



Water as a tool
for a clean environment

High-Pressure Plunger Pumps ARP[®]-Line

150 ARP[®]

185 ARP[®]

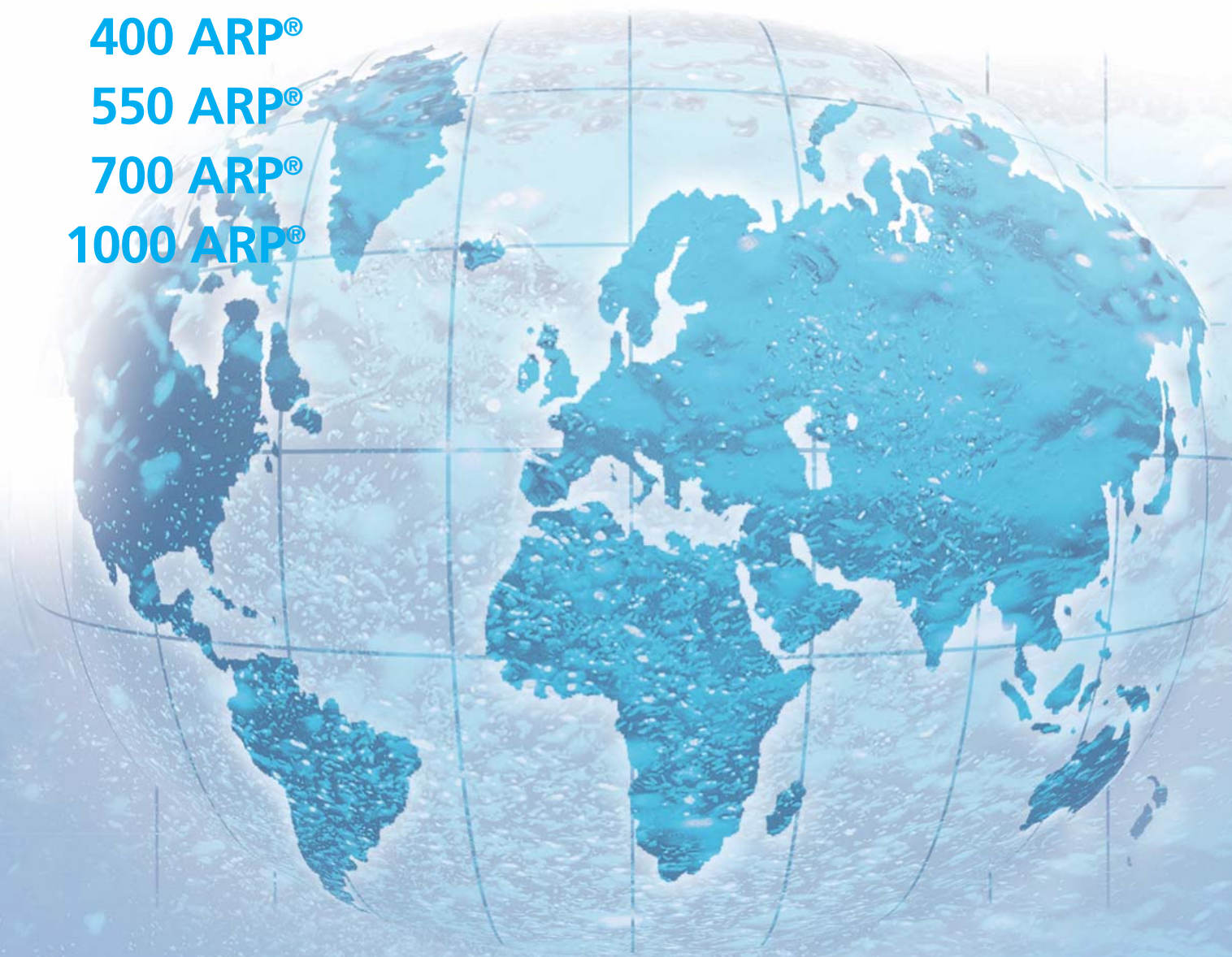
250 ARP[®]

400 ARP[®]

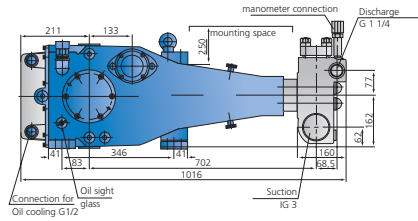
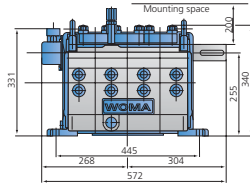
550 ARP[®]

700 ARP[®]

1000 ARP[®]



High-Pressure Plunger Pump Type 150 ARP®

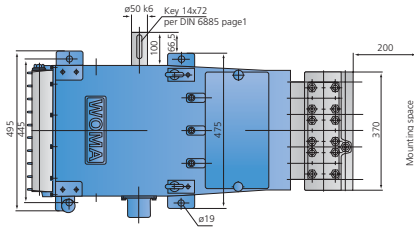
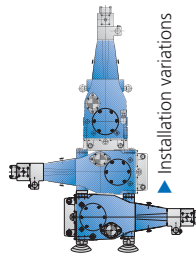


All dimensions in mm
 Thread „M“ as per DIN 13/ISO 261
 Thread „G“ as per DIN ISO 228/1

Technical data:

- ▶ Oil capacity: approx. 9 l
- ▶ Weight: approx. 320 kg net
- ▶ Stroke: 95 mm/3.74 inch
- ▶ Inlet pressure required: 1.5–5 bar/22–75 psi*
- ▶ Rod force: 40 kN

*for continous industrial use

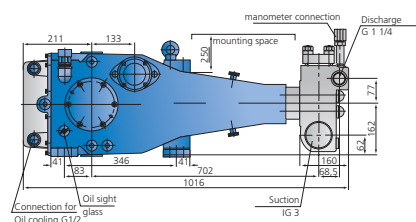
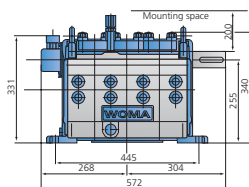


Performance Chart Pump Type 150 ARP®-Niro									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi/bar)
	Pinion shaft (Rpm)					USG pm	IMPG pm	l/min	
	1,500	1,800	2,100						
P40			4.57	459	94	43.3	36.1	164	4,640/320
		3.69		487	100	46.0	38.3	174	
		4.57		393	80	37.0	30.8	140	
	2.96			506	104	47.8	39.8	181	
	3.69			406	84	38.3	31.9	145	
	4.57			328	67	30.9	25.7	117	

Performance Chart Pump Type 150 ARP®-GGG									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi/bar)
	Pinion shaft (Rpm)					USG pm	IMPG pm	l/min	
	1,500	1,800	2,100						
P45			4.57	459	95	54.7	45.5	207	3,625/250
		3.69		487	100	58.1	48.4	220	
		4.57		393	81	47.0	39.2	178	
	2.96			506	105	60.5	50.4	229	
	3.69			406	84	48.3	40.3	183	
	4.57			328	68	39.1	32.6	148	
P50			4.57	459	93	67.6	56.3	256	2,900/200
		3.69		487	99	71.9	59.8	272	
		4.57		393	80	57.9	48.2	219	
	2.96			506	103	74.8	62.3	283	
	3.69			406	83	60.0	49.9	227	
	4.57			328	67	48.3	40.3	183	
P55			4.57	459	96	81.9	68.2	310	2,465/170
		3.69		487	102	86.9	72.4	329	
		4.57		393	82	70.0	58.3	265	
	2.96			506	106	90.3	75.2	342	
	3.69			406	85	72.4	60.3	274	
	4.57			328	69	58.4	48.6	221	
P60			4.57	459	94	97.5	81.2	369	2,030/140
		3.69		487	100	103.6	86.2	392	
		4.57		393	81	83.5	69.5	316	
	2.96			506	104	107.5	89.5	407	
	3.69			406	83	86.1	71.7	326	
	4.57			328	67	69.7	58.1	264	

Technical Data

High-Pressure Plunger Pump Type 185 ARP®

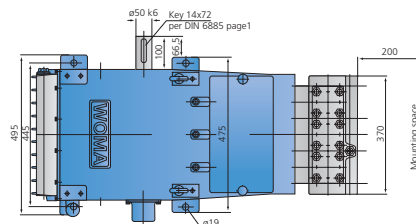
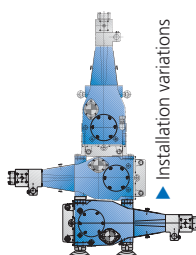


All dimensions in mm
 Thread „M“ as per DIN 13/ISO 261
 Thread „G“ as per DIN ISO 228/1

Technical data:

- ▶ Oil capacity: approx. 9 l
- ▶ Weight: approx. 329 kg net
- ▶ Stroke: 95 mm/3.74 inch
- ▶ Inlet pressure required: 1.5–5 bar/22–75 psi*
- ▶ Rod force: 50 kN

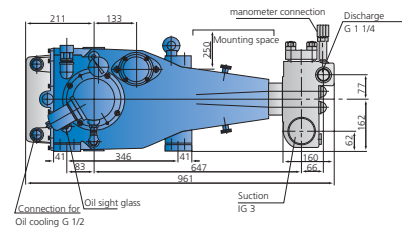
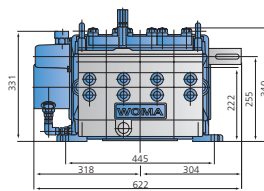
*for continuous industrial use



Performance Chart Pump Type 185 ARP®-Niro									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi/bar)
	Pinion shaft (Rpm)					USG pm	IMPG pm	l/min	
	1,500	1,800	2,100						
P40	2.96 3.69 4.57	3.69 4.57	4.57	460	108	41.74	34.76	158	5,365/370
				488	115	44.38	36.96	168	
		394	93	35.93	29.92	136			
		507	119	46.23	38.50	175			
		407	96	36.98	30.80	140			
P45	2.96 3.69 4.57	3.69 4.57	4.57	460	119	53.10	44.21	201	4,640/320
				488	126	56.53	47.07	214	
		394	102	45.70	38.06	173			
		507	131	58.65	48.83	222			
		407	105	47.02	39.16	178			
				328	85	38.04	31.68	144	

Performance Chart Pump Type 185 ARP®-GGG									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi/bar)
	Pinion shaft (Rpm)					USG pm	IMPG pm	l/min	
	1,500	1,800	2,100						
P50	2.96 3.69 4.57	3.69 4.57	4.57	460	118	67.36	56.09	255	3,625/250
				488	125	71.59	59.61	271	
		394	101	58.12	48.39	220			
		507	129	76.35	63.57	281			
		407	104	59.97	49.93	227			
P55	2.96 3.69 4.57	3.69 4.57	4.57	460	120	81.63	67.97	309	3,045/210
				488	127	86.65	72.15	328	
		394	103	70.27	58.51	266			
		507	132	90.08	75.01	341			
		407	106	72.38	60.27	274			
P60	2.96 3.69 4.57	3.69 4.57	4.57	460	123	97.22	80.95	368	2,610/180
				488	130	103.29	86.01	391	
		394	105	83.48	69.51	316			
		507	135	107.25	89.31	406			
		407	109	86.12	71.71	326			
P65	2.96 3.69 4.57	3.69 4.57	4.57	460	120	114.39	95.25	433	2,175/150
				488	128	121.26	100.97	459	
		394	103	98.27	81.83	372			
		507	133	126.01	104.93	477			
		407	107	100.91	84.03	382			
				328	85	81.89	68.19	310	

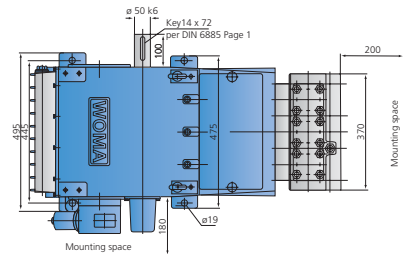
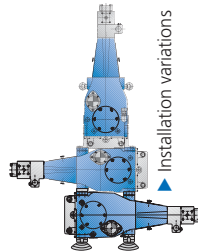
High-Pressure Plunger Pump Type 250 ARP®



All dimensions in mm
 Thread „M“ as per DIN 13/ISO 261
 Thread „G“ as per DIN ISO 228/1

Technical data:

- ▶ Oil capacity: approx. 8 l
- ▶ Weight: approx. 360 kg net
- ▶ Stroke: 95 mm/3.74 inch
- ▶ Inlet pressure required: 1.5–5 bar/22–75 psi*
- ▶ Rod force: 70 kN

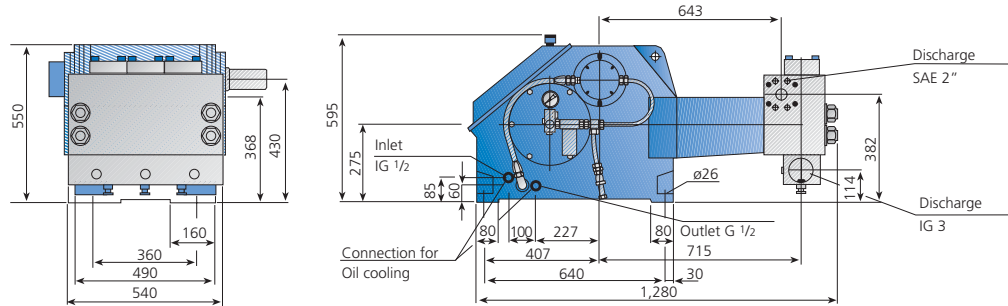


*for continuous industrial use

Performance Chart Pump Type 250 ARP®-Niro									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi / bar)
	1,500	Pinion shaft (Rpm)				USG pm	IMPG pm	l/min	
		1,800	2,100						
P50		3.57	4.52	464	149	66.3	55.2	251	4,640/320
		4.52		504	161	72.1	60.1	273	
	3.04			398	127	56.8	47.3	215	
	3.57			493	158	70.5	58.7	267	
	4.52			420	134	60.0	49.9	227	
				331	106	47.3	39.4	179	

Performance Chart Pump Type 250 ARP®-GGG									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi / bar)
	1,500	Pinion shaft (Rpm)				USG pm	IMPG pm	l/min	
		1,800	2,100						
P55			4.52	464	141	83.0	69.1	314	3,625/250
		3.57		504	154	90.1	75.0	341	
		4.52		398	121	71.1	59.2	269	
	3.04			493	150	88.0	73.3	333	
	3.57			420	128	75.0	62.5	284	
	4.52			331	101	59.2	49.3	224	
P60			4.52	464	168	98.5	82.1	373	3,625/250
		3.57		504	183	107.0	89.1	405	
		4.52		398	144	84.5	70.4	320	
	3.04			493	179	104.9	87.3	397	
	3.57			420	152	89.3	74.4	338	
	4.52			331	120	70.3	58.5	266	
P65			4.52	464	167	115.7	96.3	438	3,045/210
		3.57		504	181	125.7	104.7	476	
		4.52		398	143	99.3	82.7	376	
	3.04			493	177	123.1	102.5	466	
	3.57			420	151	104.9	87.3	397	
	4.52			331	119	82.4	68.6	312	

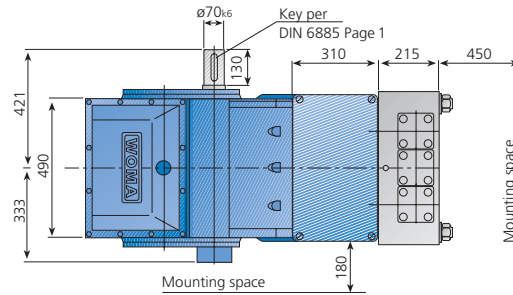
High-Pressure Plunger Pump Type 400 ARP®



All dimensions in mm
 Thread „M“ as per DIN 13/ISO 261
 Thread „G“ as per DIN ISO 228/1

Technical data:

- ▶ Oil capacity: approx. 30 l
- ▶ Weight: approx. 995 kg net
- ▶ Stroke: 130 mm/5.1 inch
- ▶ Inlet pressure required: 3–8 bar/45–115 psi
- ▶ Rod force: 81 kN



Performance Chart Pump Type 400 ARP®									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi/bar)
	1,500	Pinion shaft (Rpm)				USG pm	IMPG pm	l/min	
		1,800	2,100						
P55		3.60	4.23	496	279	121.3	101.0	459	4,930/340
				500	281	122.3	101.8	463	
			4.23	425	239	103.8	86.4	393	
	2.96			506	285	123.6	102.9	468	
	3.60			416	234	101.7	84.7	385	
	4.23			354	199	86.4	71.9	327	
P65		3.60	4.23	496	278	169.3	141.0	641	3,480/240
				500	280	170.7	142.1	646	
		4.23		425	238	145.0	120.8	549	
	2.96			506	284	172.8	143.9	654	
	3.60			416	233	142.1	118.3	538	
	4.23			354	199	120.7	100.5	457	
P75		3.60	4.23	496	279	223.2	185.9	845	2,610/180
				500	281	224.8	187.2	851	
		4.23		425	239	191.5	159.5	725	
	2.96			506	285	228.0	189.8	863	
	3.60			416	234	187.6	156.2	710	
	4.23			354	199	159.8	133.1	605	

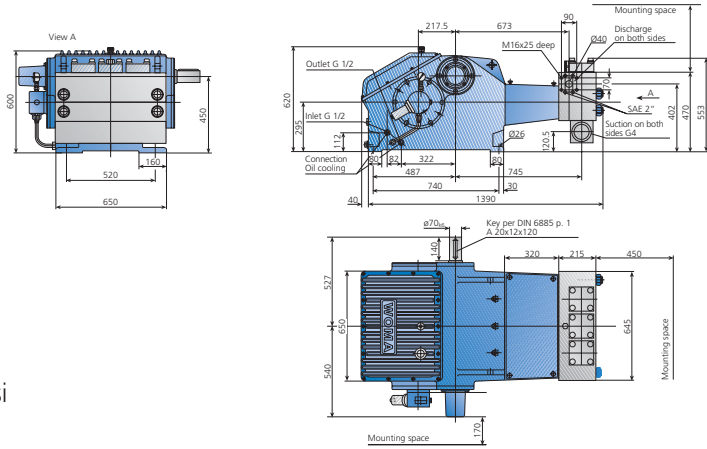


High-Pressure Plunger Pump Type 550 / 700 ARP®

All dimensions in mm
 Thread "M" as per DIN 13/ISO 261
 Thread "G" as per DIN ISO 228/1

Technical data:

- ▶ Oil capacity: approx. 45 l
- ▶ Weight: 1450 kg net
- ▶ Stroke: 140 mm/5.51 inch
- ▶ Inlet pressure required: 3 – 8 bar/45 – 115 psi
- ▶ Rod force: 128 kN

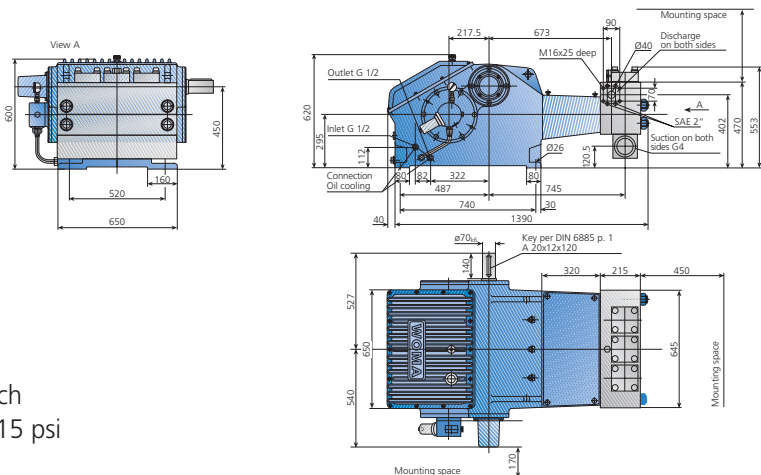


Performance Chart Pump Type 550 ARP®									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi/bar)
	Pinion shaft (Rpm)					USG pm	IMPG pm	l/min	
	1,500	1,800	2,100						
P 65		3.69	4.60	456	452	161.1	134.2	610	5,800/400
			4.60	454	450	160.6	133.7	608	
	3.30			391	387	138.2	115.0	523	
	3.96			454	450	160.6	133.7	608	
	4.60			378	375	133.7	111.3	506	
				326	323	115.2	95.9	436	
P 70		3.96	4.60	456	436	188.4	156.8	713	4,785/330
			4.60	454	434	187.6	156.2	710	
	3.30			391	373	161.4	134.4	611	
	3.96			454	434	187.6	156.2	710	
	4.60			378	361	156.4	130.2	592	
				326	311	134.5	112.0	509	
P 75		3.96	4.60	456	441	217.2	180.8	822	4,205/290
			4.60	454	439	216.4	180.2	819	
	3.30			391	378	186.2	155.1	705	
	3.96			454	439	216.4	180.2	819	
	4.60			378	366	180.2	150.0	682	
				326	315	155.1	129.1	587	

All dimensions in mm
 Thread "M" as per DIN 13/ISO 261
 Thread "G" as per DIN ISO 228/1

Technical data:

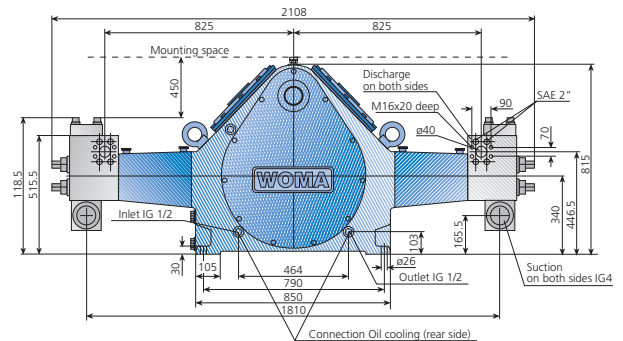
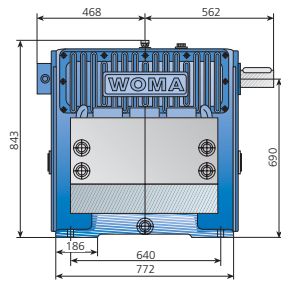
- ▶ Oil capacity: approx. 45 l
- ▶ Weight: 1450 kg net
- ▶ Stroke: 140 mm/5.51 inch
- ▶ Inlet pressure required: 3 – 8 bar/45 – 115 psi
- ▶ Rod force: 128 kN



Performance Chart Pump Type 700 ARP®									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi/bar)
	Pinion shaft (Rpm)					USG pm	IMPG pm	l/min	
	1,500	1,800	2,100						
P 65			3.96	530	525	187.3	156.0	709	5,800/400
	3.30	3.45		522	517	184.4	153.5	698	
				455	450	160.6	133.7	608	
P 70			3.96	530	506	219.0	182.4	829	4,785/330
	3.30	3.45		522	498	215.3	179.3	815	
				455	434	187.6	156.2	710	
P 75			3.96	530	513	252.3	210.1	955	4,205/290
	3.30	3.45		522	504	248.3	206.8	940	
				455	439	216.4	180.2	819	

Technical Data

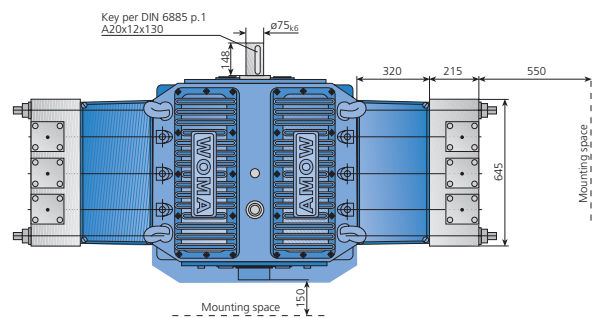
High-Pressure Plunger Pump Type 1000 ARP®



All dimensions in mm
 Thread "M" as per DIN 13/ISO 261
 Thread "G" as per DIN ISO 228/1

Technical data:

- ▶ Oil capacity: approx. 45 l
- ▶ Weight: approx. 2610 kg net
- ▶ Stroke: 130 mm/5.1 inch
- ▶ Inlet pressure required: 3 – 8 bar/45 – 115 psi
- ▶ Rod force: 110 kN



Performance Chart Pump Type 1000 ARP®									
Plunger diameter (mm)	Gear ratio			Crank shaft (Rpm)	Required drive (kW)	Nominal flow rate			Max. permissible operating pressure (psi/bar)
	Pinion shaft (Rpm)					USG pm	IMPG pm	l/min	
	1.500	1.800	2.100						
P55			4.23	496	654	233.3	194.2	883	5,800/400
		3.69		488	642	229.0	190.7	867	
		4.23		425	560	200.0	166.5	757	
	3.00			500	658	234.8	195.6	889	
	3.69			406	535	191.0	159.0	723	
	4.23			354	467	166.4	138.6	630	
P65			4.23	496	759	328.1	273.2	1242	4,785/330
		3.69		488	746	322.3	268.4	1220	
		4.23		425	650	281.3	234.3	1065	
	3.00			500	764	330.5	275.2	1251	
	3.69			406	621	268.7	223.7	1017	
	4.23			354	542	234.3	195.1	887	
P70			4.23	496	764	382.3	318.3	1447	4,133/285
		3.69		488	750	375.7	312.8	1422	
		4.23		425	654	327.8	273.0	1241	
	3.00			500	769	385.2	320.7	1458	
	3.69			406	625	313.0	260.7	1185	
	4.23			354	545	273.2	227.5	1034	
P75			4.23	496	775	440.4	366.7	1667	3,625/250
		3.69		488	761	432.7	360.3	1638	
		4.23		425	664	377.5	314.3	1429	
	3.00			500	780	443.5	369.3	1679	
	3.69			406	634	360.6	300.3	1365	
	4.23			354	553	314.6	262.0	1191	

Technical Characteristics

The technique

- ▶ All parts attacked by accelerated wear are very easy of access and can be simply removed and reinstalled
- ▶ The suction and pressure pipes which are difficult of access do not need to be released
- ▶ Reliable sealing even at abrasive attack is due to the elastic behavior of the needle valve inserts
- ▶ Valve seats made from corrosion resistant steel consist of two precisely manufactured seat surfaces that can be used twice by tilting
- ▶ Working areas of the cylinders can be evacuated under depressurized conditions due to lifting the valve lifter

General aspects

- ▶ Suitable for the transport of water containing grained and fibrous solids of different size and geometrical shape
- ▶ For very coarse impurities, the superposition of a filter in the supply line is required

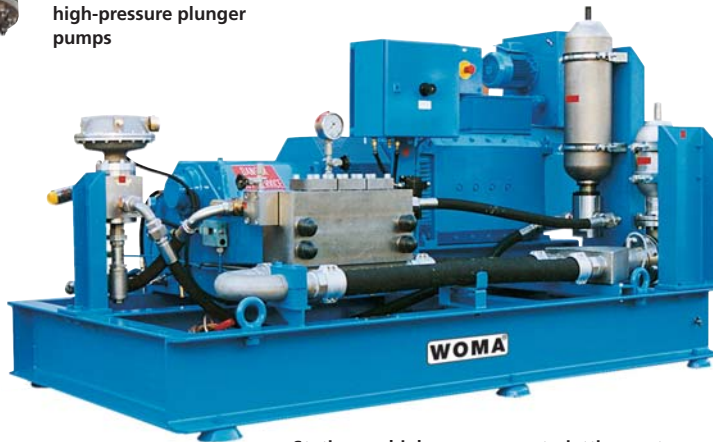
Permissible limits

- ▶ Temperature: max. 45 °C
- ▶ Solid concentration*: 1.5 % to 3 %
- ▶ Grain size: 50 µm to 350 µm

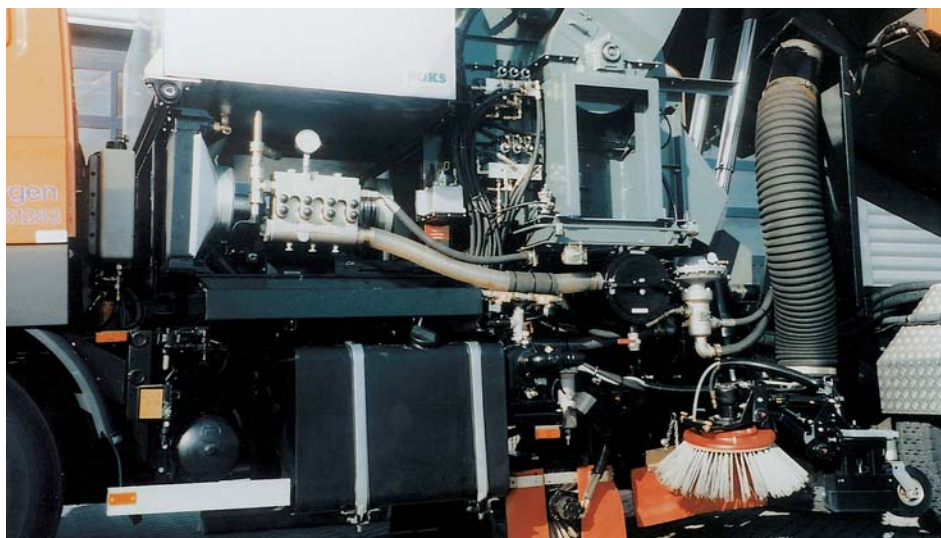
* in mass percent, depends on the grain size



Pneumatically operated discharge valve for the control of ARP® high-pressure plunger pumps



Stationary high-pressure waterjetting system with a high-pressure plunger pump type 400 ARP®



High-pressure plunger pump type 250 ARP®, installed in a municipal vehicle



WOMA Apparatebau GmbH

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E-mail: info@woma.de

Delivery Programme

High-pressure plunger pumps
High-pressure water jet systems
High-pressure water tools
and accessories

Fields of Application

Agriculture
Automotive and aviation industry
Beverage industry
Cement industry
Chemical industry
Construction and concrete industry
Engineering industry
Food industry
Glass, porcelain, ceramic industry
Iron, steel and metal industry
Mining
Municipal services
Offshore industry
Power industry
Public transport
Pulp and paper industry
Ship building
Wood working industry