
EBARA

CONTENTS

50Hz

Rev E

SPECIFICATIONS 50Hz

Rev E

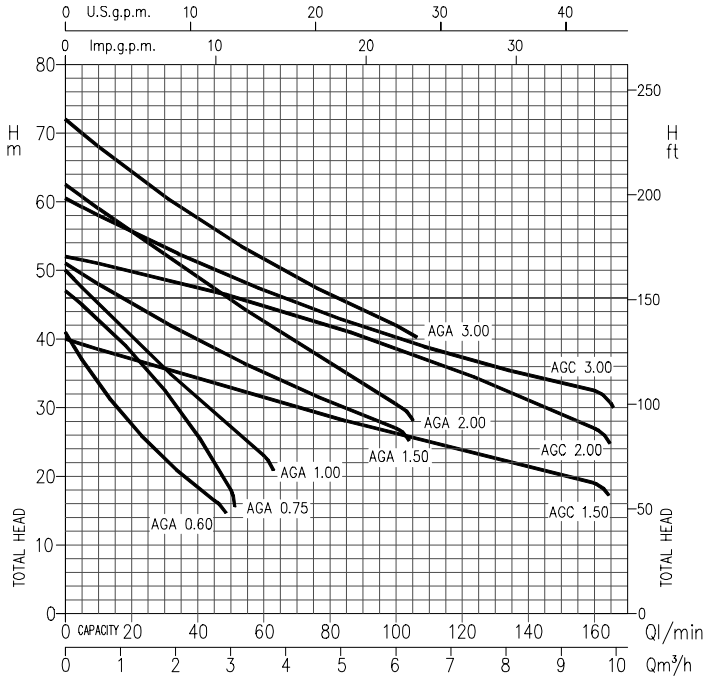
PUMP			
Liquid Handled	Type of liquid		Clean water
	Max temperature	[°C]	45
Maximum working pressure		[MPa]	0.6 (AGA 0.60-0.75-1.00) 1.0 (AGA 1.50-2.00-3.00; all AGC)
Maximum suction depth		[m]	8
Construction	Impeller		Closed centrifugal type
	Shaft seal type		Mechanical seal
	Bearing		Sealed ball bearing
Pipe Connection	Suction		G 1" (AGA 0.60-0.75-1.00) UNI ISO 228
			G 1"½ (AGA 1.50-2.00-3.00 ; all AGC) UNI ISO 228
	Discharge		G 1" UNI ISO 228
Material	Casing		Cast iron
	Impeller		PPO mod. glass fibre reinforced (AGA 0.60-0.75-1.00)
			Brass (AGA 1.50-2.00-3.00 all AGC)
	Shaft seal		Ceramic/Carbon/NBR
	Casing cover		AISI 304 (AGA 0.60-0.75-1.00)
			None (AGA 1.50-2.00-3.00 all AGC)
	Shaft		AISI 416 (AGA 0.60-0.75-1.00)
			AISI 303 (wet extension AGA 1.50-2.00-3.00 all AGC)
	Bracket		Cast iron (AGA 1.50-2.00-3.00 all AGC)
			Aluminium (AGA 0.60-0.75-1.00)
	Ejector		PPO mod. glass fibre reinforced
	Diffuser		PPO mod. glass fibre reinforced
Applicable standard of test			ISO 9906 – Annex A

MOTOR			
Type		Electric - TEFC	
		Single Phase	Three Phase
No. of Poles		2	
Synchronous speed	[min^{-1}]	3000	
Insulation Class		F	
Protection degree		IP 44	
Power rating	[kW]	0.44÷1.5	0.44÷2.2
	[HP]	0.6÷1.5	0.6÷3
Frequency	[Hz]	50 Hz	
Voltage	[V]	230 ±10%	230/400 ±10%
Capacitor		Built in	-
Over load protection		Built in	Provided by the user
Casing material		Aluminium	
Base material/motor support		Plastic foot /Cast iron	
Dimensions of cable entry		PG11 - PG13.5 (see dimensions page 400)	

SELECTION CHART

50Hz

Rev E



Type pumps		kW	HP	Q=Capacity										
Single Phase 230 V 50 Hz	Three Phase 230/400 V 50 Hz			l/min 5	10	20	30	45	50	60	80	100	130	160
				m³/h 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										
AGA 0.60 M	AGA 0.60 T	0.44	0.6	37	33.4	27.1	22	16.5	-	-	-	-	-	-
AGA 0.75 M	AGA 0.75 T	0.55	0.75	45	42.8	37.9	32	21.9	18	-	-	-	-	-
AGA 1.00 M	AGA 1.00 T	0.75	1	47.5	45	40.3	35.7	29.1	27	23	-	-	-	-
AGA 1.50 M	AGA 1.50 T	1.1	1.5	-	48	45.1	42.4	38.6	37.4	35.1	30.8	27	-	-
AGA 2.00 M	AGA 2.00 T	1.5	2	-	59	55.6	52.2	47.3	45.7	42.5	36.4	30.5	-	-
-	AGA 3.00 T	2.2	3	-	68	64.3	60.8	55.9	54.4	51.6	46.4	42	-	-
AGC 1.50 M	AGC 1.50 T	1.1	1.5	-	38.5	37	35.6	33.5	32.7	31.4	28.7	26.1	22.4	19
AGC 2.00 M	AGC 2.00 T	1.5	2	-	51	49.9	48.8	46.9	46.3	44.9	42	38.7	33.2	27
-	AGC 3.00 T	2.2	3	-	58	55.6	53.3	50.1	49.1	47.1	43.4	40.2	35.9	32.5

TYPE KEY:

AGA **1.00** **M**

Voltage: **M** Single phase; **T** Three phase

HP CODE: **0.60** **0.75** **1.00** **1.50** **2.00** **3.00**

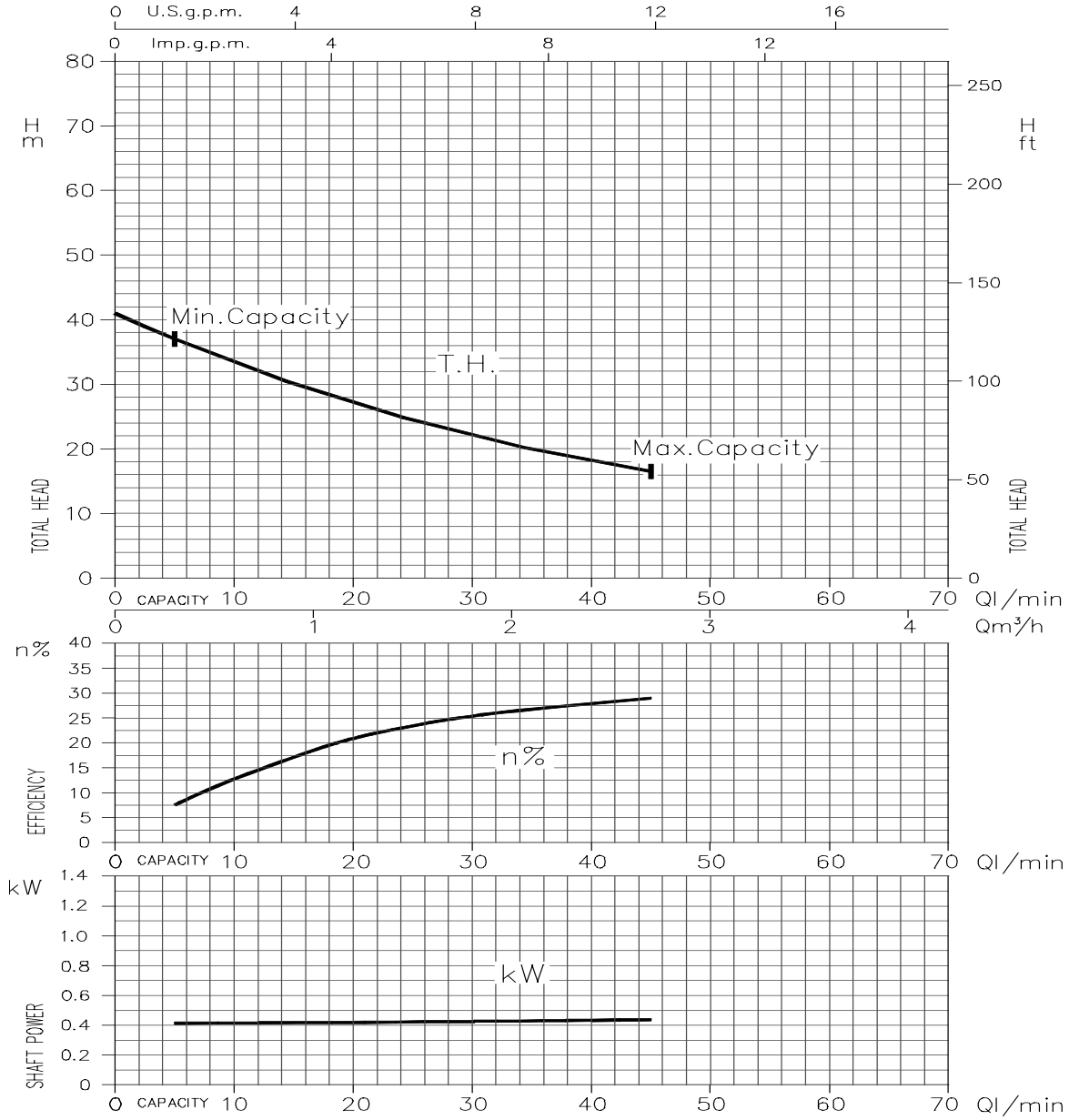
Type model: **AGA** **AGC**

PERFORMANCE CURVE

50Hz

Rev E

AGA 0.60 (0.45 kW)
SYNCHRONOUS SPEED : 3000 min^{-1}



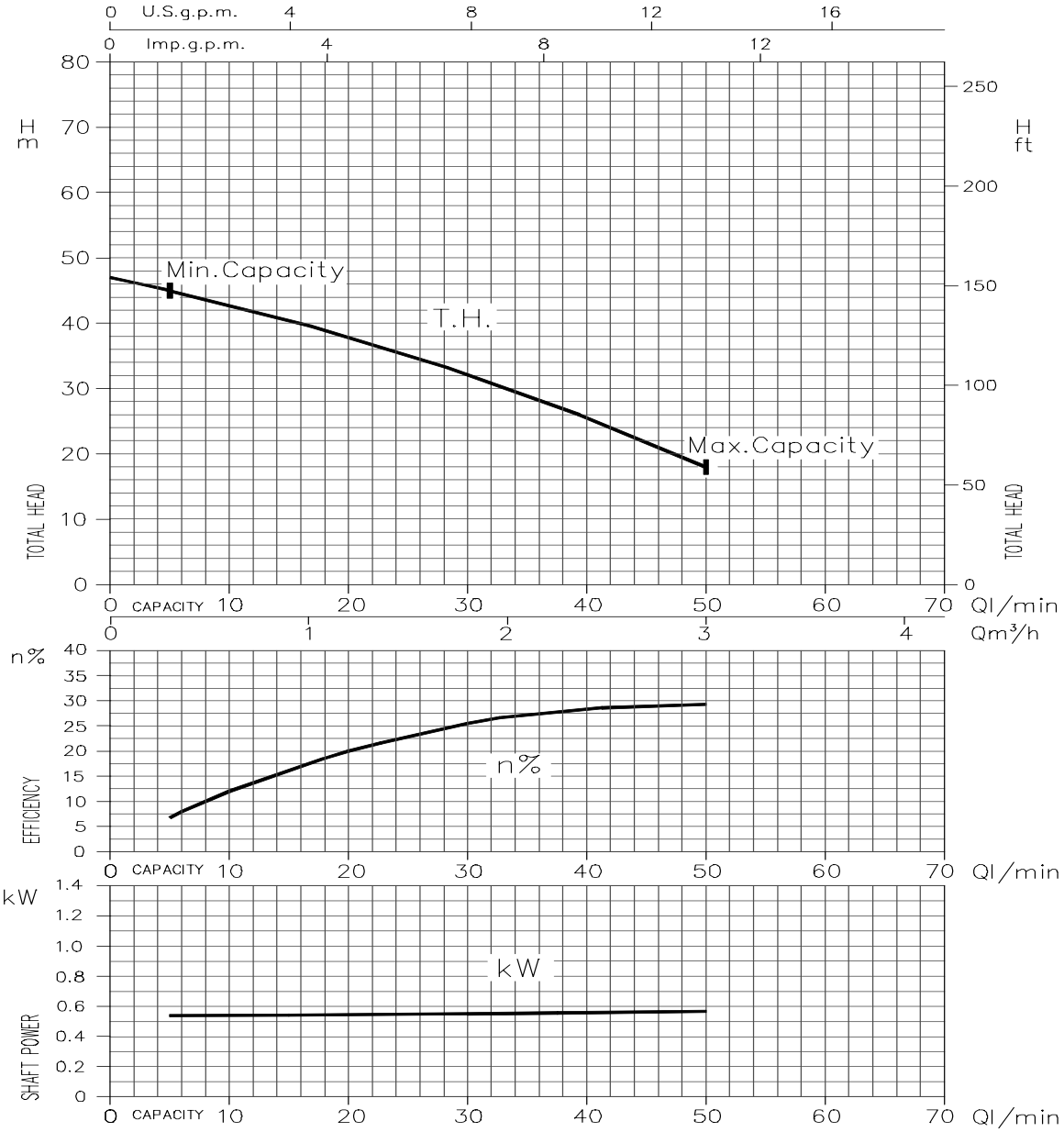
Temperature of water: 20°C
Impeller diameter = 130 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev E

AGA 0.75 (0.55 kW)
SYNCHRONOUS SPEED : 3000 min^{-1}



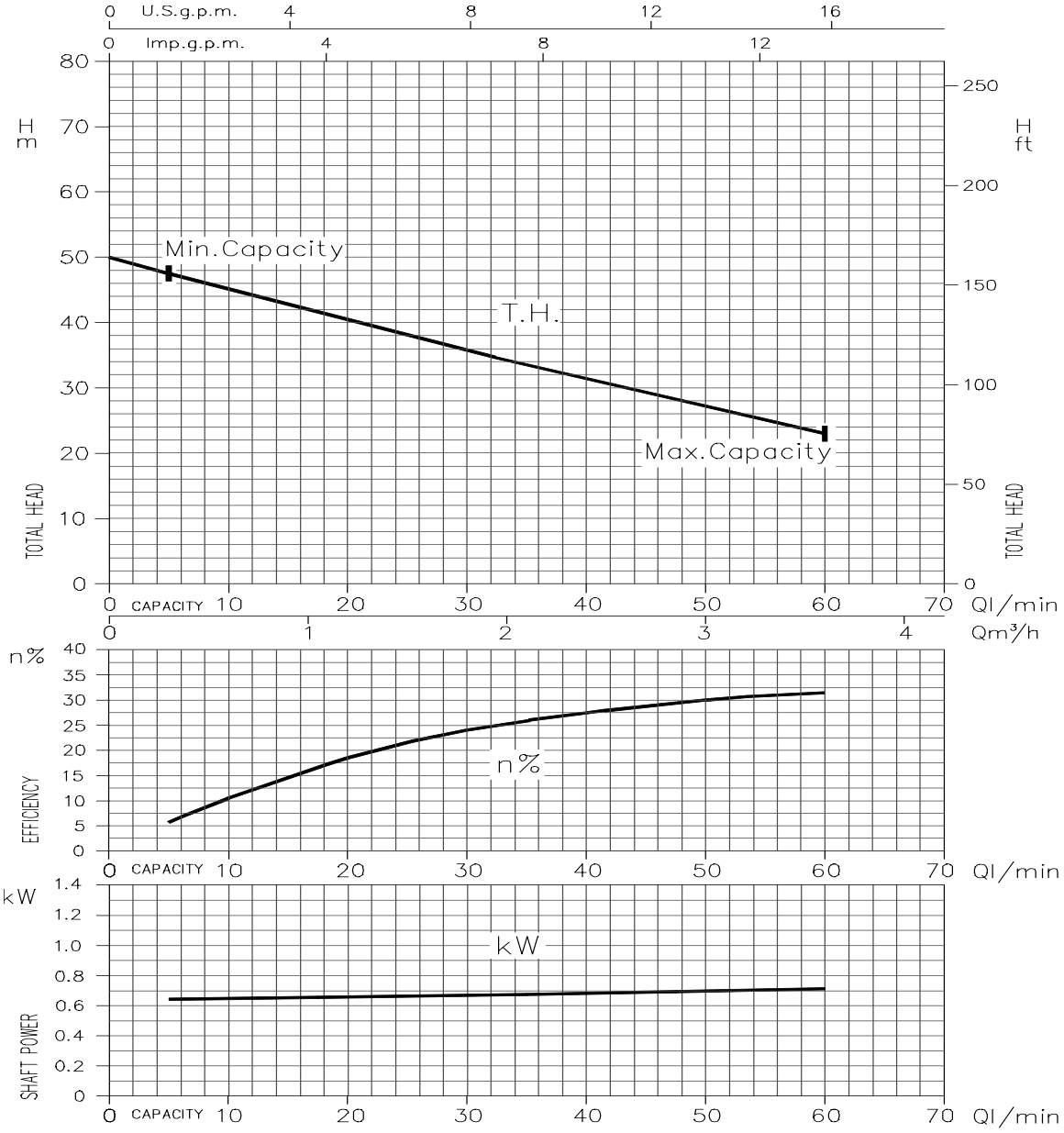
Temperature of water: 20°C
Impeller diameter = 130 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev E

AGA 1.00 (0.75 kW)
SYNCHRONOUS SPEED : 3000 min^{-1}



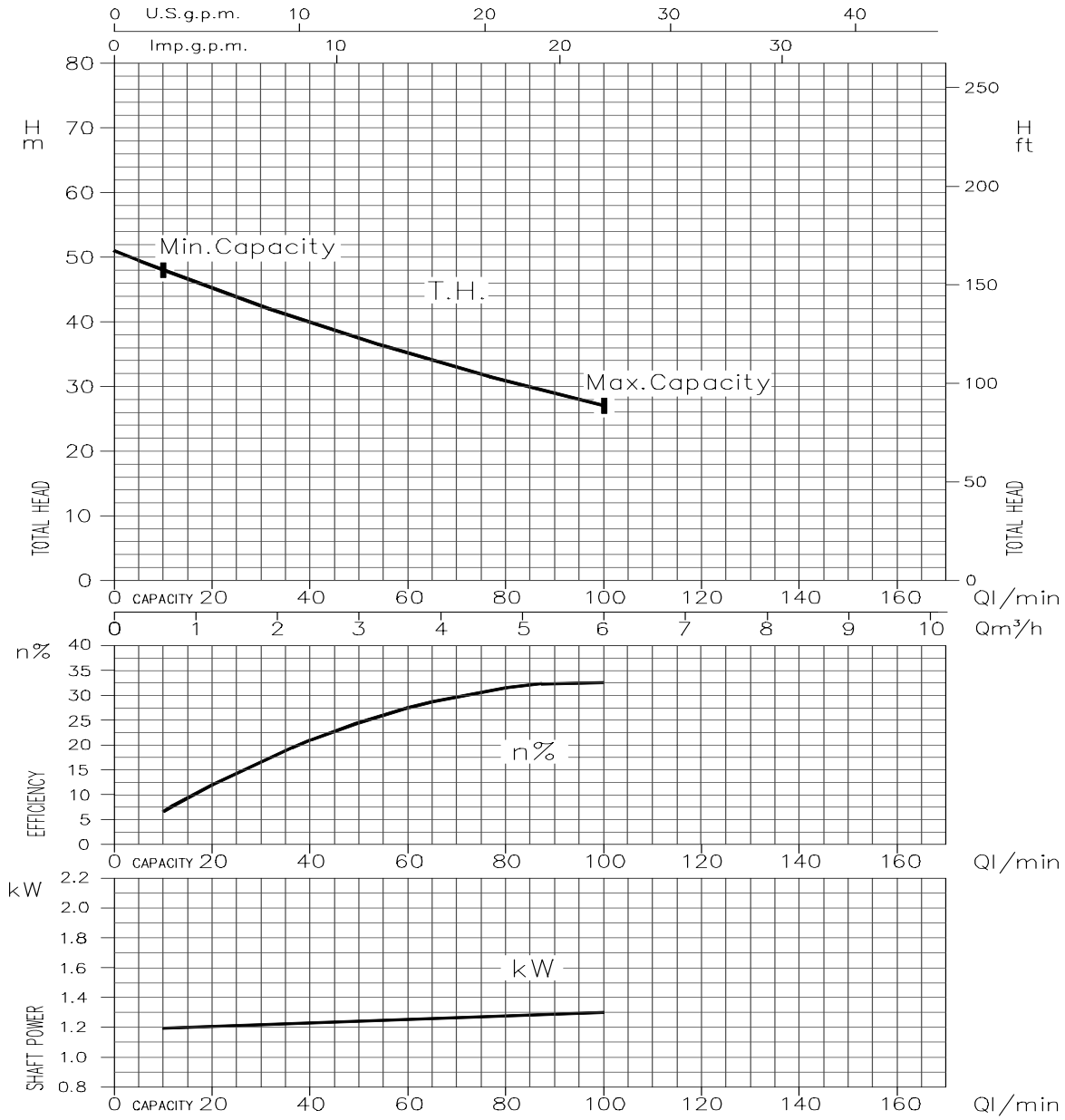
Temperature of water: 20°C
Impeller diameter = 130 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev E

AGA 1.50 (1.1 kW)
SYNCHRONOUS SPEED : 3000 min^{-1}



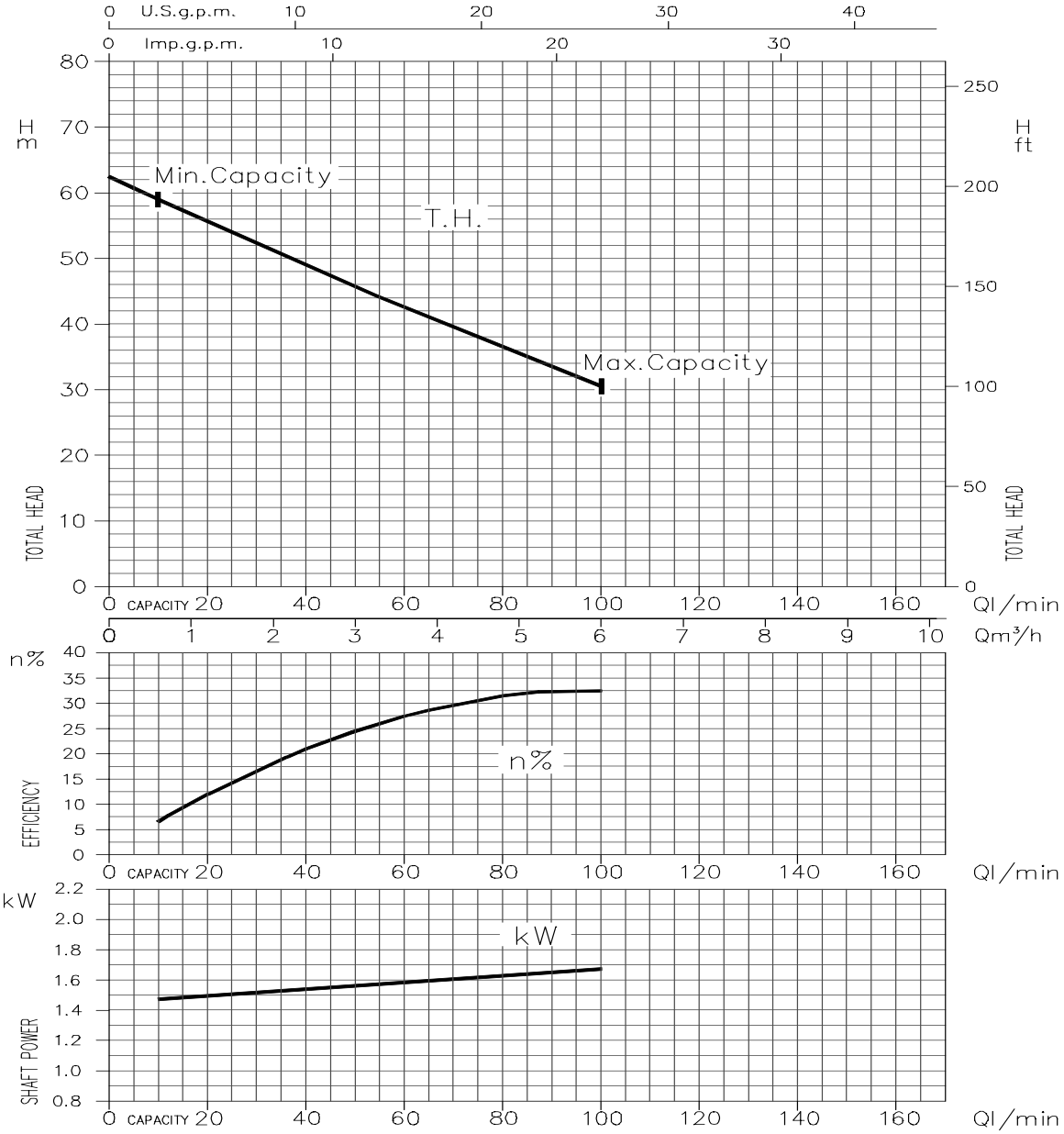
Temperature of water: 20°C
Impeller diameter = 143 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev E

AGA 2.00 (1.5 kW)
SYNCHRONOUS SPEED : 3000 min^{-1}



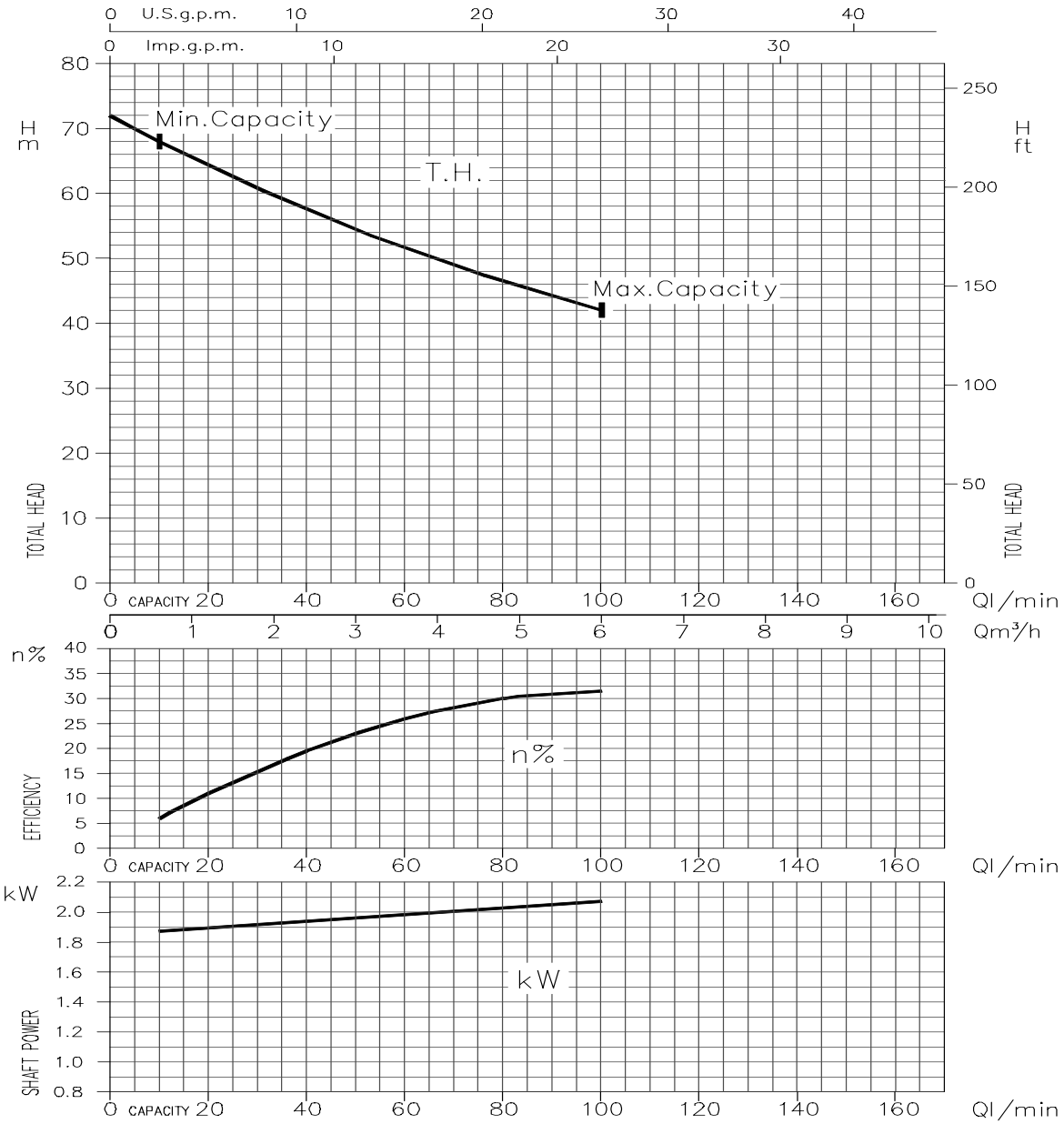
Temperature of water: 20°C
Impeller diameter = 157 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev E

AGA 3.00 (2.2 kW)
SYNCHRONOUS SPEED : 3000 min^{-1}



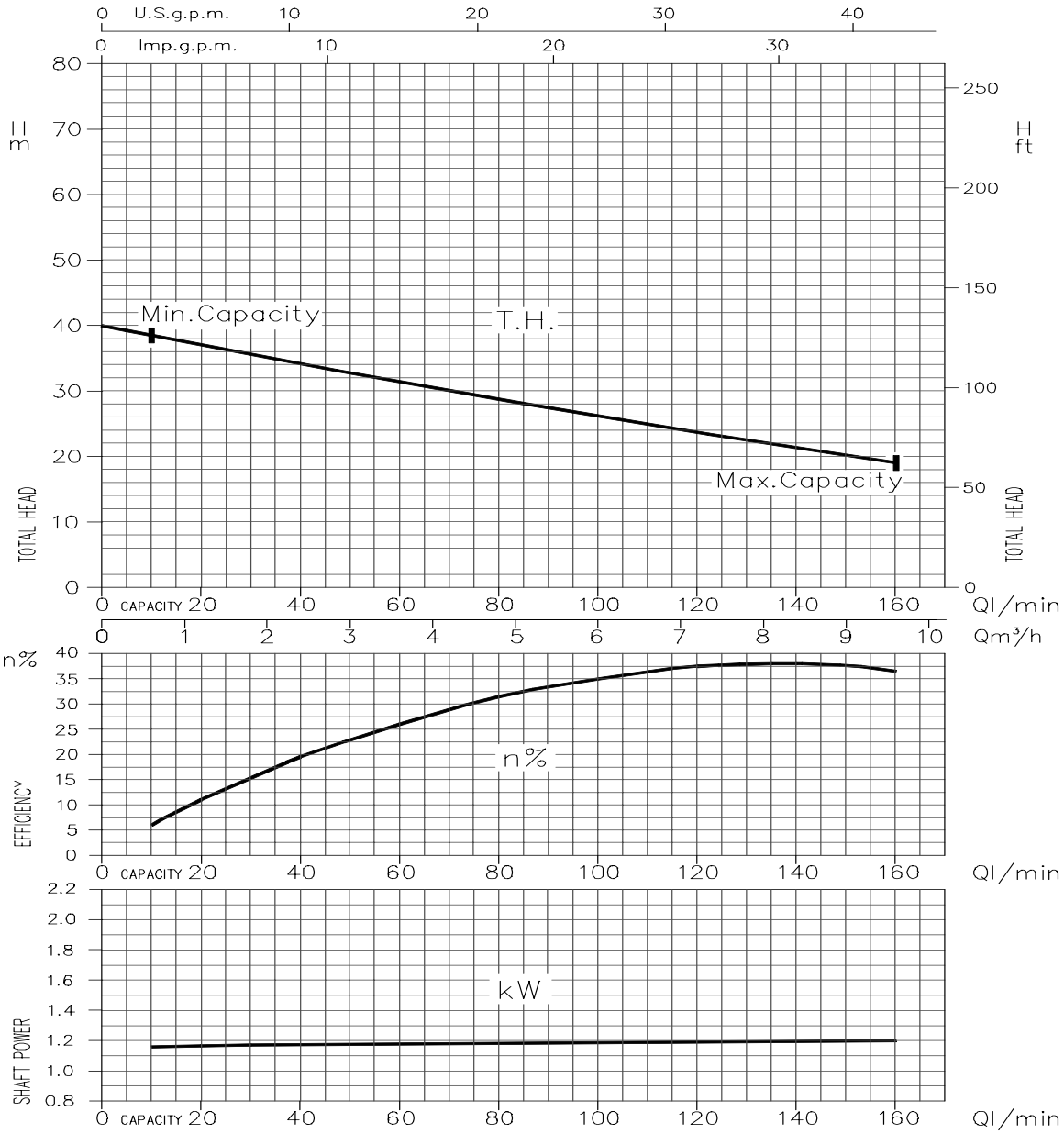
Temperature of water: 20°C
Impeller diameter = 164 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev E

AGC 1.50 (1.1 kW)
SYNCHRONOUS SPEED : 3000 min^{-1}



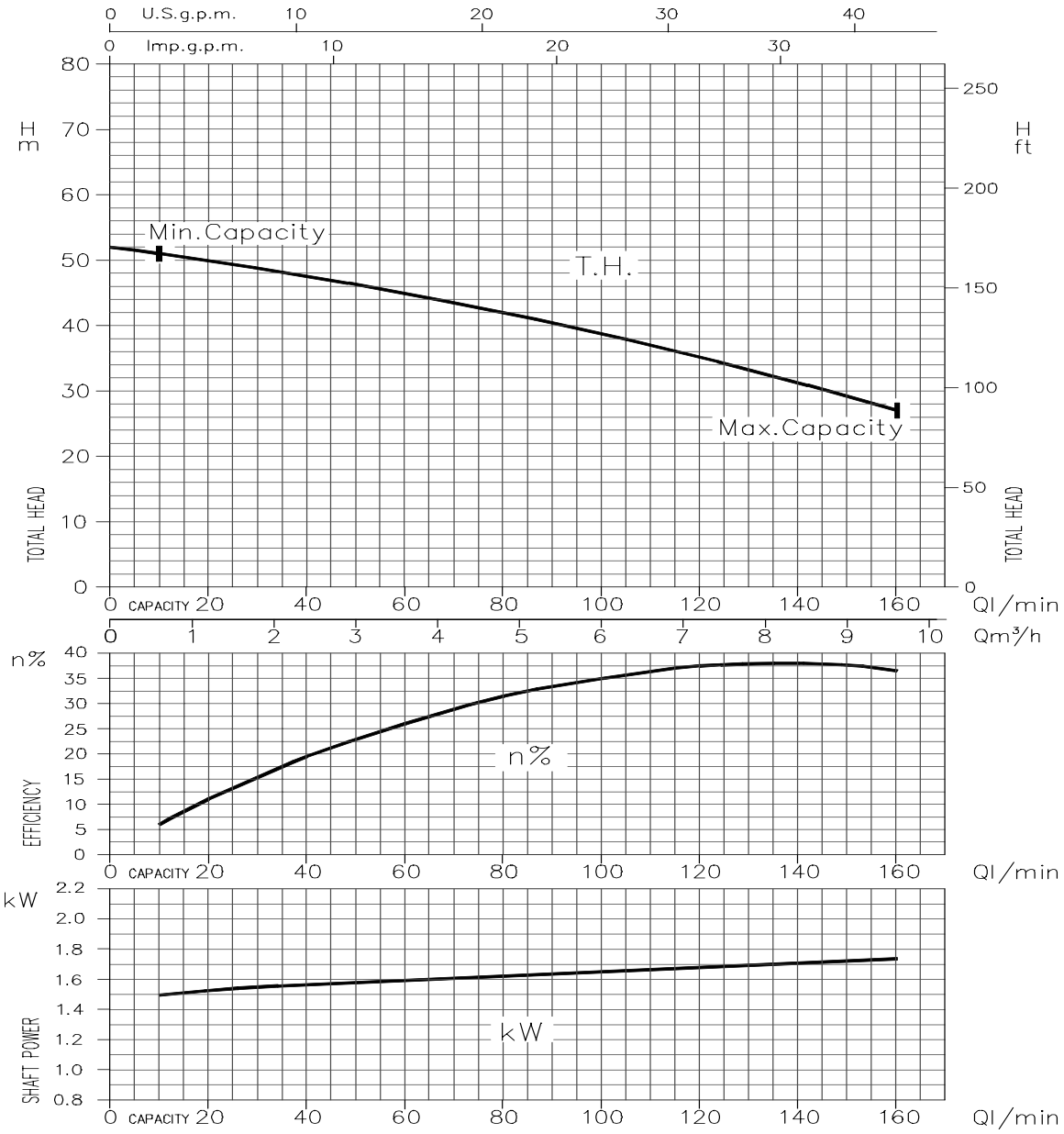
Temperature of water: 20°C
Impeller diameter = 143 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev E

AGC 2.00 (1.5 kW)
SYNCHRONOUS SPEED : 3000 min^{-1}



Temperature of water: 20°C
Impeller diameter = 157 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

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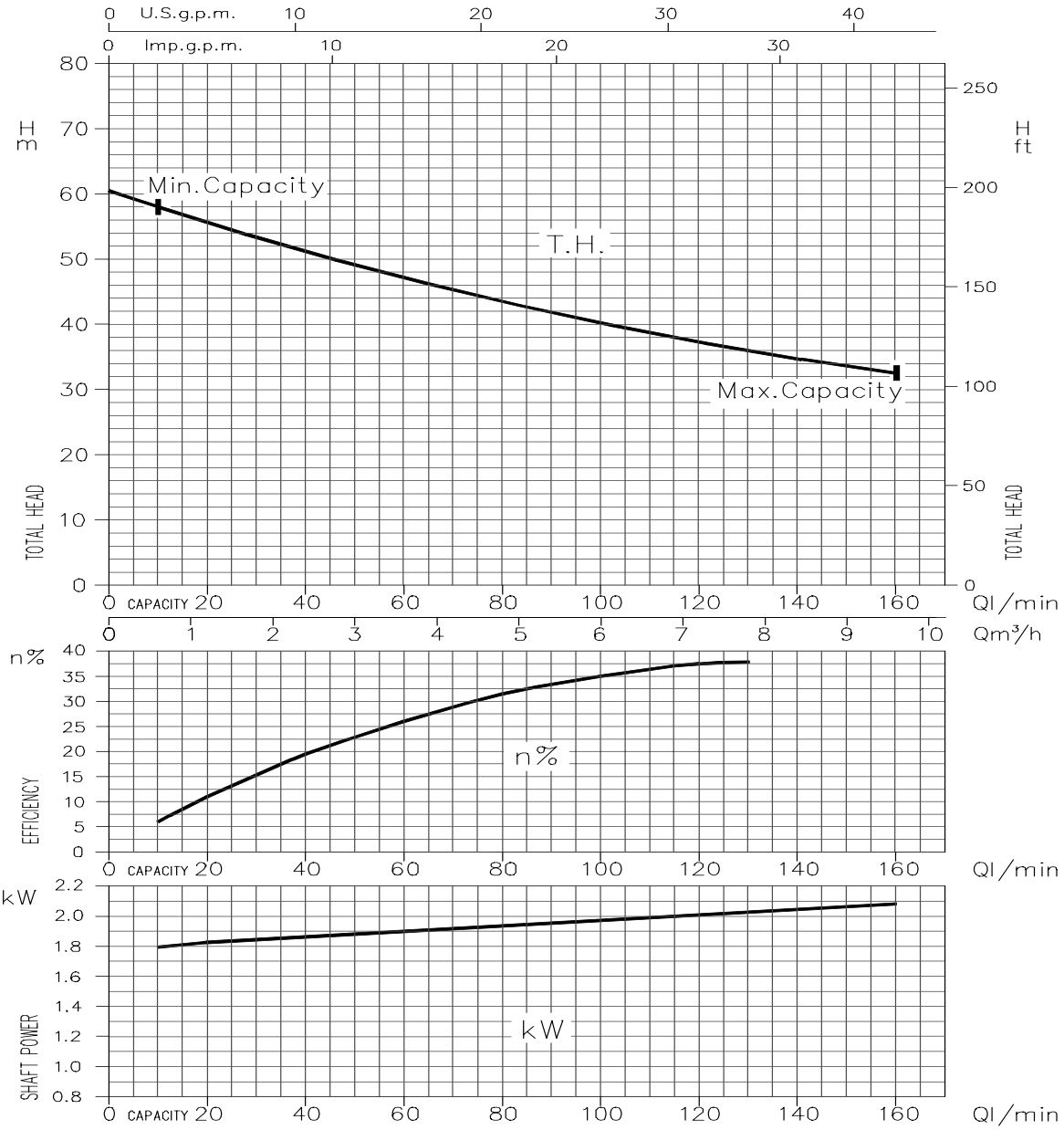
Rev E

AGC 3.00 (2.2 kW)
SYNCHRONOUS SPEED : 3000 min^{-1}



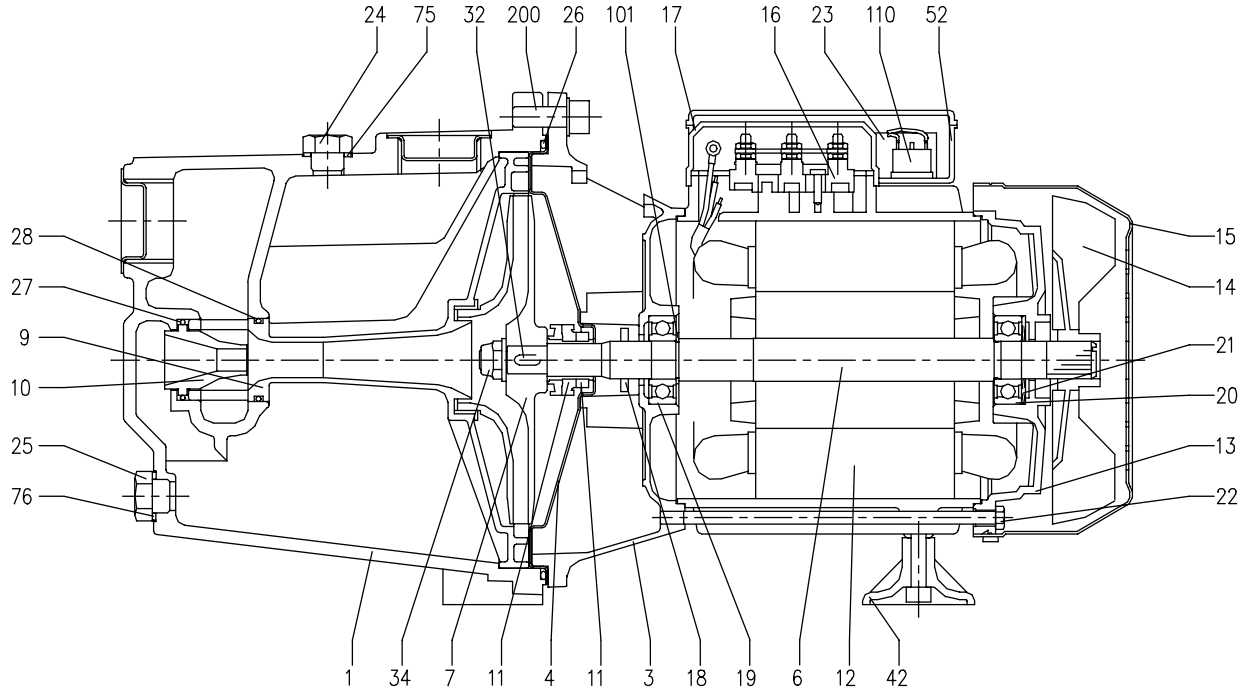
Temperature of water: 20°C
Impeller diameter = 164 mm
Applicable standard of test: ISO 9906 - Annex A

CONSTRUCTIONS

50Hz

Rev E

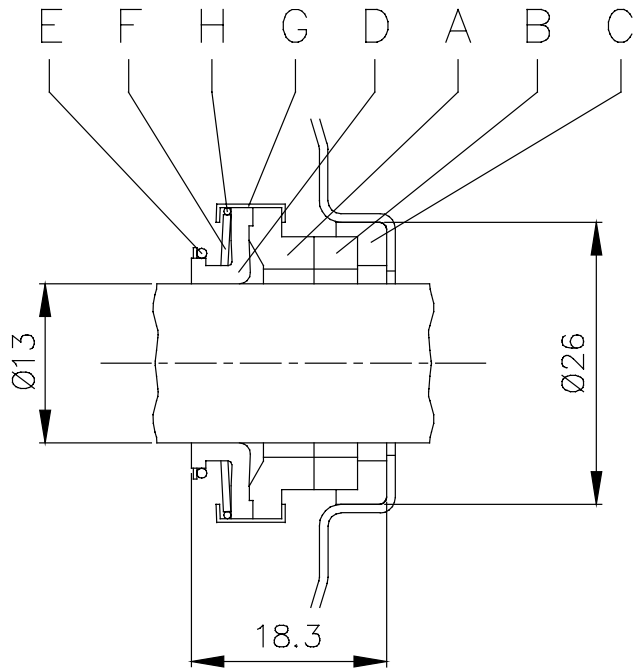
SECTIONAL VIEW



N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
1	Casing	Cast iron	1	21	Adjusting ring	Steel C70	1
3	Motor bracket	[9]	1	22	Tie rod	Fe 42 Zinked	4
4	Casing cover	AISI 304 [8]	1	23	Capacitor [1]	-	1
6	Shaft with rotor	[6]	1	24	Priming plug	Brass	1
7	Impeller	[4]	1	25	Drain plug	Brass	1
9	Diffuser + Venturi tube	PPO mod. glass fibre reinforced	1	26	O-ring	NBR	1
10	Venturi nozzle	PPO mod. glass fibre reinforced	1	27	O-ring	NBR	1
11	Mechanical seal [7]	Carbon/Ceramic/NBR	1	28	O-ring	NBR	1
12	Motor frame with stator	-	1	32	Key	AISI 304	1
13	Motor cover	Aluminium	1	34	Impeller nut [3]	AISI 304	1
14	Fan	PA6	1	42	Foot	PVC	1
15	Fan cover	Fe P04 Zinked	1	52	Terminal box [1]	ABS	1
16	Terminal board	-	1	75	Washer	Aluminium	1
17	Terminal box cover [2]	Aluminium	1	76	Washer	Aluminium	1
18	Splash ring	NBR	1	101	Seeger ring	AISI 420	1
19	Pump side ball bearing	-	1	110	Motor protector [5]	-	1
20	Fan side ball bearing	-	1	200	Screw	Stainless steel A2 UNI7323	4

[1] Only for single phase
[2] Only for three phase
[3] Only for version with impeller in Brass
[4] Material : Noryl for type : AGA 0.60 - AGA 0.75 - AGA 1.00
Brass for type : AGA 1.50 - AGA 2.00 - AGA 3.00 - AGC 1.50 - AGC 2.00 - AGC 3.00
[5] Only for version single phase AGA 1.50 - AGA 2.00 - AGC 1.50 - AGC 2.00
[6] Material : AISI 416 for type : AGA 0.60 - AGA 0.75 - AGA 1.00
AISI 303 (part in contact with liquid) for type : AGA 1.50 - AGA 2.00 - AGA 3.00 - AGC 1.50 - AGC 2.00 - AGC 3.00
[7] See constructions mechanical seal page 301-302
[8] Only for version AGA 0.60 - AGA 0.75 - AGA 1.00
[9] Material : Cast iron for version AGA 1.50 - AGA 2.00 - AGA 3.00 - AGC 1.50 - AGC 2.00 - AGC 3.00
Aluminium for version AGA 0.60 - AGA 0.75 - AGA 1.00

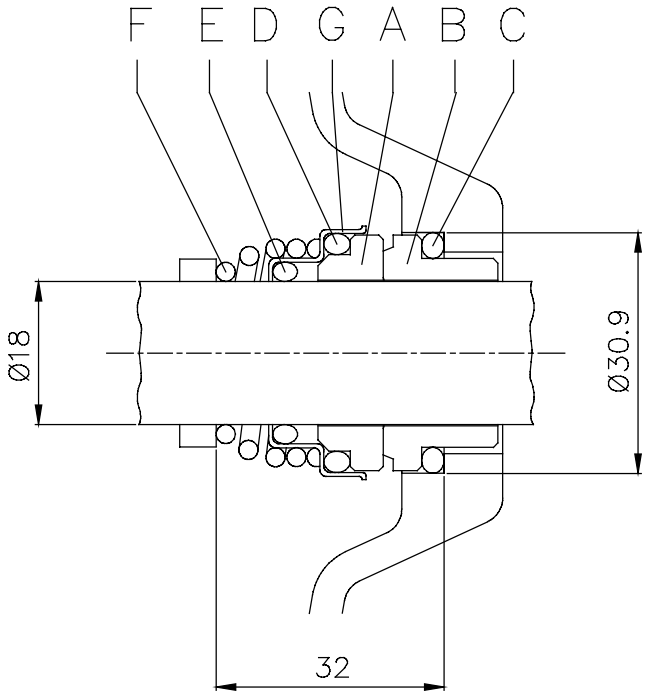
MECHANICAL SEAL



REF	PART NAME	MATERIAL product standard AGA-AGC
A	Rotary seal ring	carbon graphite
B	Stationary seal ring	ceramic
C	Gasket	NBR
D	Bellows	NBR
E	Ring	AISI 304
F	Self driving spring	AISI 304
G	Frame	AISI 304
H	Retainer ring	AISI 304

Version: AGA 0.60-AGA 0.75-AGA 1.00

MECHANICAL SEAL



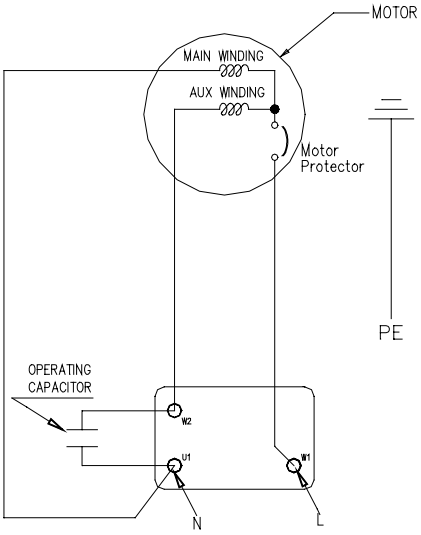
REF	PART NAME	MATERIAL product standard AGA-AGC
A	Rotary seal ring	ceramic
B	Stationary seal ring	carbon graphite
C	O Ring	NBR
D	O Ring	NBR
E	O Ring	NBR
F	Self driving spring	AISI 316
G	Frame	AISI 304

Version: AGA 1.50-AGA 2.00-AGA 3.00
AGC 1.50-AGC 2.00-AGC 3.00

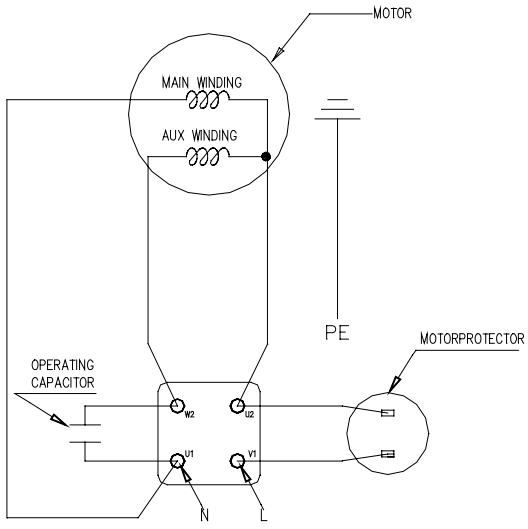
DIAGRAM AND ELECTRIC CONNECTIONS

SINGLE PHASE MOTOR

FOR MOTORS WITH LOCKED ROTOR CURRENT UP TO 25 [A] (INTERNAL MOTORPROTECTOR)



FOR MOTORS WITH LOCKED ROTOR CURRENT OVER 25 [A] (EXTERNAL MOTORPROTECTOR)



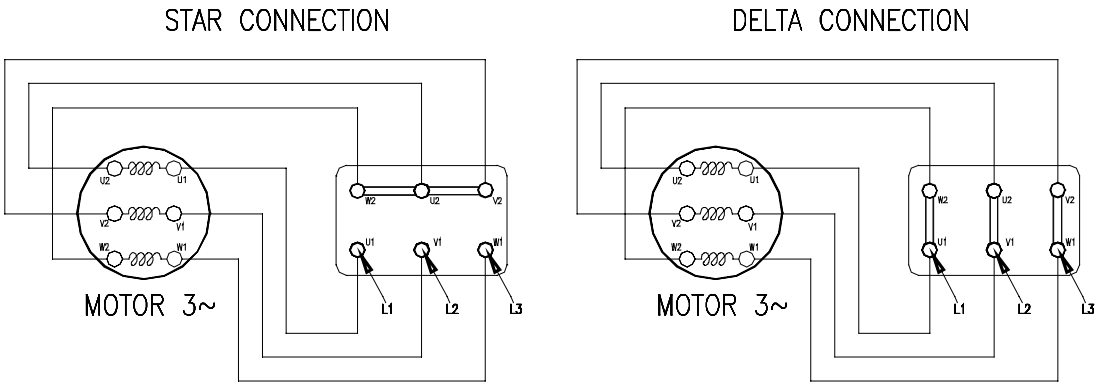
For model

AGA 0.60 M
AGA 0.75 M
AGA 1.00 M

AGA 1.50 M
AGA 2.00 M
AGC 1.50 M
AGC 2.00 M

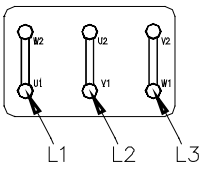
DIAGRAM AND ELECTRIC CONNECTIONS

THREE PHASE MOTOR

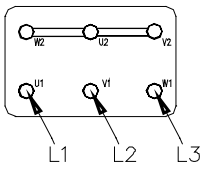


FOR MOTOR 4 kW AND BELOW

DELTA CONNECTION 230 V



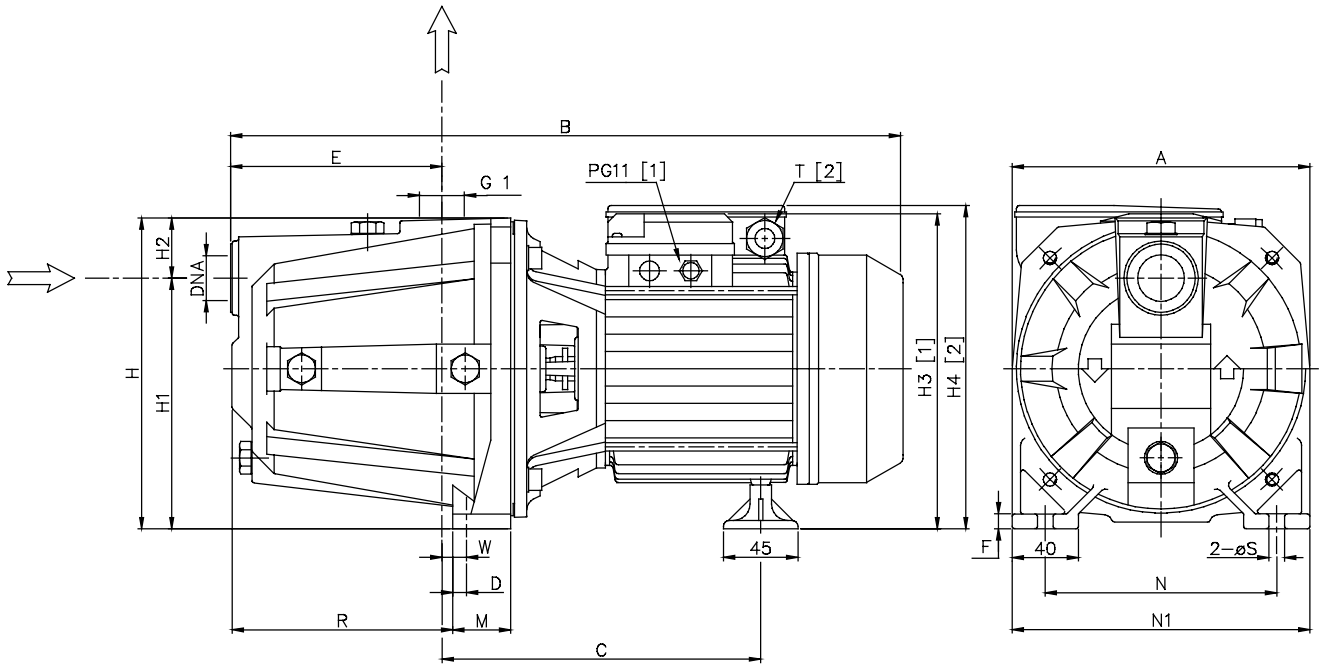
STAR CONNECTION 400 V



DIMENSIONS

50Hz

Rev E



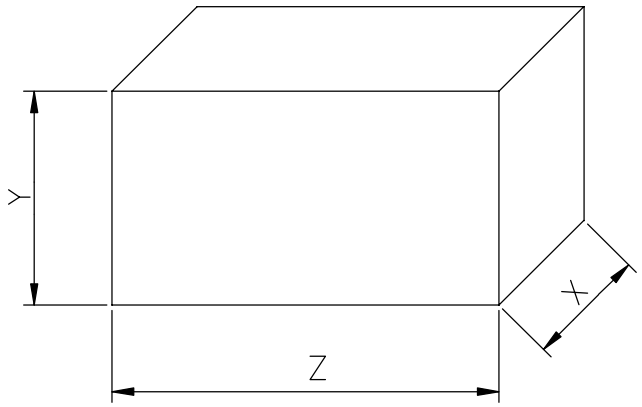
Pump type	Dimensions mm																		
	A	B	C	D	E	F	H	H1	H2	[1] H3	[2] H4	M	N	N1	R	[2] T	W	S	DNA
AGA 0.60 M	180	405	195	10.3	127	9	185	152	33	-	199	40	140	180	128.5	PG11	11.8	9.5	G 1
AGA 0.60 T	180	405	195	10.3	127	9	185	152	33	197.5	-	40	140	180	128.5	-	11.8	9.5	G 1
AGA 0.75 M	180	405	195	10.3	127	9	185	152	33	-	199	40	140	180	128.5	PG11	11.8	9.5	G 1
AGA 0.75 T	180	405	195	10.3	127	9	185	152	33	197.5	-	40	140	180	128.5	-	11.8	9.5	G 1
AGA 1.00 M	180	405	195	10.3	127	9	185	152	33	-	199	40	140	180	128.5	PG11	11.8	9.5	G 1
AGA 1.00 T	180	405	195	10.3	127	9	185	152	33	197.5	-	40	140	180	128.5	-	11.8	9.5	G 1
AGA 1.50 M	220	495	244	10	157	10	223	170	53	-	247	48	180	220	167.5	PG13.5	15.5	9	G 1 1/2
AGA 1.50 T	220	495	244	10	157	10	223	170	53	229	-	48	180	220	167.5	-	15.5	9	G 1 1/2
AGA 2.00 M	220	508	244	10	157	10	223	170	53	-	247	48	180	220	167.5	PG13.5	15.5	9	G 1 1/2
AGA 2.00 T	220	495	244	10	157	10	223	170	53	229	-	48	180	220	167.5	-	15.5	9	G 1 1/2
AGA 3.00 T	220	508	244	10	157	10	223	170	53	229	-	48	180	220	167.5	-	15.5	9	G 1 1/2
AGC 1.50 M	220	495	244	10	157	10	223	170	53	-	247	48	180	220	167.5	PG13.5	15.5	9	G 1 1/2
AGC 1.50 T	220	495	244	10	157	10	223	170	53	229	-	48	180	220	167.5	-	15.5	9	G 1 1/2
AGC 2.00 M	220	508	244	10	157	10	223	170	53	-	247	48	180	220	167.5	PG13.5	15.5	9	G 1 1/2
AGC 2.00 T	220	495	244	10	157	10	223	170	53	229	-	48	180	220	167.5	-	15.5	9	G 1 1/2
AGC 3.00 T	220	508	244	10	157	10	223	170	53	229	-	48	180	220	167.5	-	15.5	9	G 1 1/2

[1] = Only for three phase
[2] = Only for single phase

PACKING AND WEIGHT

50Hz

Rev E



Type pumps		PACKING [mm]			WEIGHT [kg]	
Single Phase	Three Phase	X	Y	Z	Single Phase	Three Phase
AGA 0.60 M	AGA 0.60 T	420	230	235	12.5	12.5
AGA 0.75 M	AGA 0.75 T	420	230	235	13	13
AGA 1.00 M	AGA 1.00 T	420	230	235	14	14
AGA 1.50 M	AGA 1.50 T	520	265	270	26	26
AGA 2.00 M	AGA 2.00 T	520	265	270	27	27
-	AGA 3.00 T	520	265	270	-	27
AGC 1.50 M	AGC 1.50 T	520	265	270	26	26
AGC 2.00 M	AGC 2.00 T	520	265	270	27	27
-	AGC 3.00 T	520	265	270	-	27

TECHNICAL DATA 50Hz

Rev E

Type pumps		kW	HP	Ball Bearing		Capacitor Single Phase		Input in [kW]		Full load current in [A]		
Single Phase 230 V 50 Hz	Three Phase 230/400 V 50 Hz			Pump side	Fan side	µF	Vl	Single Phase	Three Phase	Single Phase	Three Phase 230 V	Three Phase 400 V
AGA 0.60 M	AGA 0.60 T	0.45	0.6	6202 ZZ	6202 ZZ	12.5	450	0.7	0.65	3.1	2.1	1.2
AGA 0.75 M	AGA 0.75 T	0.55	0.75	6202 ZZ	6202 ZZ	14	450	0.92	0.84	4.0	2.8	1.6
AGA 1.00 M	AGA 1.00 T	0.75	1	6202 ZZ	6202 ZZ	20	450	1.15	1.02	5.5	3.6	2.1
AGA 1.50 M	AGA 1.50 T	1.1	1.5	6204 ZZ	6203 ZZ	35	450	1.65	1.60	8.1	5.3	3.0
AGA 2.00 M	AGA 2.00 T	1.5	2	6204 ZZ	6203 ZZ	40	450	2.1	2.05	9.8	6.3	3.6
-	AGA 3.00 T	2.2	3	6204 ZZ	6203 ZZ	-	-	-	2.5	-	7.9	4.7
AGC 1.50 M	AGC 1.50 T	1.1	1.5	6204 ZZ	6203 ZZ	35	450	1.8	1.75	8.6	5.8	3.3
AGC 2.00 M	AGC 2.00 T	1.5	2	6204 ZZ	6203 ZZ	40	450	2.30	2.25	10.5	6.8	3.9
-	AGC 3.00 T	2.2	3	6204 ZZ	6203 ZZ	-	-	-	2.60	-	7.9	4.6

Type pumps		Locked rotor current		
Single Phase 230 V 50 Hz	Three Phase 230/400 V 50 Hz	Single Phase 230 V 50 Hz	Three Phase 230 V 50 Hz	Three Phase 400 V 50 Hz
AGA 0.60 M	AGA 0.60 T	10.2	11.1	6.4
AGA 0.75 M	AGA 0.75 T	13.5	12.3	7.1
AGA 1.00 M	AGA 1.00 T	17.5	21.7	12.5
AGA 1.50 M	AGA 1.50 T	38	32.9	19
AGA 2.00 M	AGA 2.00 T	44	38.1	22
-	AGA 3.00 T	-	50.2	29
AGC 1.50 M	AGC 1.50 T	38	32.9	19
AGC 2.00 M	AGC 2.00 T	44	42.4	24.5
-	AGC 3.00 T	-	50.2	29