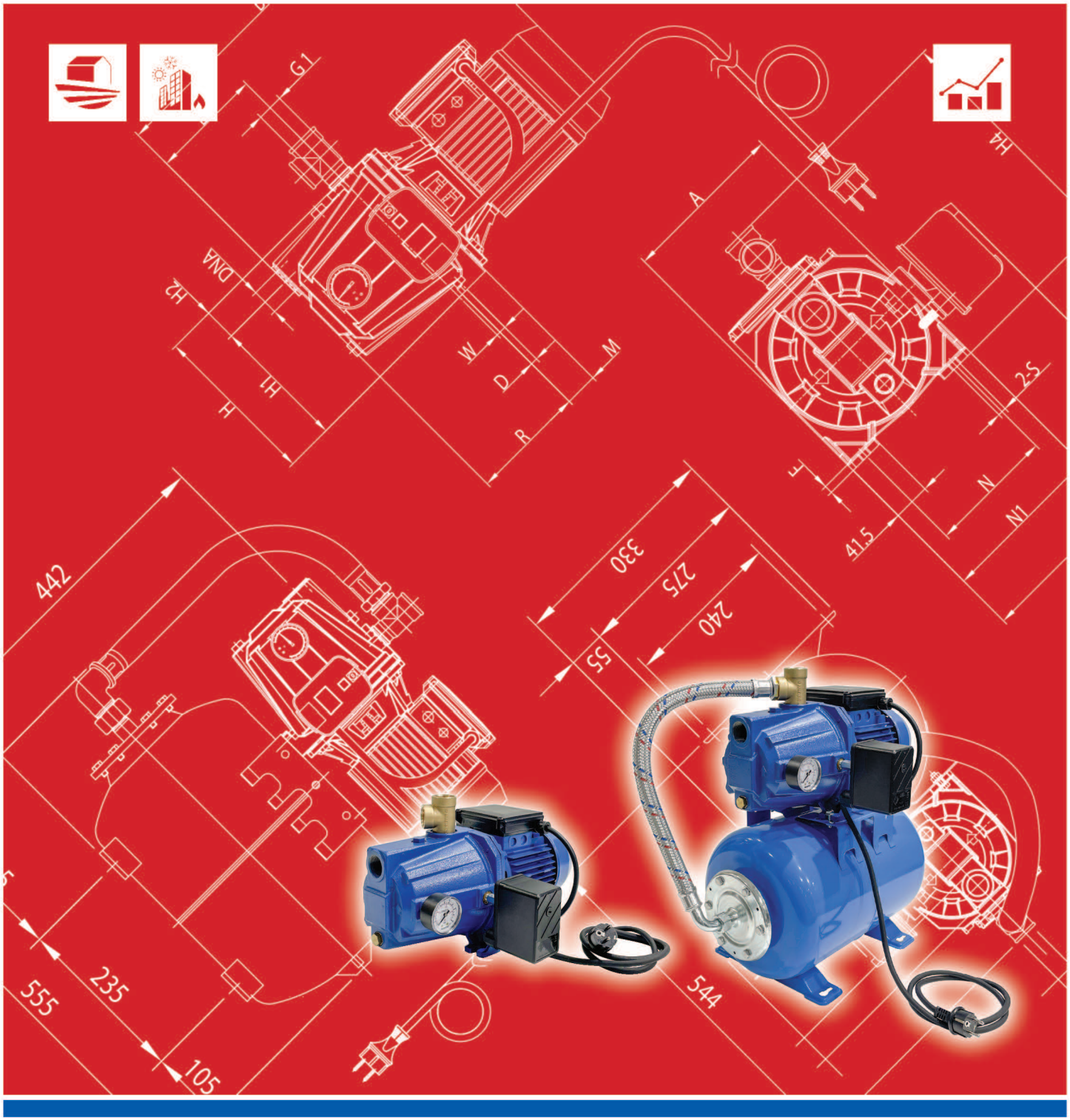
Looking ahead,
going beyond expectations

Ahead > Beyond

EBARA

1GP Domestico

Data Book 50Hz



INDEX

DEFINITION AND USE OF PRESSURISATION UNITS

In situations in which a municipal water mains is lacking or insufficient for the proper operation of the services, one must install a pressurization unit to provide acceptable pressure and flow rates to even in the most unfavourable services. Pressurisation units are used wherever there is a need to increase the pressure, or to pressurise a water circuit. **EBARA 1GP pressurisation units** are automatic systems with one pump, designed to provide a simple and reliable solution to the most common requirements for maintenance of water supply pressure for apartment buildings, hotels, centres, offices and schools as well as providing auxiliary service in industrial and agricultural applications. They stand out for their robust construction, compact size, excellent efficiency and silent operation. GP units are equipped for connection to membrane and air cushion autoclaves. They are controlled by pressure switches.

TYPICAL APPLICATIONS

INDUSTRY	BUILDING SERVICE	WATER SUPPLY
		

OPERATING CONDITIONS

EBARA 1GP pressurisation units can be used, in their standard versions, for civil, industrial and agricultural applications, as follows:
• building service
• water lifting and handling
• irrigation
The conveyed fluid must be: clean, potable, ground or mixed water, free of solid or fibrous suspensions and aggressive chemical substances.
The units must be installed under cover, protected from the weather and freezing.
• Conveyed water temperature (depending on pumps).
• Ambient operating temperature 0 - 40°C, no higher than 1000 m above sea level.
• Max relative humidity 50% at +40°C.
NB: The system available NPSH must be greater than the NPSH demanded from the pump. For applications with different technical specifications, uses and climatic conditions (type of vector fluid, marine and aggressive industrial conditions), please contact our sales network.

TESTS AND TRIALS

Before shipping, all EBARA pressurisation units are subject to hydraulic, mechanical and electrical testing.

MECHANICAL AND HYDRAULIC TESTS

• Pressure switch calibration
• Pump direction of rotation
• Mechanical testing of moving parts and running noise
• Tightness test with delivery port closed and nameplate rating tests

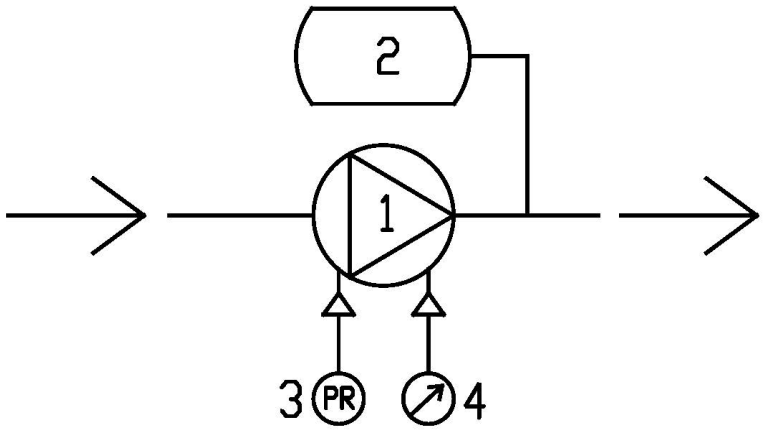
ELECTRICAL TESTS

- Earthing system continuity
- Applied voltage (dielectric rigidity)
- Insulation resistance

PRINCIPLE OF OPERATION OF 1GP PRESSURISATION UNITS

When water is demanded, it is first drawn from the autoclave tank (if present). This demand for water, with the pumps stopped, lowers the pressure until the pressure switch starts the pump .When the water demand stops or reduces, the system pressure rises, the pressure switch shutting off the pump .

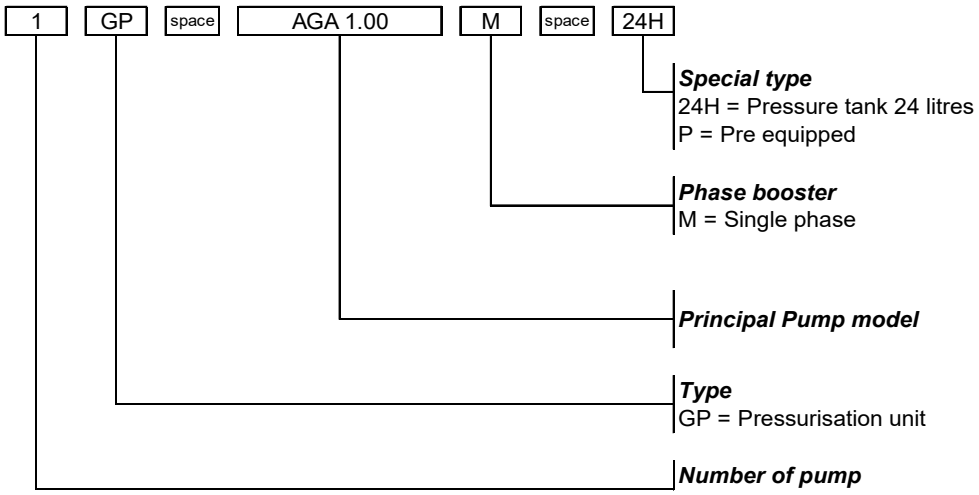
1GP PRESSURISATION UNIT WATER CIRCUIT DIAGRAM



1 – PUMP
2 – PRESSURE TANK (only for 1GP 24H)
3 – PRESSURE SWITCH
4 – PRESSURE GAUGE

TYPE KEY

1GP AGA



NAME PLATE

1) "TYPE" booster model
2) "P/N" booster item number
3) "S/N" booster serial number

TECHNICAL PUMP DATA

PUMP				
1GP AGA P – 1GP AGA 24H				
Operating range	Model	0.75 M	1.00 M	1.50 M
	Maximum working pressure	MPa 0.6	MPa 0.6	MPa 1.0
	Liquid temperature range	+5°C to +45°C		
Liquid handled	Liquid type	Clean water		
Key components material	Casing	Cast iron		
	Impeller	PPE+PS glass fibre reinforced	Brass	
	Casing cover	AISI 304	Cast iron built-in on the motor bracket	
	Shaft seal	Ceramic/Carbon/NBR		
	Shaft	AISI 303 (wet extension)		
	Bracket	Aluminuim	Cast iron	
	Diffuser	PPE+PS glass fibre reinforced		
Pipe connection	Suction	G 1”	G 1” ½	
		UNI ISO 228		
	Discharge	G 1” UNI ISO 228		

CURVE SPECIFICATION 1GP

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906:2012 – Grade 3B.
The curves refer to effective speed of asynchronous motors at 50 Hz 2 poles
Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of ν = 1 mm2/s (1 cSt).
The NPSH curve is an average curve obtained in the same conditions of performance curves.
During the pump selection, consider to get a safety margin of at least 0.5 m.
The continuous curves indicate the recommended working range. The dotted curve is only a guide.
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point. The performance curves refer to 2-pumps booster sets.

Symbols explanation:

Q = volume flow rate
H = total head
P2 = pump power input (shaft power)
η = pump efficiency
NPSH = net positive suction head required by the pump
1 = one pump on work performance curve
2 = two pumps on work performance curve

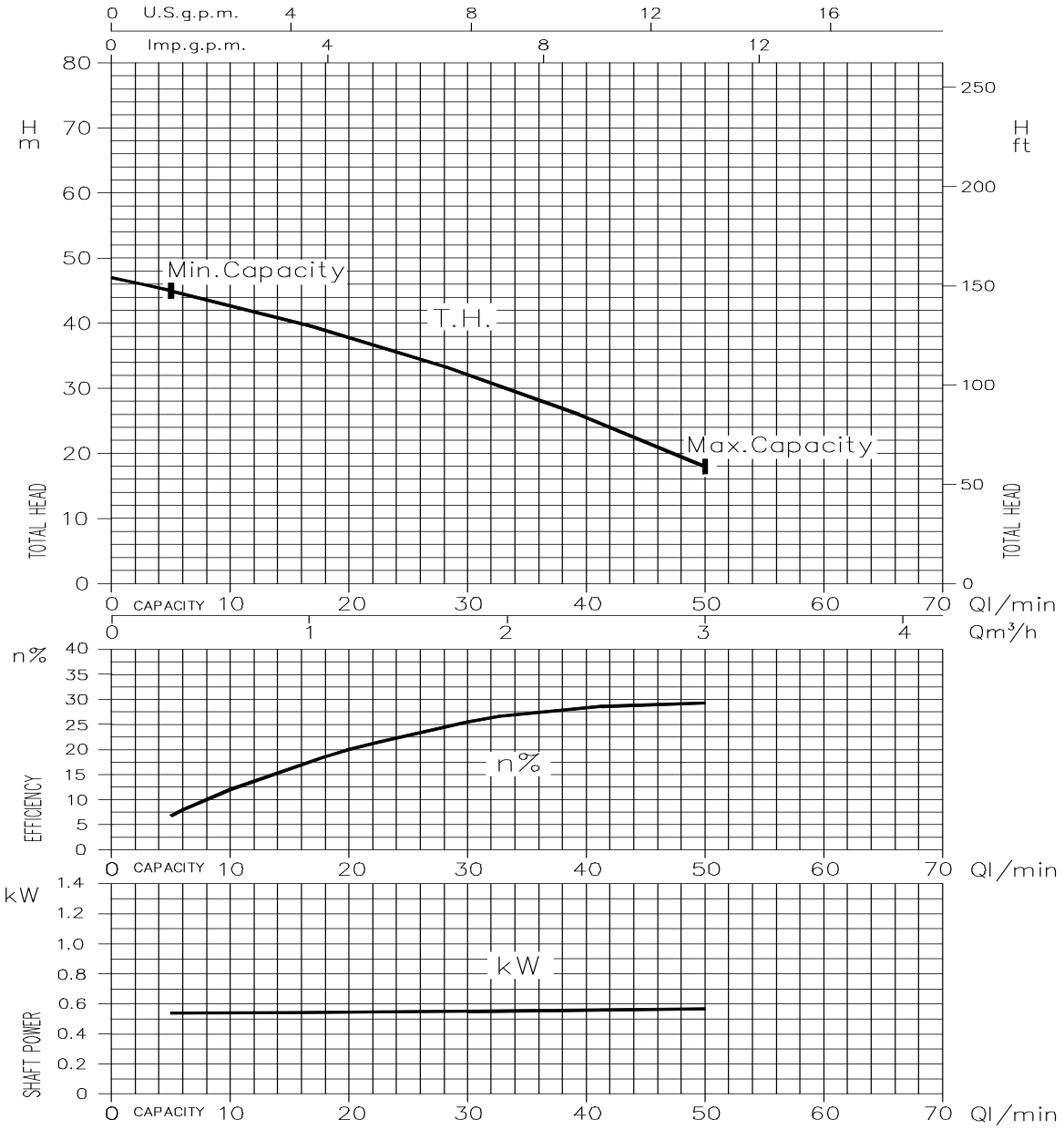
Pressure drops of the booster's fittings are not considered

SELECTION CHART 1GP AGA

1GP	Q=Capacity											
	l/min	0	5	10	20	30	45	50	60	80	100	130	160
	m³/h	0	0,3	0,6	1,2	1,8	2,7	3,0	3,6	4,8	6	7,8	9,6
	H=Total manometric head in meters												
1GP AGA 0.75M P	47		45	42.8	37.9	32	21.9	18	-	-	-	-	-
1GP AGA 1.00M P	50		47,5	45	40.3	35.7	29.1	27	23	-	-	-	-
1GP AGA 1.50 M P	51		-	48	45.1	42.4	38.6	37.4	35.1	30.8	27	-	-
1GP AGA 1.00M 24H	50		47,5	45	40.3	35.7	29.1	27	23	-	-	-	-

PERFORMANCE CURVE 1GP

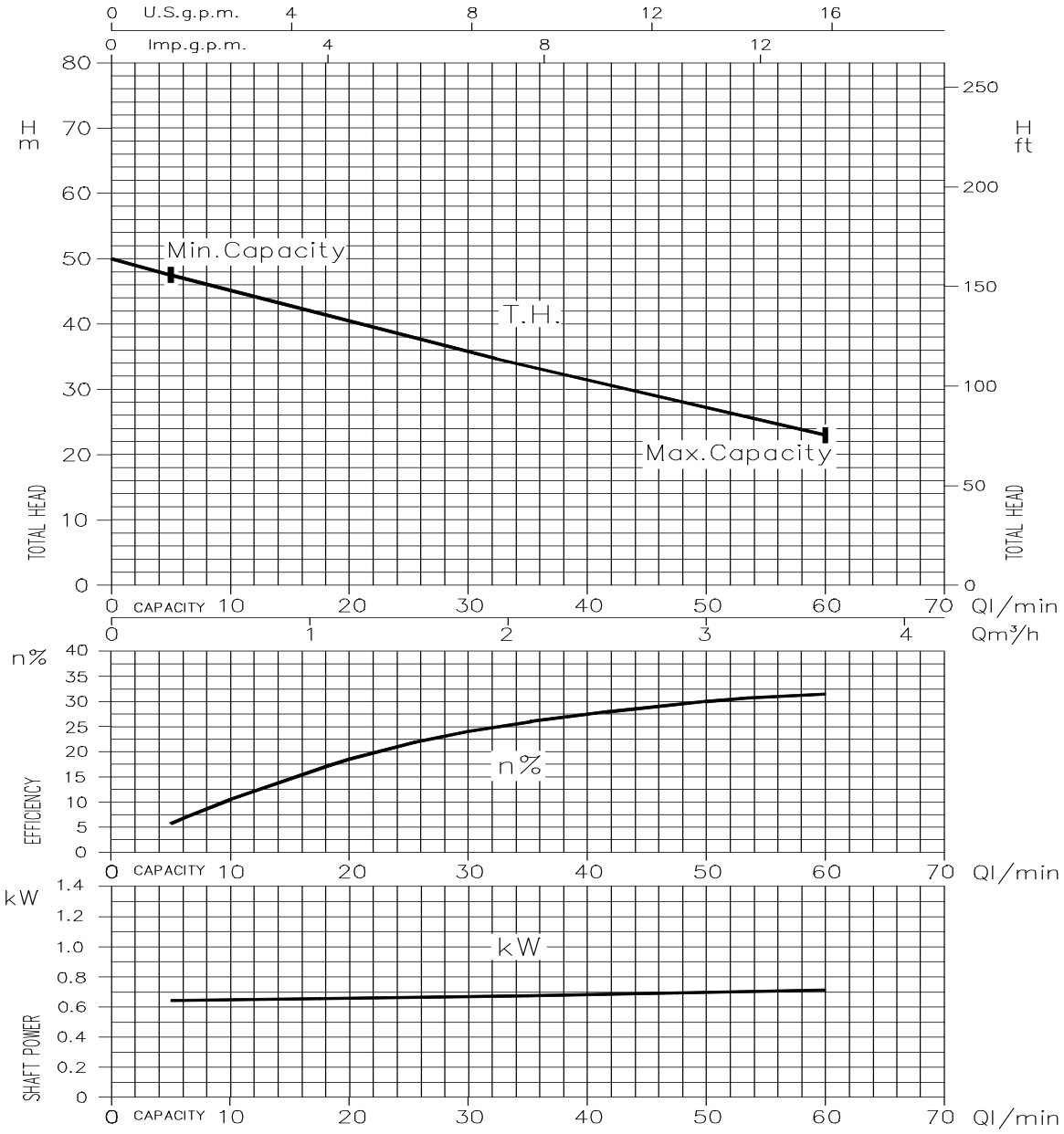
AGA 0.75 M-P



Test standard: ISO 9906: 2012 - Grade 3B

PERFORMANCE CURVE 1GP

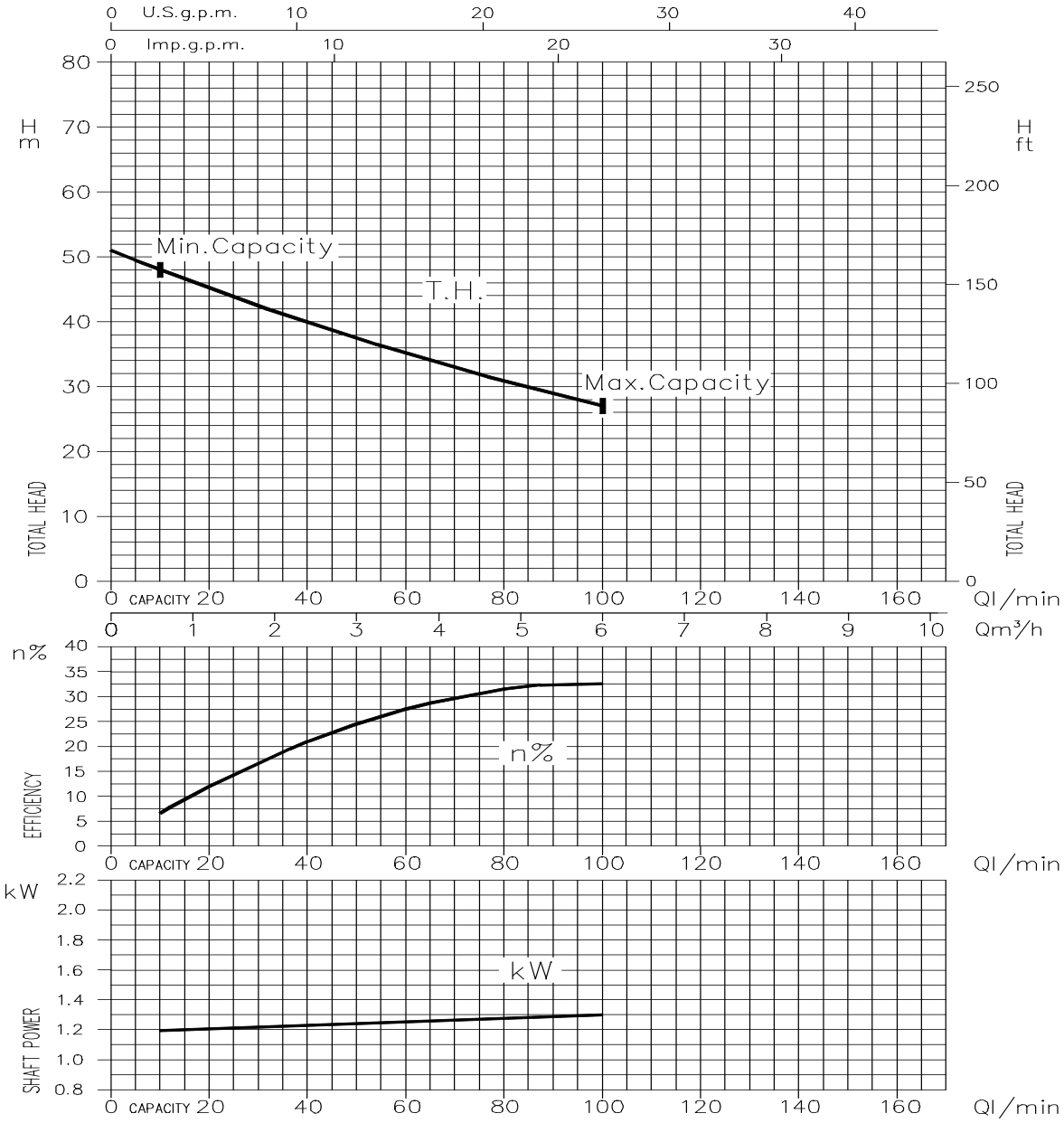
AGA 1.00 M PAGA 1.00 M 24H



Test standard: ISO 9906: 2012 - Grade 3B

PERFORMANCE CURVE 1GP

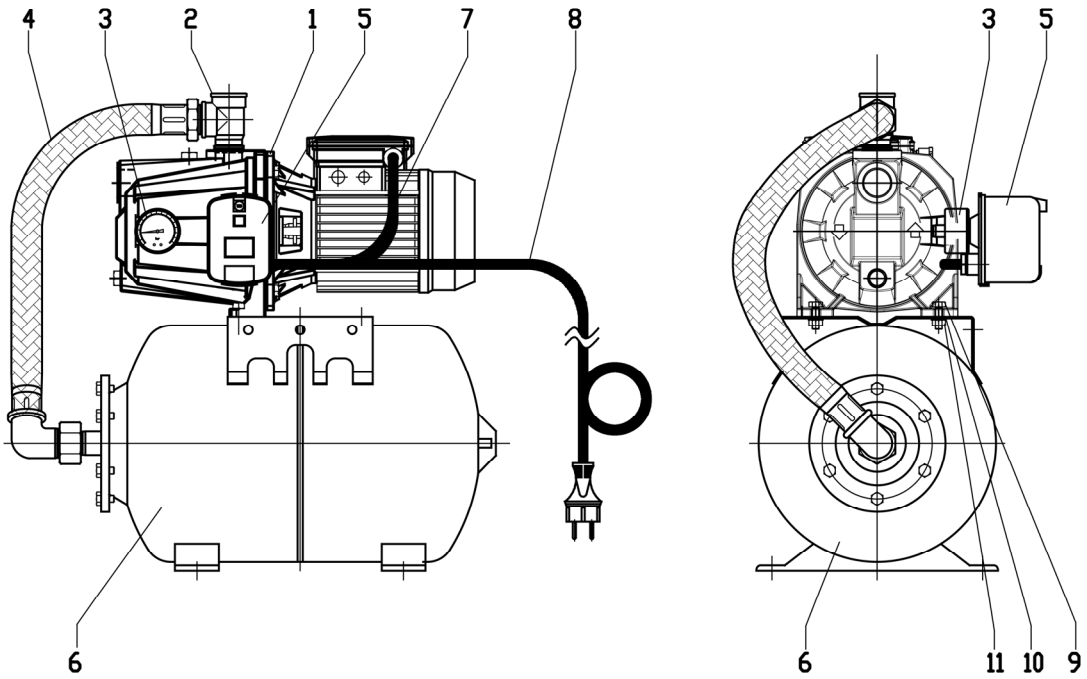
AGA 1.50 M P



Test standard: ISO 9906: 2012 - Grade 3B

CONSTRUCTION

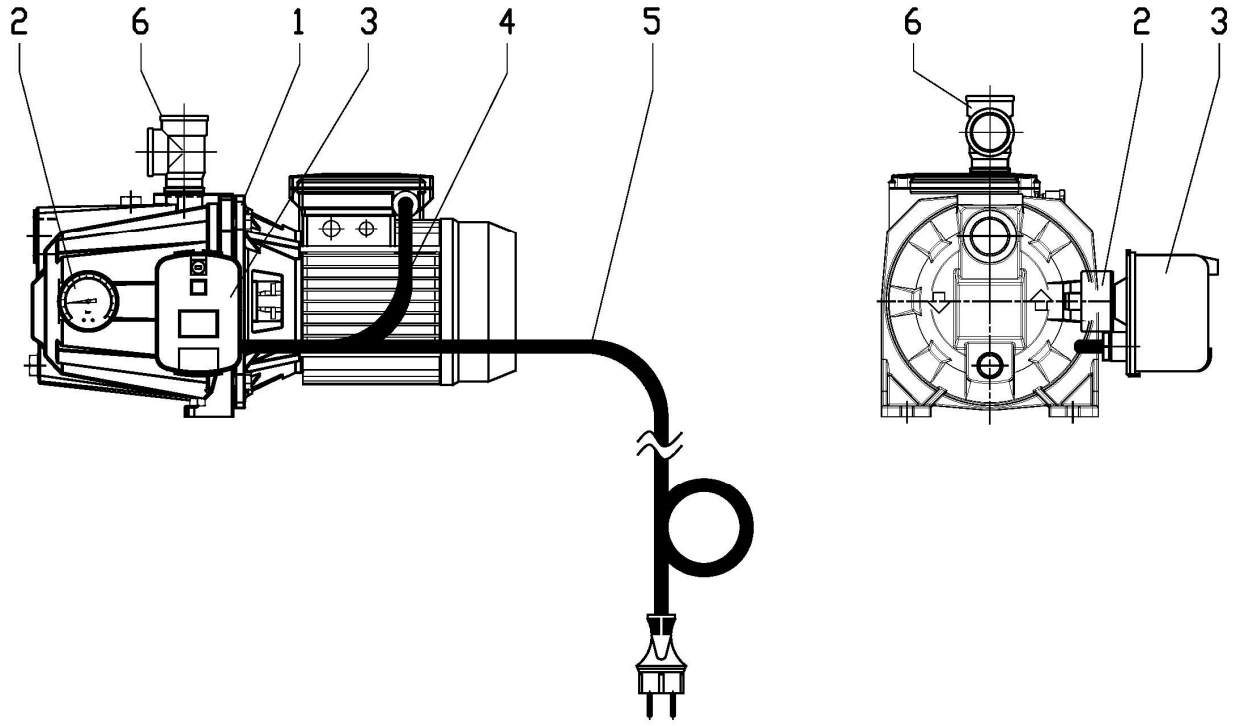
EXTERNAL VIEW 1GP AGA M 24H



N°	PART NAME	MATERIAL	Quantity
1	Pump	Cast iron	1
2	Fitting	Brass	1
3	Pressure gauge	Copper alloy / plastic	1
4	Connecting pipe	-	1
5	Pressure switch	-	1
6	Pressure tank	Steel paint.	1
7	Cable 0,6MT	-	1
8	Cable 1,5MT	-	1
9	Bolt	Galvanized steel	2
10	Washer	Galvanized steel	2
11	Nut	Galvanized steel.	2

CONSTRUCTION

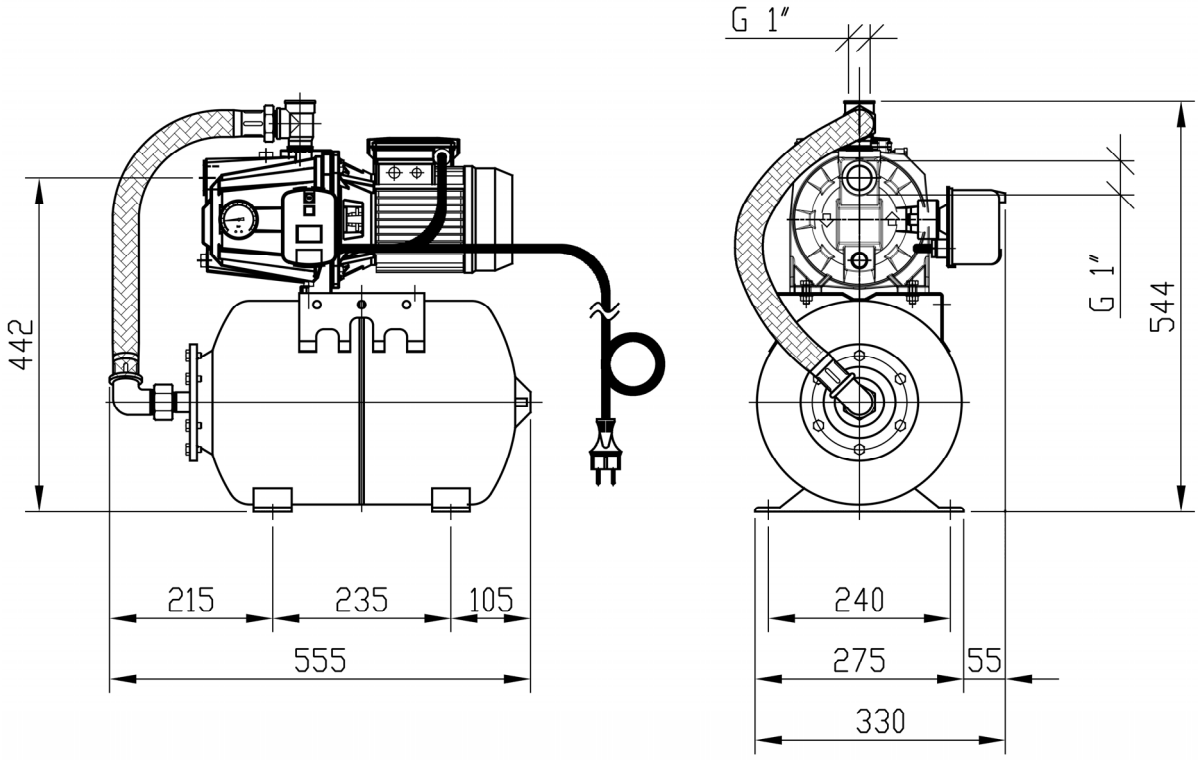
EXTERNAL VIEW 1GP AGA M P



N°	PART NAME	MATERIAL	Quantity
1	Pump	Cast iron	1
2	Pressure gauge	Copper alloy / plastic	1
3	Pressure switch	-	1
4	Cable 0,6MT	-	1
5	Cable 1,5MT	-	1
6	Fitting	Brass	1

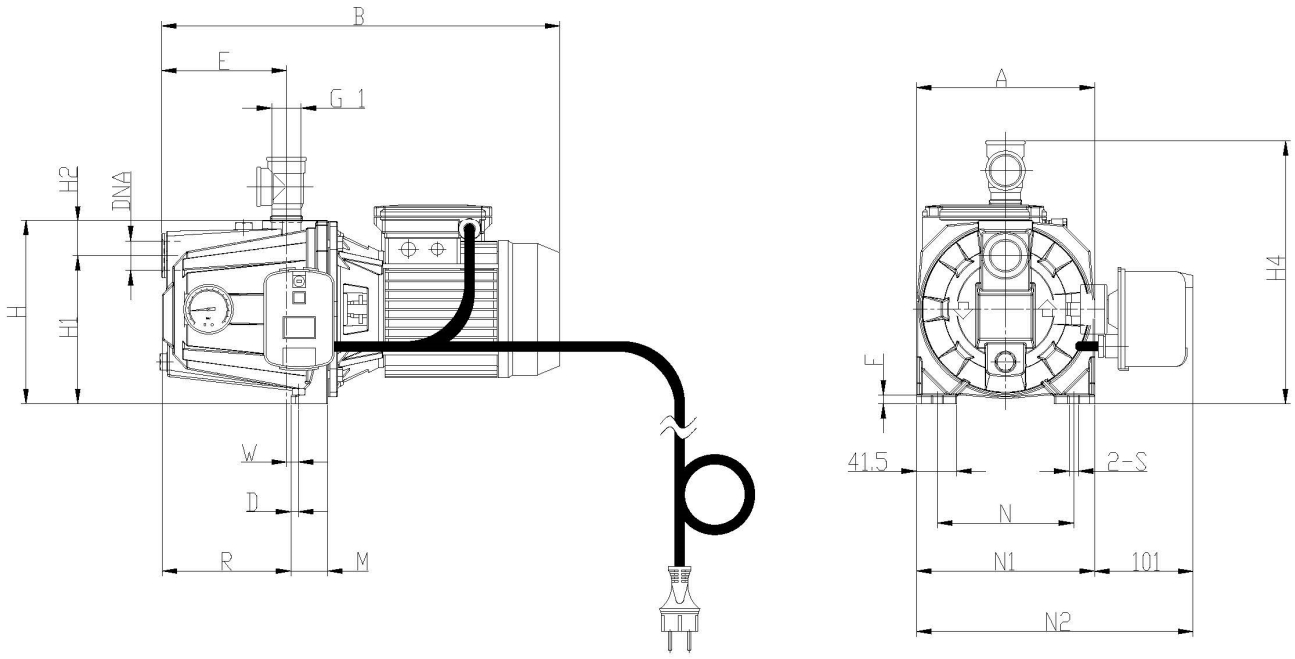
OVERALL DIMENSIONS

1GP AGA 24H



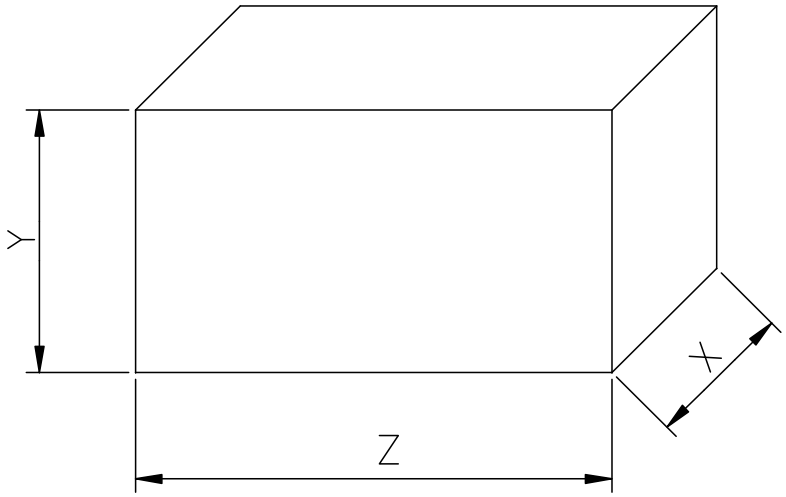
OVERALL DIMENSIONS

1GP AGA P



1GP	Dimensions (mm)																	Weight (kgf)
	A	B	D	E	F	H	H1	H2	H4	M	N	N1	N2	R	W	S	DNA	
1GP AGA 0.75 M P	180	405	10.3	127	9	185	152	33	264	40	140	180	281	128.5	11.8	9.5	G1	14
1GP AGA 1.00 M P	180	405	10.3	127	9	185	152	33	264	40	140	180	281	128.5	11.8	9.5	G1	14.5
1GP AGA 1.50 M P	220	520	10	157	10	223	170	53	312	48	175	220	321	167.5	15.5	9	G 1 1/2	29

PACKING



1GP type	Overall dimensions packing			1GP+packing Weight [kg]
	X	Y	Z	
1GP AGA 1.00 M 24H	340	570	550	23
1GP AGA 0.75 M - P	300	425	265	15
1GP AGA 1.00 M - P	300	425	265	16
1GP AGA 1.50 M - P	340	520	320	29