69	12	83	17	95	26	93	34
3.69		488	67	12	80	17	92	25	89	32
3.69		407	56	10	67	14	77	21	75	27
4.57		394	54	9	64	14	74	20	72	26
4.57		328	45	8	54	11	62	16	60	22

## Performance data 190M

Pinion shaft		Crank shaft	P15		P16		P18		P20	
1,500 1/min	1,800 1/min		3,000 bar		2,800 bar		2,500 bar		2,000 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
4.25		424	99	18	106	20	122	26	124	34
4.25		353	83	15	89	17	102	22	103	28

## Performance data 250M

Pinion shaft		Crank shaft	P15		P16		P18		P20	
1,500 1/min	1,800 1/min		3,000 bar		2,800 bar		2,500 bar		2,000 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
3.57		504	118	21	126	25	145	32	148	40
3.04		493	115	21	124	24	142	31	145	39
3.57		420	98	18	105	20	121	26	123	33

## Performance data 330M

Pinion shaft		Crank shaft	P18		P20		P22	
1,500 1/min	1,800 1/min		3,000 bar		2,500 bar		2,000 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min
4.23		426	196	35	207	45	206	56
4.23		355	163	29	172	38	172	47

## Performance data 400M

Pinion shaft		Crank shaft	P18		P20		P22	
1,500 1/min	1,800 1/min		3,000 bar		2,500 bar		2,000 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min
2.96		507	233	42	246	54	245	67
3.60		500	230	42	243	53	242	66
3.60		417	191	35	203	44	202	55

## Performance data 550M

Pinion shaft		Crank shaft	P22		P24		P26		P28	
1,500 1/min	1,800 1/min		3,000 bar		2,500 bar		2,500 bar		2,000 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
3.30		455	336	61	343	75	402	88	384	105
4.60		391	289	53	295	65	346	76	331	91
3.96		379	280	51	286	63	335	73	320	88
4.60		326	241	44	246	54	288	63	275	75

## Performance data 1000M

Pinion shaft		Crank shaft	P22		P24		P26		P28	
1,500 1/min	1,800 1/min		3,000 bar		2,500 bar		2,000 bar		1,800 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
3.00		500	685	126	700	154	676	186	713	218
3.69		488	668	122	683	150	659	181	696	213
4.23		426	583	107	596	131	575	158	607	186
3.69		407	558	102	569	125	549	151	580	177
4.23		355	486	89	496	109	479	132	506	155



### Cleaning of ships and buoys

The cleaning applications of ships and buoys in ultra-high-pressure water jetting are manifold. Starting with the simple surface cleaning, over to the removal of algae, shells and other deposits up to the paint removal – WOMA offers the suitable solution for each task.



### Concrete repair

With the help of ultra-high-pressure technology, concrete can be removed quickly and safely. When concrete is removed using ultra-high-pressure water jets, it creates only very minimal vibrations in the construction. The steel reinforcement is exposed with accuracy, precision and without damage.



### Paint Removal

For the removal of paints and multi-layer coatings on ship walls, the ultra-high-pressure solutions in combination with the right water tools, such as the use of the WOMA Magnet Lizard, are the best choice.





**1,500  
BAR**



## **Z-SERIES (1,500 BAR)**

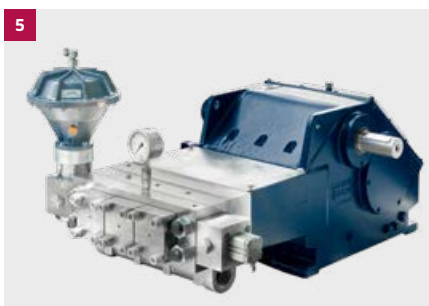
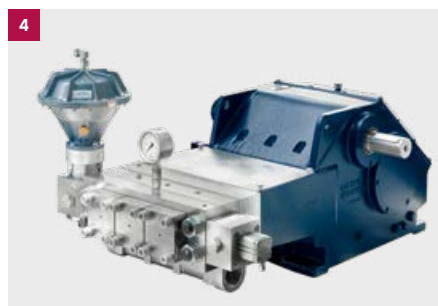
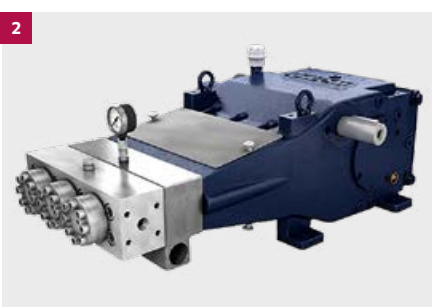
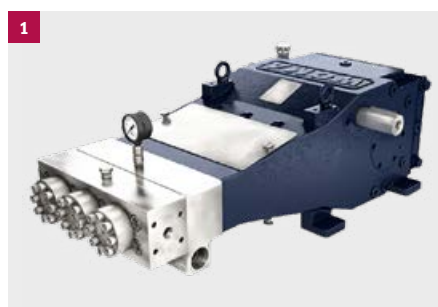
**Power packs for industrial cleaning.**

Energy efficiency and resource protection are challenges in industrial cleaning and decoating that can be successfully mastered by the WOMA Z-series.



With operating pressures up to 1,500 bar and nominal flow rates up to 744 l/min, the Z-series is extremely flexible in a wide range of applications. In particular as the centrepiece of the WOMA EcoMaster ZWG with an integrated intermediate gear, these high-pressure pumps are the general purpose solution for almost every application.

Good plunger guidance ensures a long service life for the sealing system. The pumps are fitted with plungers made of different materials depending on the requirements. Pumps with an operating pressure from 1,000 bar, for example, have robust carbide plungers for an exceptionally long service life. The central valve design of the pump results in a particularly efficient volumetric efficiency and, together with the low servicing costs, contributes to the remarkably low operating costs offered by the Z-series in this performance segment.



- 1 Z-series 150Z
- 2 Z-series 190Z
- 3 Z-series 250Z
- 4 Z-series 330Z
- 5 Z-series 400Z
- 6 Z-series 550Z
- 7 Z-series 700Z
- 8 Z-series 1000Z

# TECHNICAL DATA

## Performance data 150Z

Pinion shaft		Crank shaft	P19		P20		P22		P26		P30		P35	
1,500 1/min	1,800 1/min		1,500 bar		1,250 bar		1,000 bar		750 bar		570 bar		420 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
2.96		507	103	37	97	42	95	52	101	73	103	99	104	136
	3.69	488	100	36	93	40	91	50	97	71	99	95	100	130
3.69		407	83	30	78	34	76	41	81	59	83	79	83	109
	4.57	394	80	29	75	33	74	40	78	57	80	77	81	105
4.57		328	67	24	63	27	62	33	65	47	67	64	67	88

## Performance data 190Z

Pinion shaft		Crank shaft	P24		P26		P28		P30		P35	
1,500 1/min	1,800 1/min		1,500 bar		1,300 bar		1,150 bar		1,000 bar		720 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
	4.25	424	138	50	142	59	146	70	147	81	147	112
4.25		353	115	42	118	49	122	58	123	67	122	93

## Performance data 250Z

Pinion shaft		Crank shaft	P24		P26		P28		P30		P35	
1,500 1/min	1,800 1/min		1,500 bar		1,300 bar		1,150 bar		1,000 bar		720 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
	3.57	504	164	60	168	71	174	83	175	96	174	133
3.04		493	160	58	165	69	170	81	171	94	171	130
3.57		420	137	50	140	59	145	69	146	80	145	111

## Performance data 330Z

Pinion shaft		Crank shaft	P26		P28		P30		P35		P45		P50	
1,500 1/min	1,800 1/min		1,500 bar		1,300 bar		1,150 bar		850 bar		500 bar		400 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
	4.23	426	222	81	225	95	231	110	236	152	234	257	232	319
4.23		355	185	67	188	79	192	92	197	127	195	214	193	266

## Performance data 400Z

Pinion shaft		Crank shaft	P26		P28		P30		P35		P45		P50	
1,500 1/min	1,800 1/min		1,500 bar		1,300 bar		1,150 bar		850 bar		500 bar		400 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
2.96		507	264	97	268	113	275	131	281	182	278	306	276	380
	3.60	500	261	95	265	112	271	129	277	179	274	302	272	375
3.60		417	217	79	221	93	226	108	231	149	229	252	227	312

## Performance data 550Z

Pinion shaft		Crank shaft	P30		P35		P40		P45		P50	
1,500 1/min	1,800 1/min		1,500 bar		1,300 bar		1,000 bar		800 bar		650 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
3.30	3.96	455	340	124	405	171	413	227	423	291	428	362
	4.60	391	293	107	349	147	356	196	364	250	368	312
3.96		379	283	104	337	143	344	189	352	242	356	302
4.60		326	244	89	291	123	297	163	303	209	307	260

## Performance data 700Z

Pinion shaft		Crank shaft	P30		P35		P40		P45		P50	
1,500 1/min	1,800 1/min		1,500 bar		1,300 bar		1,000 bar		800 bar		650 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
	3.30	545	408	149	486	206	496	273	507	349	513	435
	3.45	522	390	143	465	197	474	261	485	334	491	416
3.30		455	340	124	405	171	413	227	423	291	428	362

## Performance data 1000Z

Pinion shaft		Crank shaft	P30		P35		P40		P45		P50	
1,500 1/min	1,800 1/min		1,400 bar		1,100 bar		850 bar		700 bar		560 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
3.00		500	651	256	707	354	723	469	760*	598	756	744
	3.69	488	635	250	690	345	705	457	741	584	737	726
	4.23	426	554	218	602	301	615	399	646	509	643	633
3.69		407	529	208	575	288	588	381	618	486	614	605
4.23		355	462	181	502	251	513	332	539	424	536	527



**Tank and vessel cleaning**

Tanks and containers must be periodically cleaned from the inside to remove all contaminants. The tank cleaning heads from the TankMaster series ensure optimum interior cleaning results at minimal cleaning times.

**Pipe cleaning**

Pipes are the veins of plants in all industrial areas and must therefore always be free from deposits. The cleaning of pipes with high-pressure water even enables getting into hard to reach places.



A close-up photograph showing a gloved hand holding a high-pressure water spray gun. The gun is spraying a powerful jet of water onto a heavily rusted metal surface. The water spray is visible as a white mist. The background is a rusty metal plate with horizontal lines.

**1,000  
BAR**

## **Y-SERIES (1,000 BAR)**

### **Power packs for compact systems.**

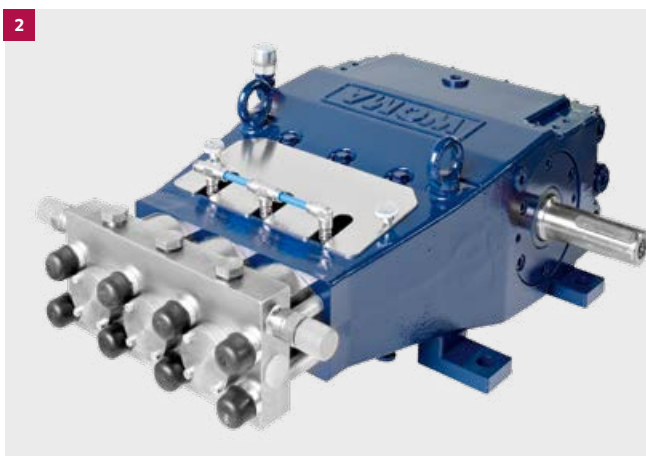
The high-pressure pumps from the Y-series are exceedingly compact. Their small size and low weight make them especially suitable for use in compact high-pressure units.



With operating pressures of up to 1,000 bar, the Y-series is outstandingly suited to many different cleaning tasks, e.g. in the chemical industry, oil and gas industry, as well as for marine applications.

Depending on the fluid being used, the standard carbide plunger in the 70Y pump can be replaced by a fluid-resistant ceramic plunger. It is also possible to fit the pump with a suction valve lift for unpressurised circulation of the water within the pump head.

The newly developed 30Y high-pressure pump extends the performance spectrum of the Y-series even further. With a required driving power of 30 kW, it is capable of pumping up to 16.7 l/min at 1,000 bar. In addition the pumps offers favourable purchase and operating costs.



1 Y-series 30Y  
2 Y-series 70Y

## TECHNICAL DATA

### Performance data 30Y

Pinion shaft		Crank shaft	P15	
750 1/min	1,000 1/min		1,000 bar	
Gear ratio		1/min	kW	l/min
1.00		1,000	31	16.7
1.00		750	23	12.5

### Performance data 70Y

Pinion shaft		Crank shaft	P15		P16		P18		P20	
750 1/min	1,000 1/min		1,000 bar		1,000 bar		850 bar		700 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
1.00		1,000	41	22	47	25	50	32	52	40
1.00		750	31	16	35	19	38	24	39	30

A photograph of an industrial high-pressure pump system. The system consists of large white cylindrical vessels with circular end flanges, connected by a network of white pipes. Several blue-handled valves are visible on the pipes. The equipment is mounted on a concrete base. In the foreground, there is a white metal walkway with a perforated plate. The background is a clear blue sky.

**750  
BAR**

## **2-SERIES (750 BAR)**

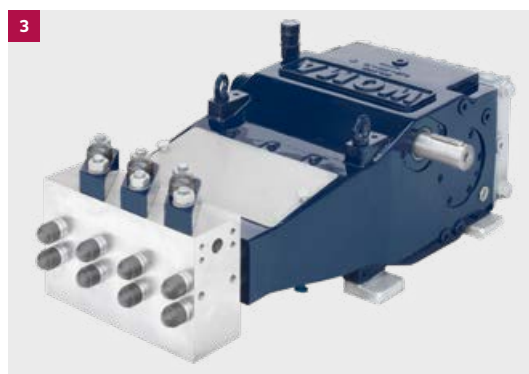
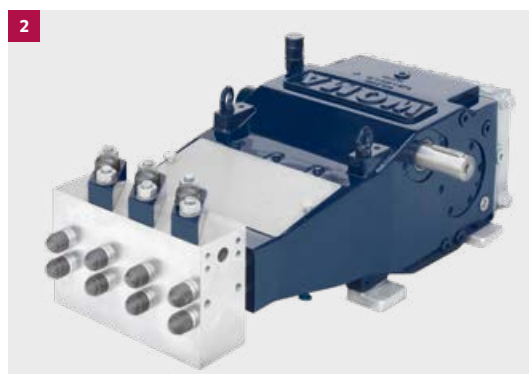
### **Power packs for harsh environments.**

The robust, yet inexpensive high-pressure pumps from the 2-series generate up to 750 bar. This makes them the preferred choice in particular for cleaning pipes, tube bundles and vessels.

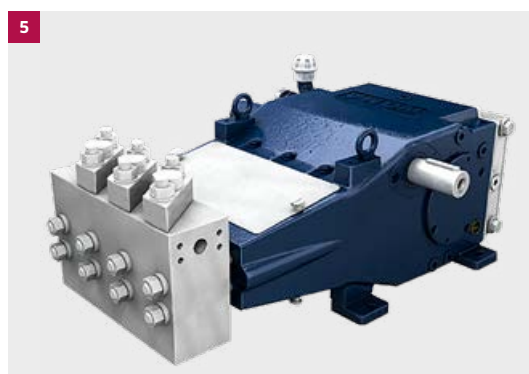
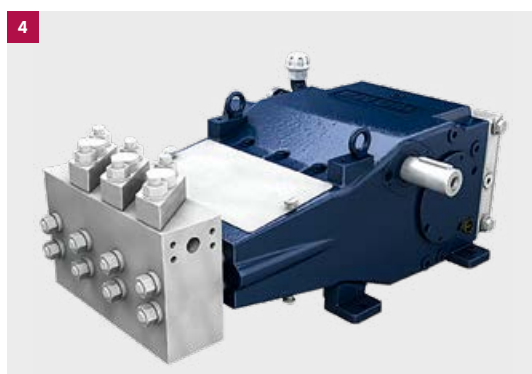


Regardless of how harsh the day-to-day working conditions may be, the pumps from the 2-series are ideally equipped to handle them, and in doing so offer outstanding value for money. They are particularly easy to maintain and offer a long service life. The 2-series pumps are built with ceramic plungers, which are extremely resistant to alkaline and acidic liquids. Specially coated steel plungers that are extremely hard-wearing and highly resistant to temperature shocks are available as an option. The plungers are additionally protected against contamination and damage by the newly integrated sealing water system.

On customer request the 2-series is also available with increased inlet pressure.



- 1 2-series 702
- 2 2-series 1002
- 3 2-series 1502
- 4 2-series 1902
- 5 2-series 2502



# TECHNICAL DATA

## Performance data 702

Pinion shaft		Crank shaft	P20		P24		P26		P30		P35		P40		P45	
750 1/min	1,000 1/min		650 bar		450 bar		400 bar		300 bar		220 bar		170 bar		135 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
1.00		1,000	48	39	49	57	51	68	51	91	52	125	52	165	53	209
		750	36	29	37	43	38	51	39	68	39	94	39	123	40	157

## Performance data 1002

Pinion shaft		Crank shaft	P22		P26		P35		P40		P45	
1,500 1/min	1,800 1/min		750 bar		550 bar		300 bar		230 bar		180 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
3.00		500	54	38	56	54	57	102	58	134	57	171
3.63		496	54	38	56	54	57	101	57	133	57	169
		413	45	31	47	45	47	84	48	111	48	141

## Performance data 1502

Pinion shaft		Crank shaft	P26		P30		P35		P40		P45	
1,500 1/min	1,800 1/min		750 bar		565 bar		415 bar		320 bar		250 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
2.96		507	99	70	101	96	103	133	105	175	104	224
3.69		488	95	68	97	92	99	128	101	169	100	215
3.69		407	79	56	81	77	83	106	84	140	84	179
4.57		394	77	55	79	74	80	103	81	136	81	174
		328	64	45	66	62	67	86	68	113	68	145

## Performance data 1902

Pinion shaft		Crank shaft	P30		P35		P40		P45	
1,500 1/min	1,800 1/min		750 bar		650 bar		500 bar		400 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
4.25		424	110	78	131	108	134	144	137	184
4.25		353	92	65	109	90	112	120	114	153

## Performance data 2502

Pinion shaft		Crank shaft	P30		P35		P40		P45	
1,500 1/min	1,800 1/min		750 bar		650 bar		500 bar		400 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
3.57		504	131	94	156	129	159	171	163	219
3.04		493	128	91	153	126	156	167	159	214
3.57		420	109	78	130	107	133	143	136	182





### **Tank and silo cleaning**

The internal cleaning is the central task of tank and silo maintenance. To keep production down times as little as possible, a quick and thorough cleaning is crucial. The dense spray pattern of the TankMaster cleaning heads guarantee optimum results in short times.



### **Heat exchanger cleaning**

The processes in heat exchangers often lead to the formation of stubborn deposits, which, depending on the type, harden and reduce the flow or even completely block them. Regular and residue-free cleaning with high-pressure is therefore essential for the necessary process efficiency and safety.



A photograph of an industrial facility, likely a steel mill, featuring a large, glowing orange-red molten metal slab being processed. The background shows complex industrial structures, including pipes and walkways, with bright orange sparks or smoke rising from the processing area. A green safety railing is visible in the foreground.

**400  
BAR**

## **ARP-SERIES (400 BAR)**

**Power packs for high flow rates and contaminated water.**

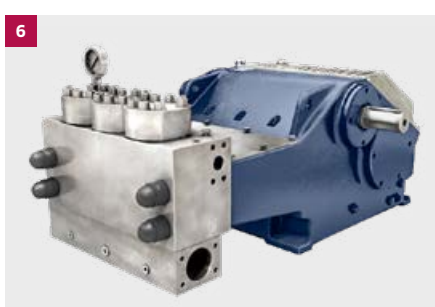
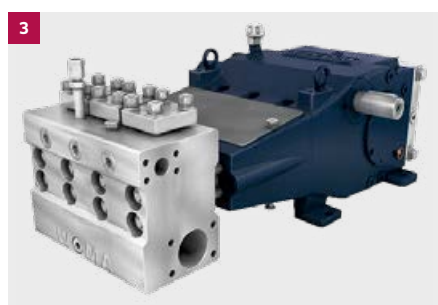
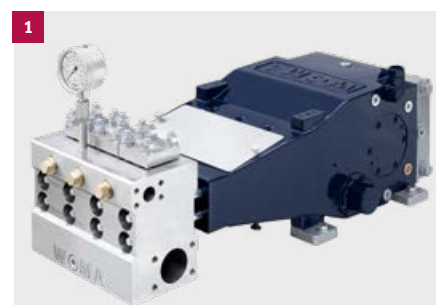
In descaling or sewer cleaning, the water is often contaminated. WOMA also offers the right selection of reliable pumps for these conditions and heavy duty operations.



The ARP-series produces operating pressures of up to 400 bar and nominal flow rates of up to approx. 1,680 l/min.

ARP stands for Abrasive Resistant Pump. It is specially designed to handle long operating times, even for contaminated fluids with granular or fibrous solids up to 300 µm. The pump can be serviced directly on site without dismantling the pump head. Up to the gearbox size 250, the pump head of the ARP-series is available either as an inexpensive cast variant, or as a particularly robust design made of stainless steel. If required, super-duplex stainless steels can also be used for maximum durability.

If the system also pumps the fluid into an open consumer, the optional suction valve lift is an economical and space-saving alternative to a bypass valve.



- 1 ARP-series 150ARP
- 2 ARP-series 190ARP
- 3 ARP-series 250ARP
- 4 ARP-series 330ARP
- 5 ARP-series 400ARP
- 6 ARP-series 550ARP
- 7 ARP-series 1000ARP

# TECHNICAL DATA

## Performance data 150ARP

Pinion shaft		Crank shaft	P40		P45		P50		P55		P60	
1,500 1/min	1,800 1/min		320 bar		250 bar		200 bar		170 bar		140 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
2.96		507	105	175	104	224	103	277	107	337	105	402
	3.69	488	101	169	100	215	100	267	103	324	101	387
3.69		407	84	140	84	179	83	222	86	270	84	323
	4.57	394	81	136	81	174	80	216	83	262	82	312
4.57		328	68	113	68	145	67	180	69	218	68	260

## Performance data 190ARP

Pinion shaft		Crank shaft	P50		P55		P60		P65	
1,500 1/min	1,800 1/min		320 bar		250 bar		250 bar		210 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
	4.25	424	136	229	130	279	155	332	153	392
4.25		353	114	191	108	233	129	277	128	326

## Performance data 250ARP

Pinion shaft		Crank shaft	P50		P55		P60		P65	
1,500 1/min	1,800 1/min		320 bar		250 bar		250 bar		210 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
	3.57	504	162	273	155	332	184	396	182	466
3.04		493	159	267	151	325	180	387	178	456
3.57		420	135	227	129	277	153	330	152	389

## Performance data 330ARP

Pinion shaft		Crank shaft	P55		P65	
1,500 1/min	1,800 1/min		340 bar		240 bar	
Gear ratio		1/min	kW	l/min	kW	l/min
	4.23	426	240	380	239	537
4.23		355	200	317	200	447

## Performance data 400ARP

Pinion shaft		Crank shaft	P55		P65	
1,500 1/min	1,800 1/min		340 bar		240 bar	
Gear ratio		1/min	kW	l/min	kW	l/min
2.96		507*	286	453	285	640
	3.60	500	282	447	281	631
3.60		417	235	372	234	526

## Performance data 550ARP

Pinion shaft		Crank shaft	P60		P65		P70		P75	
1,500 1/min	1,800 1/min		400 bar		400 bar		330 bar		290 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
3.30	3.96	455	384	518	451	608	435	710	440	819
	4.60	391	331	446	388	523	374	611	379	705
3.96		379	320	431	376	506	362	592	367	682
4.60		326	276	371	324	436	312	509	316	587

## Performance data 1000ARP

Pinion shaft		Crank shaft	P60		P65		P70		P75	
1,500 1/min	1,800 1/min		390 bar		330 bar		285 bar		250 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min	kW	l/min
3.00		500	766	1.059	765	1.251	770	1.458	778	1.679
	3.69	488	747	1.033	747	1.220	751	1.422	759	1.638
	4.23	426	652	901	651	1.065	655	1.241	662	1.429
3.69		407	623	861	622	1.017	626	1.185	633	1.365
4.23		355	543	751	543	887	546	1.034	552	1.191



**Hydromechanical descaling**

Hydromechanical descaling is mainly used where the uncompromising quality of hot rolling products is required. For proper and effective descaling results, the correct volume flow and pressure as well as the distance and angle of the nozzle bar are of crucial importance.

**Sewer cleaning**

In the sewer cleaning dirty fluids are common. For pumps of the ARP series, conditions with granular or fibrous solids up to 300µm are no problem.







**250  
BAR**

## **3-SERIES (250 BAR)**

**Power packs for cleaning and flushing.**

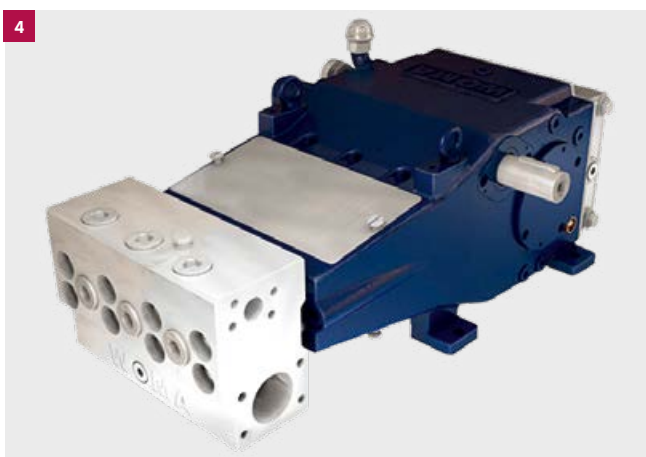
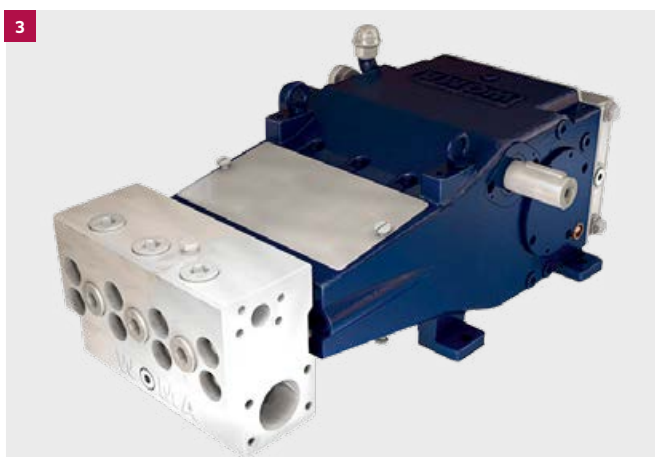
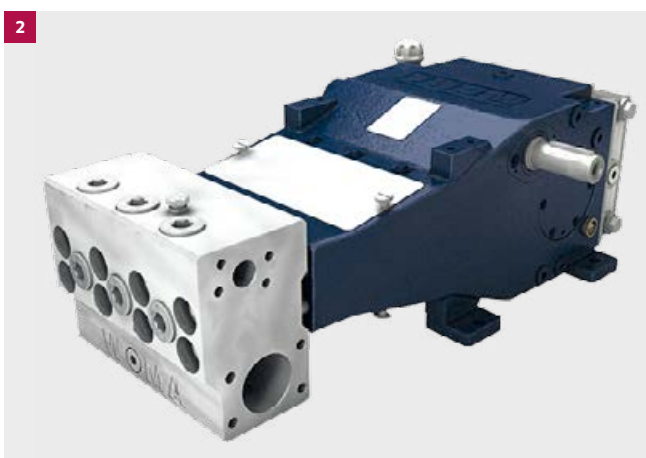
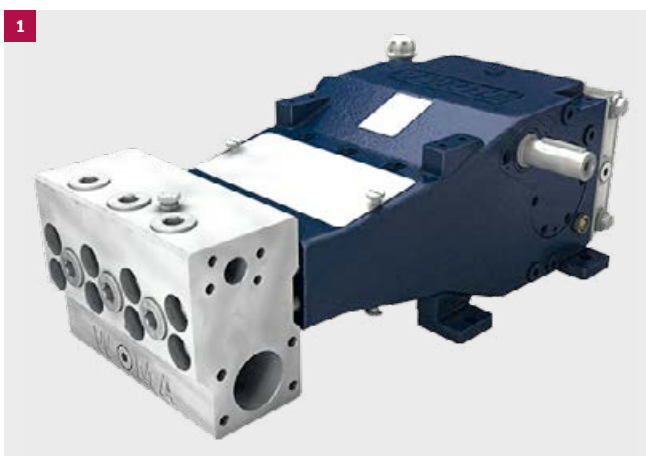
A low price, inexpensive servicing, durable and service-friendly. With these characteristics, the 3-series is well suited for sewer and pipe cleaning applications.



A good pump does not have to be complicated. The simple principle of the 3-series with its proven WOMA components makes the pump a reliable companion for all high-pressure applications up to 250 bar. The pump can be adapted with simple means to accommodate the prevailing requirements.

The sealing system of the 3-series is particularly easy to service since it has very few wearing parts. As an alternative to the corrosion-resistant stainless steel pump head, an inexpensive version made of cast iron is available for the 1503 to 2503 series. Coated steel plungers are optionally available for even greater resistance to wear and thermal shock compared to the standard, fluid-resistant ceramic plungers.

- 1** 3-series 1003
- 2** 3-series 1503
- 3** 3-series 1903
- 4** 3-series 2503



# TECHNICAL DATA

## Performance data 1003

Pinion shaft		Crank shaft	P50		P55	
1,500 1/min	1,800 1/min		150 bar		125 bar	
Gear ratio		1/min	kW	l/min	kW	l/min
3.00		500	59	211	60	257
	3.63	496	59	210	59	254
3.63		413	49	175	49	212

## Performance data 1503

Pinion shaft		Crank shaft	P50		P55		P60	
1,500 1/min	1,800 1/min		200 bar		170 bar		140 bar	
Gear ratio		1/min	kW	l/min	kW	l/min	kW	l/min
2.96			103	277	107	337	105	402
	3.69	488	100	267	103	324	101	387
3.69		407	83	222	86	270	84	323
	4.57	394	80	216	83	262	82	312
4.57		328	67	180	69	218	68	260

## Performance data 1903

Pinion shaft		Crank shaft	P50		P55	
1,500 1/min	1,800 1/min		250 bar		250 bar	
Gear ratio		1/min	kW	l/min	kW	l/min
	4.25	424	107	231	130	279
4.25		353	90	192	108	233

## Performance data 2503

Pinion shaft		Crank shaft	P50		P55	
1,500 1/min	1,800 1/min		250 bar		250 bar	
Gear ratio		1/min	kW	l/min	kW	l/min
	3.57	504	128	275	155	332
3.04		493	125	269	151	325
3.57		420	107	229	129	277





## **You need more than just a single high-pressure pump?**

We also have suitable system solutions, tools and accessories for every application:

### **Cleaning with up to 1,500 bar**

WOMA high-pressure cleaning solutions are used in the chemical and process industries around the world. Our high-pressure guns and TankMaster cleaning heads will completely remove all paint residues, impurities, resins and caking from tanks and vessels. We also offer suitable products and solutions for pipe and heat exchanger cleaning that deliver perfect results.

### **Removal with up to 3,000 bar**

For ultra-high-pressure removal, we offer the right solutions for a wide range of industries and applications. For the removal of paints, rust products and anti-corrosion coatings with manual and remote controlled water tools, the right products are available for your tasks. In addition, WOMA high-pressure solutions can be used for emission-free decontamination and selective removal of concrete.

### **Cutting with up to 4,000 bar**

WOMA cutting tools are widely used in the construction industry. The cutting of reinforced concrete, steels or ceramics takes place with construction site-suitable abrasive tools. It is also easy to cut containers, technical systems or building constructions into pieces. The water tools generate no heat at the cutting edges and work dust-free and with low vibrations.

### **With our experience to the right solution**

You need advice and support for your application? Our application engineers have decades of cross-industry experience and will find the most appropriate water tool with the right parameters for your task.

# WHATEVER THE TASK - WE HAVE THE SOLUTION.

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