



GS

Cast Iron End Suction Pumps (to EN733)



Contents

SPECIFICATIONS

Features, applications & exploded View	101
Specifications	102
Model code & nameplate details	103
Performance curve & MEI explanation	104
Selection chart - 2 Pole	105
Selection chart - 4 Pole	106

PERFORMANCE CURVES

Index of performance curves	200
2 Pole performance curves	201 to 232
4 Pole performance curves	233 to 273

CONSTRUCTION

Sectional view & construction	300
Materials of construction	301
Mechanical seal	302

DIMENSIONS

Dimension drawing - Bare shaft pumps	400
Dimension table - Bare shaft pumps	401

TECHNICAL DATA

MEI - Minimum efficiency index by model	500
Minimum/Maximum impeller diameters	501
Applicable motor speeds	502
Nominal dimensions of parts	503
Noise levels - Bare shaft pumps	504

E.&O.E. All care has been taken to ensure the accuracy of the information and is correct to the best of our knowledge and is given without guarantee. Specifications subject to change without notice.

Features, applications & exploded view

Combining over 100 years of experience with the latest computer aided design, EBARA has developed the new **GS** series of pumps that offer world leading performance and efficiencies.

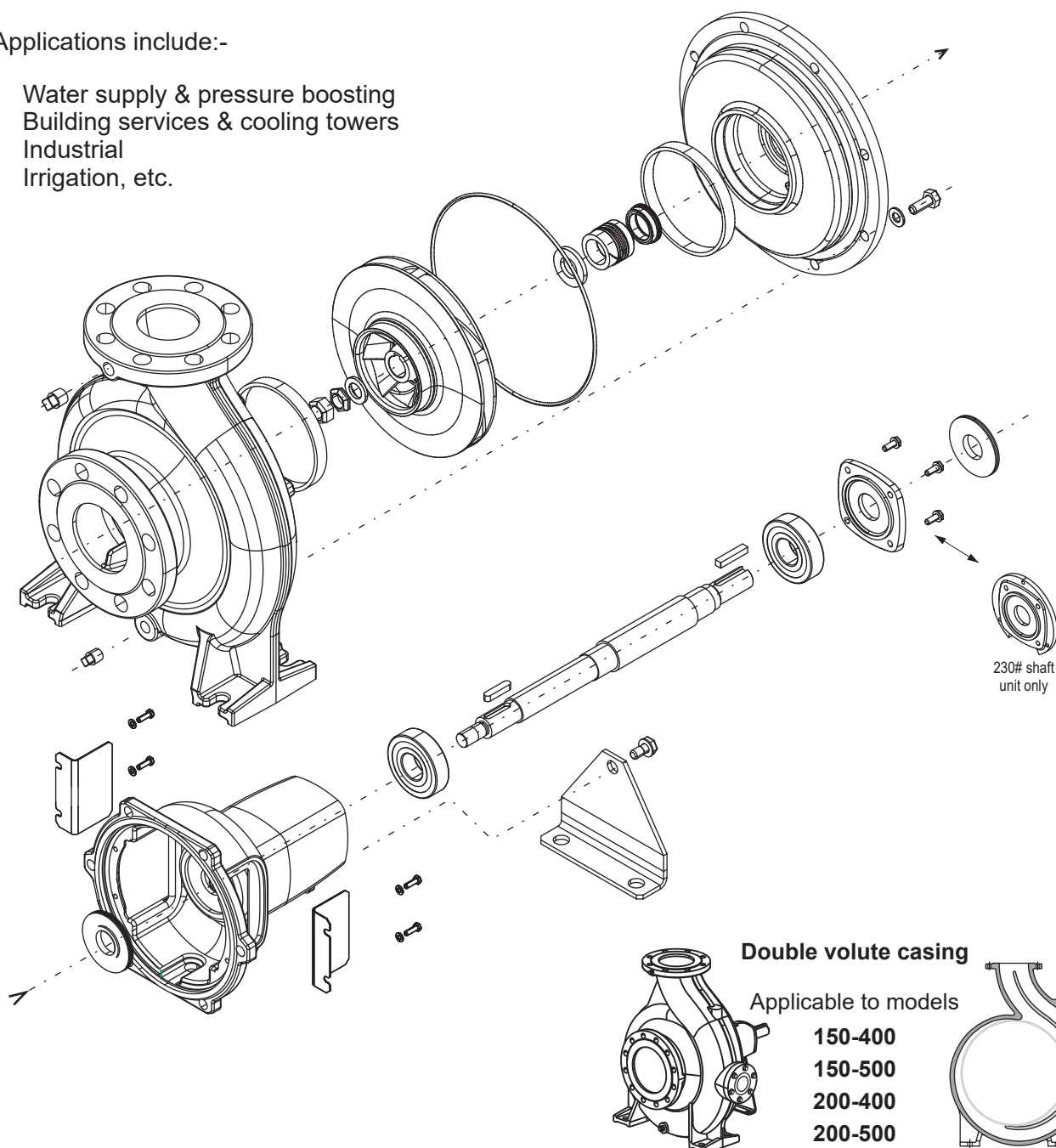
A versatile high quality pump suitable for many applications where water needs to be transferred or boosted

- Pump dimensions to EN733[#]
- 16 Bar rated. PN 16 Flanges (24 Bar hydrostatic test pressure)
- High efficiency hydraulic design (MEI ≥ 0.6 all models)
- Mechanical seals to EN12756
- Cast Iron/Bronze/Stainless steel construction
- O' Ring seal for casing
- Cast iron components ED painted. (Electro deposition painting)

[#] Except "L" models & 150-315
See page 400 for details.

Applications include:-

- Water supply & pressure boosting
- Building services & cooling towers
- Industrial
- Irrigation, etc.



Specifications

		Standard (50 Hz)	Option
Pump	Type	End suction centrifugal pump to EN733 [#]	
	Flanges	EN PN 16 (EN 1092-2)	
Scope	Pump discharge	32 mm to 200 mm	
	Motor power required	2 Pole: upto 220 kW 4 Pole: upto 355 kW	
	Performance	2 pole: (Q) 8 - 1100 m ³ /hr (H) 10 - 150 m hd 4 pole: (Q) 4 - 1300 m ³ /hr (H) 3 - 95 m hd	
Liquid handled	Type	Water	
	Temperature	-10° to +120°C See note ① page 302	
Max. allowable working pressure (MAWP)		16 Bar*	
Max. allowable suction pressure (MASP)**		<16 Bar- Pump shut-off pressure (PSP)	
Construction	Impeller	Closed centrifugal	
	Mechanical seal	Single spring, rubber bellows (to EN12756)	
Materials	Casing	Cast iron (FC250)	
	Impeller	Bronze (CAC 406)	
	Casing wear rings	Bronze (CAC 406)	
	Shaft	431 Stainless steel	
	Mechanical Seal	Carbon/SiC/EPDM	
	Casing cover	Cast iron (FC250)	
	Bearing housing	Cast iron (FC250)	
	Bearings	Sealed ball bearings	
Supply		Bareshaft pump	

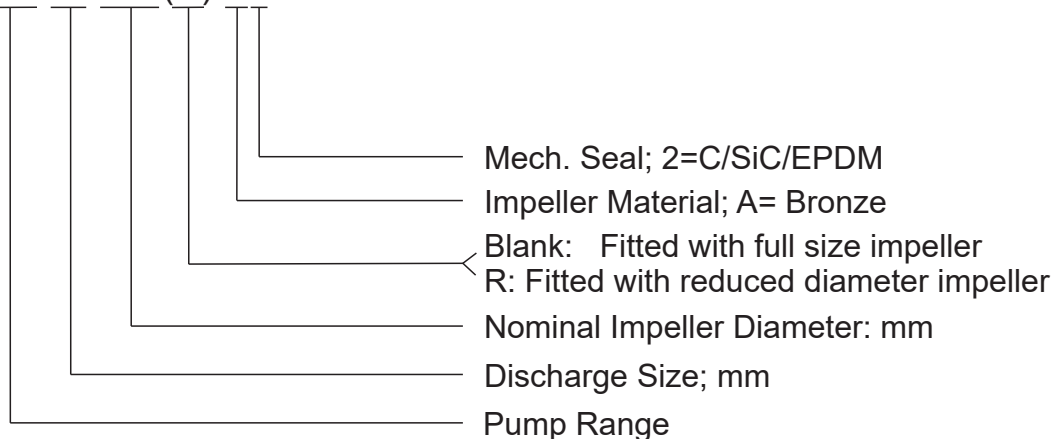
* 16 Bar rating to ISO5199

**MASP < MAWP - PSP

[#] Except "L" models & 150-315
See page 400 for details.

Model code

GS 80-250(R)/A2

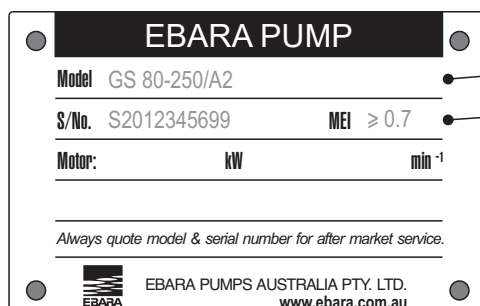


“L” models - 80-315L, 100-315L, 125-250L

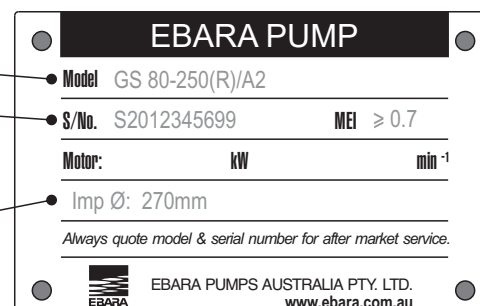
The letter “L” following the impeller classification code indicates a larger shaft unit is fitted.
(see page 401 & 502 for more details)

Nameplate

Standard model
with full size impeller



Standard model
with reduced impeller

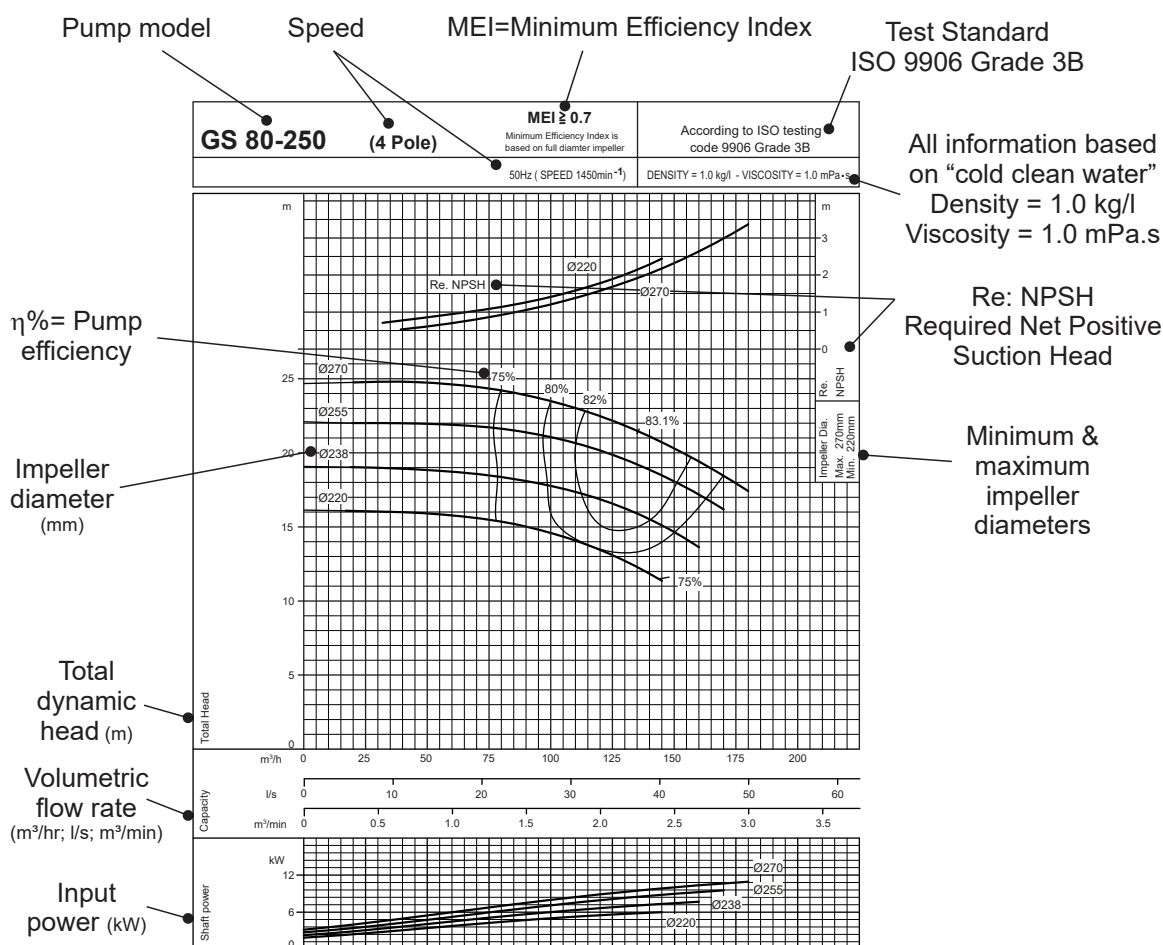


Model

Serial Number &
Minimum Efficiency Index

Impeller Diameter

Performance curves

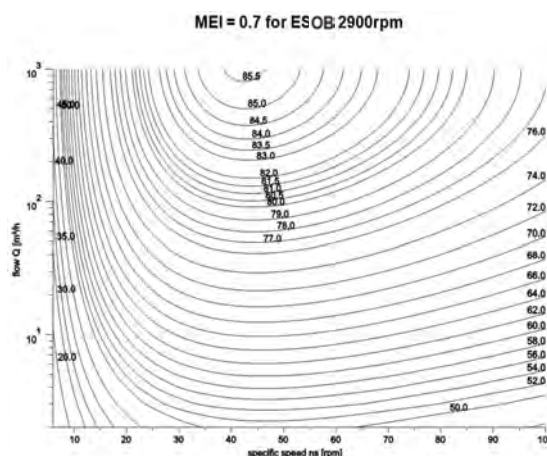


MEI - Minimum efficiency index

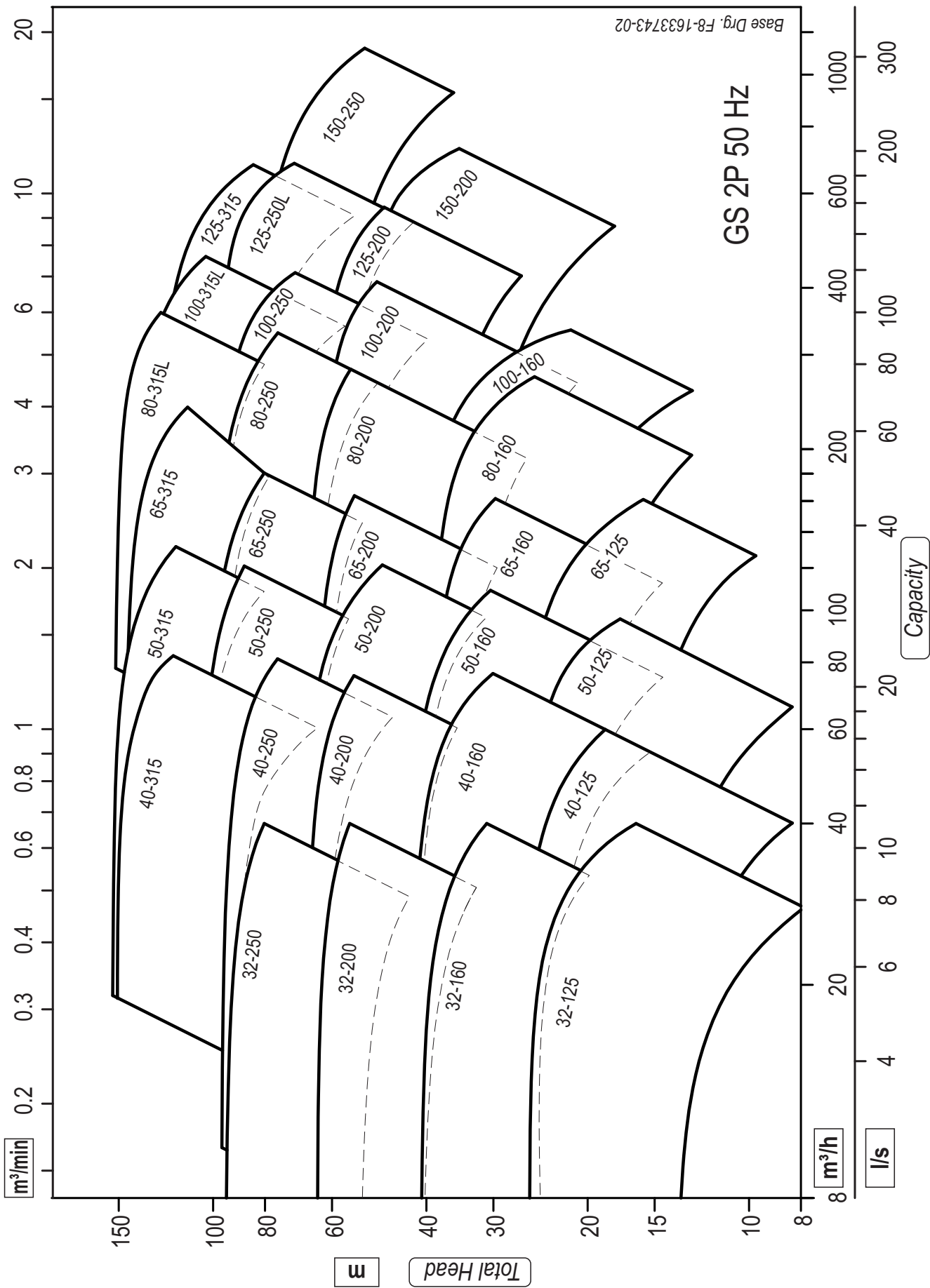
The Minimum Efficiency Index (MEI) was introduced in Europe as a comparative measure of a pumps efficiency. Recognising that pumping equipment is a major consumer of electrical power, this comparative measure was developed, and pumping equipment had to meet a minimum standard (MEI>0.4) to be sold in Europe after January 2015.

The MEI is based on the full size impeller, and takes into account best efficiency point as well as part load and overload efficiencies to provide a broader comparison. Basically the higher the MEI, the higher the efficiency and comparative performance of the pumps.

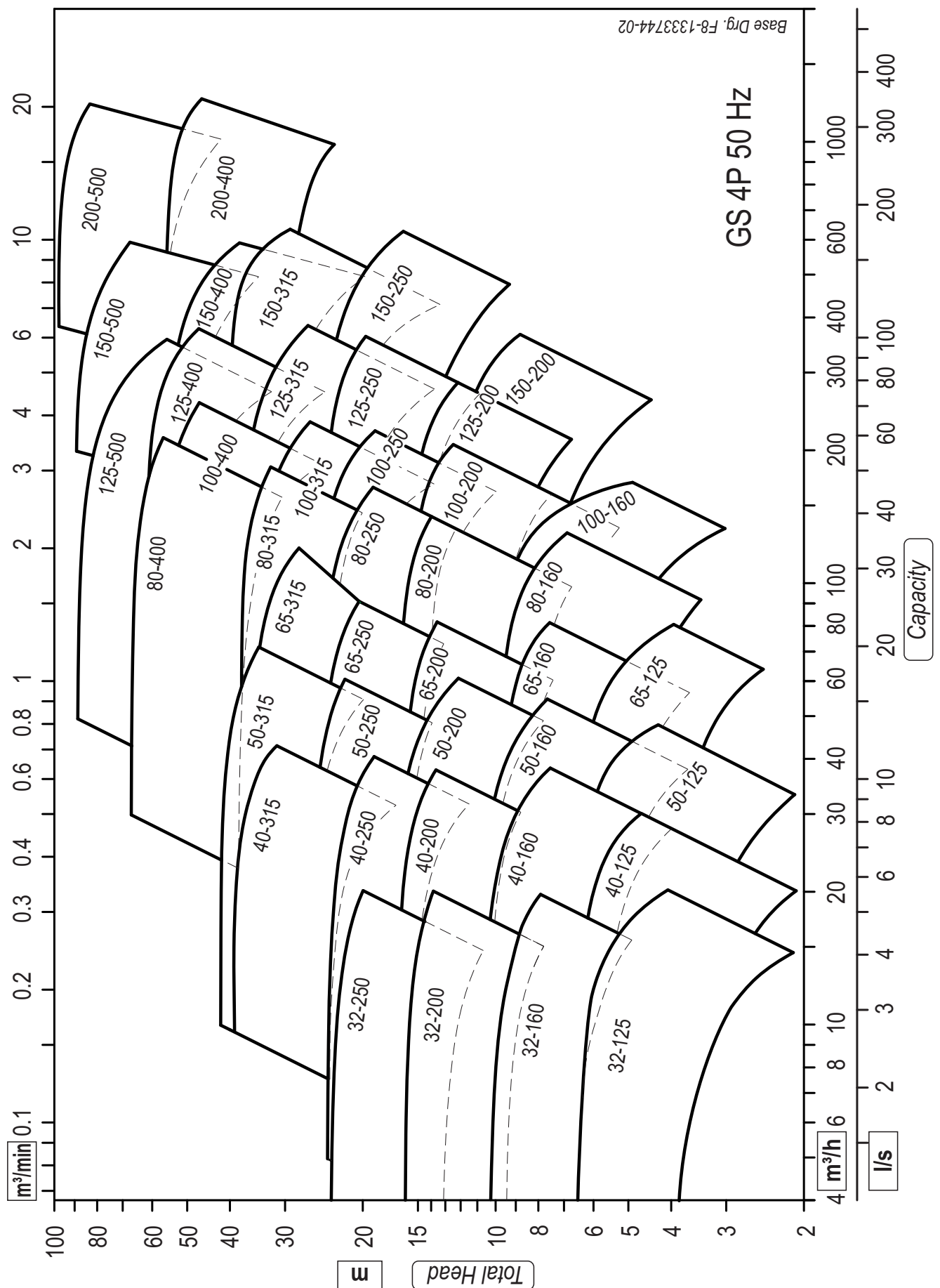
The majority of the GS range are MEI>0.7, with the balance >0.6, an indication of the high quality design and manufacture by Ebara.



Selection chart - 2 Pole - 2900 rpm



Selection chart - 4 Pole - 1450 rpm



Index - Performance curves

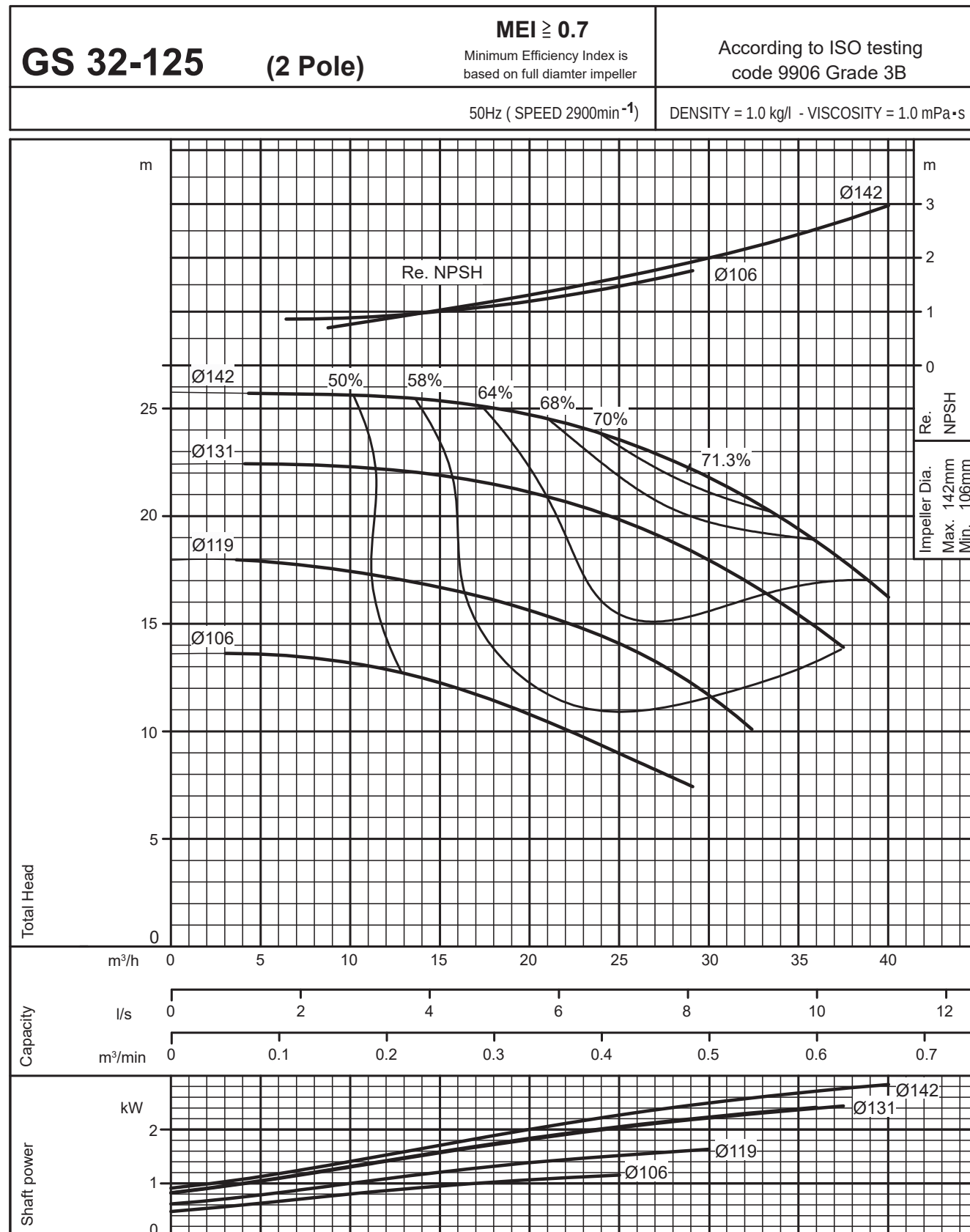
2 Pole Performance curves

<u>Model</u>	<u>Page</u>
32-125	201
32-160	202
32-200	203
32-250	204
40-125	205
40-160	206
40-200	207
40-250	208
40-315	209
50-125	210
50-160	211
50-200	212
50-250	213
50-315	214
65-125	215
65-160	216
65-200	217
65-250	218
65-315	219
80-160	220
80-200	221
80-250	222
80-315L	223
100-160	224
100-200	225
100-250	226
100-315L	227
125-200	228
125-250L	229
125-315	230
150-200	231
150-250	232

4 Pole Performance curves

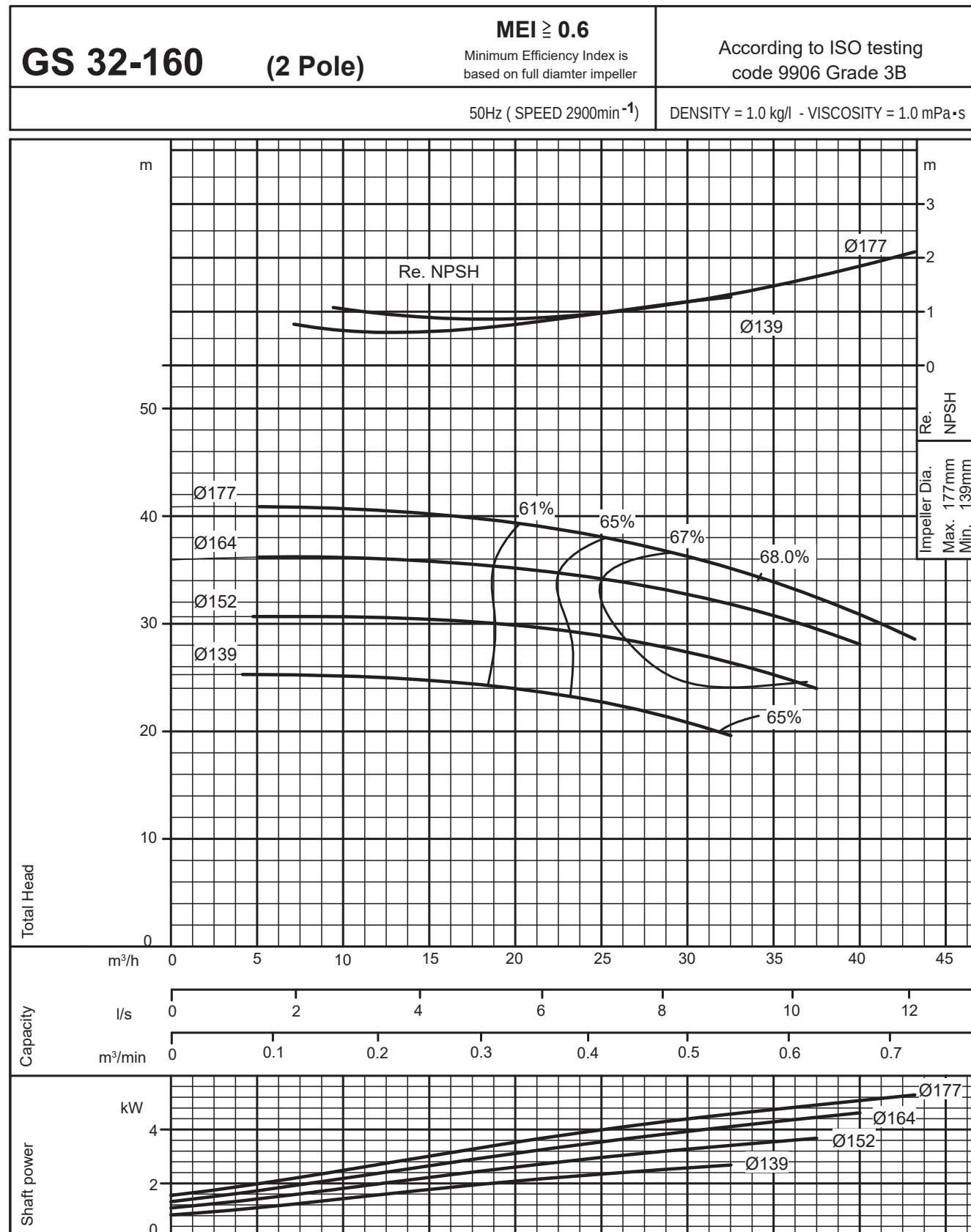
<u>Model</u>	<u>Page</u>
32-125	233
32-160	234
32-200	235
32-250	236
40-125	237
40-160	238
40-200	239
40-250	240
40-315	241
50-125	242
50-160	243
50-200	244
50-250	245
50-315	246
65-125	247
65-160	248
65-200	249
65-250	250
65-315	251
80-160	252
80-200	253
80-250	254
80-315	255
80-400	256
100-160	257
100-200	258
100-250	259
100-315	260
100-400	261
125-200	262
125-250	263
125-315	264
125-400	265
125-500	266
150-200	267
150-250	268
150-315	269
150-400	270
150-500	271
200-400	272
200-500	273

Performance Curve



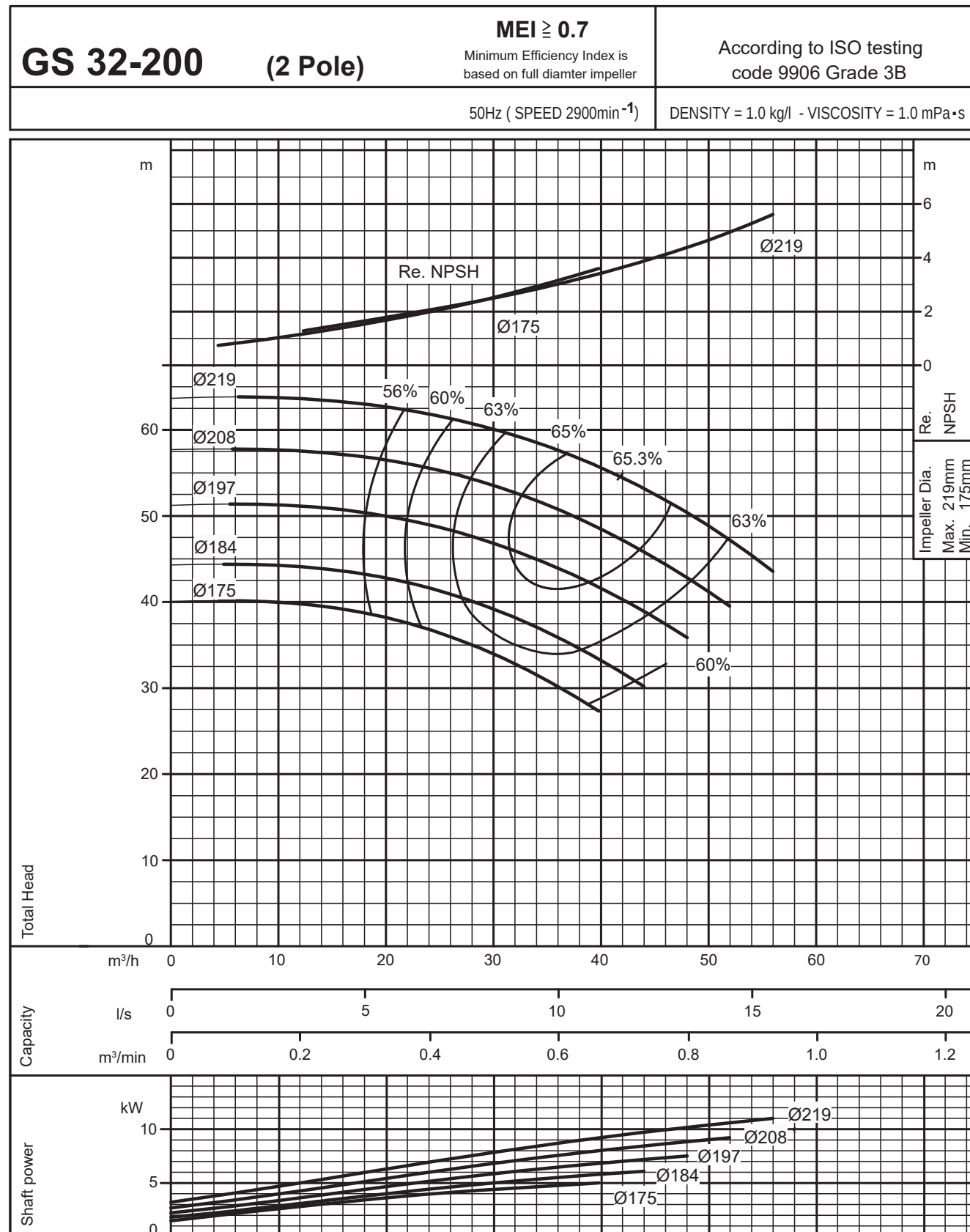
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Performance Curve



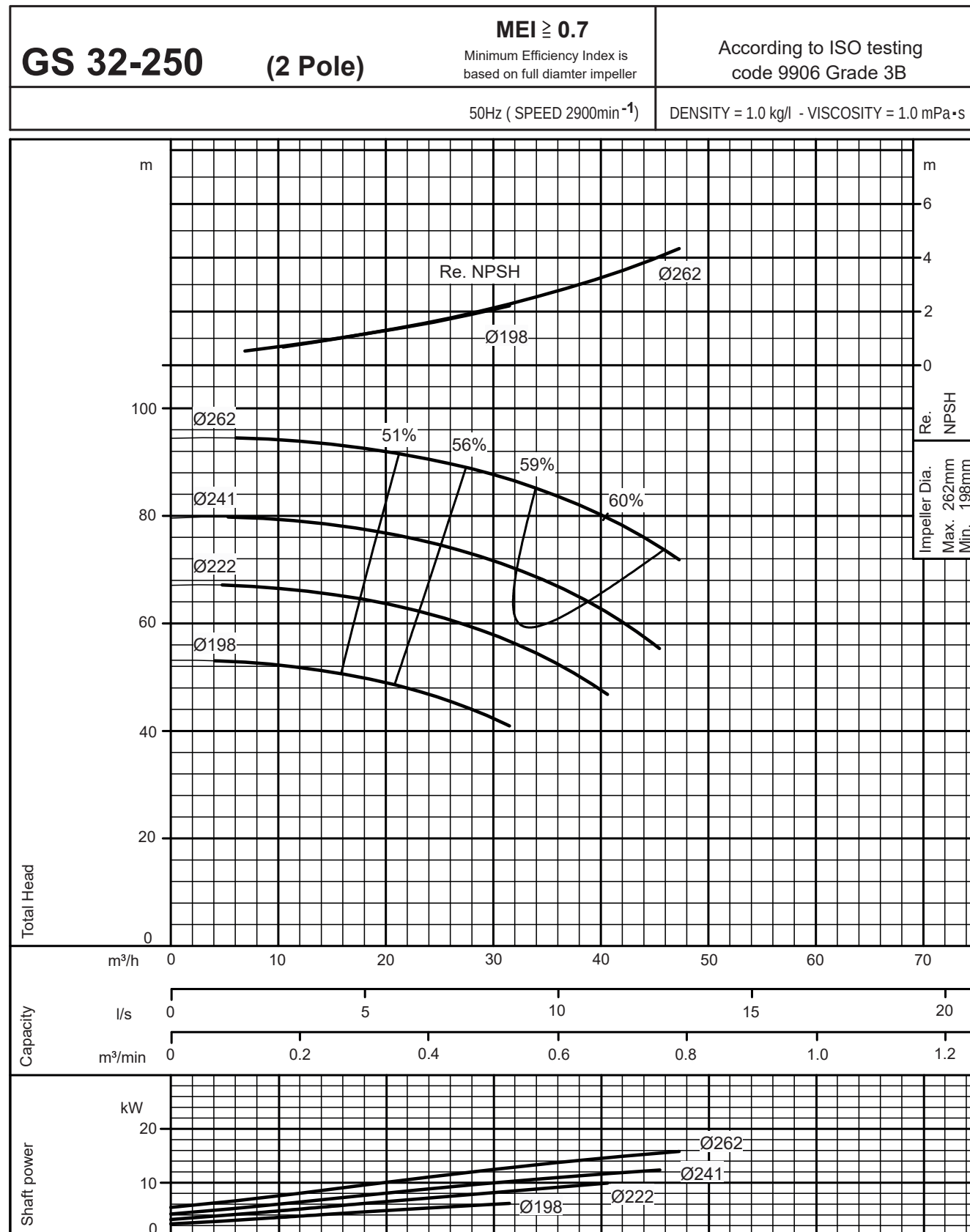
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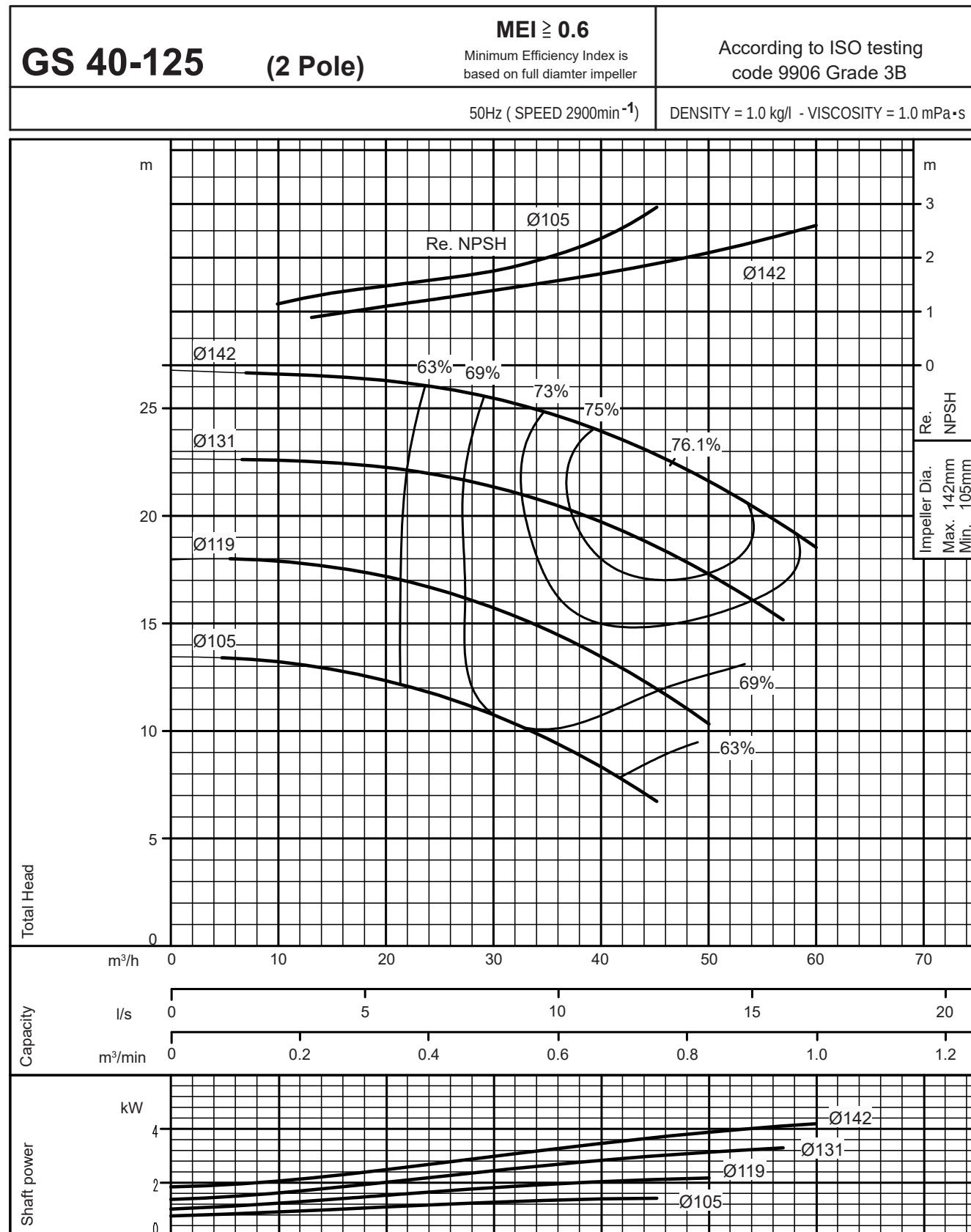
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Performance Curve



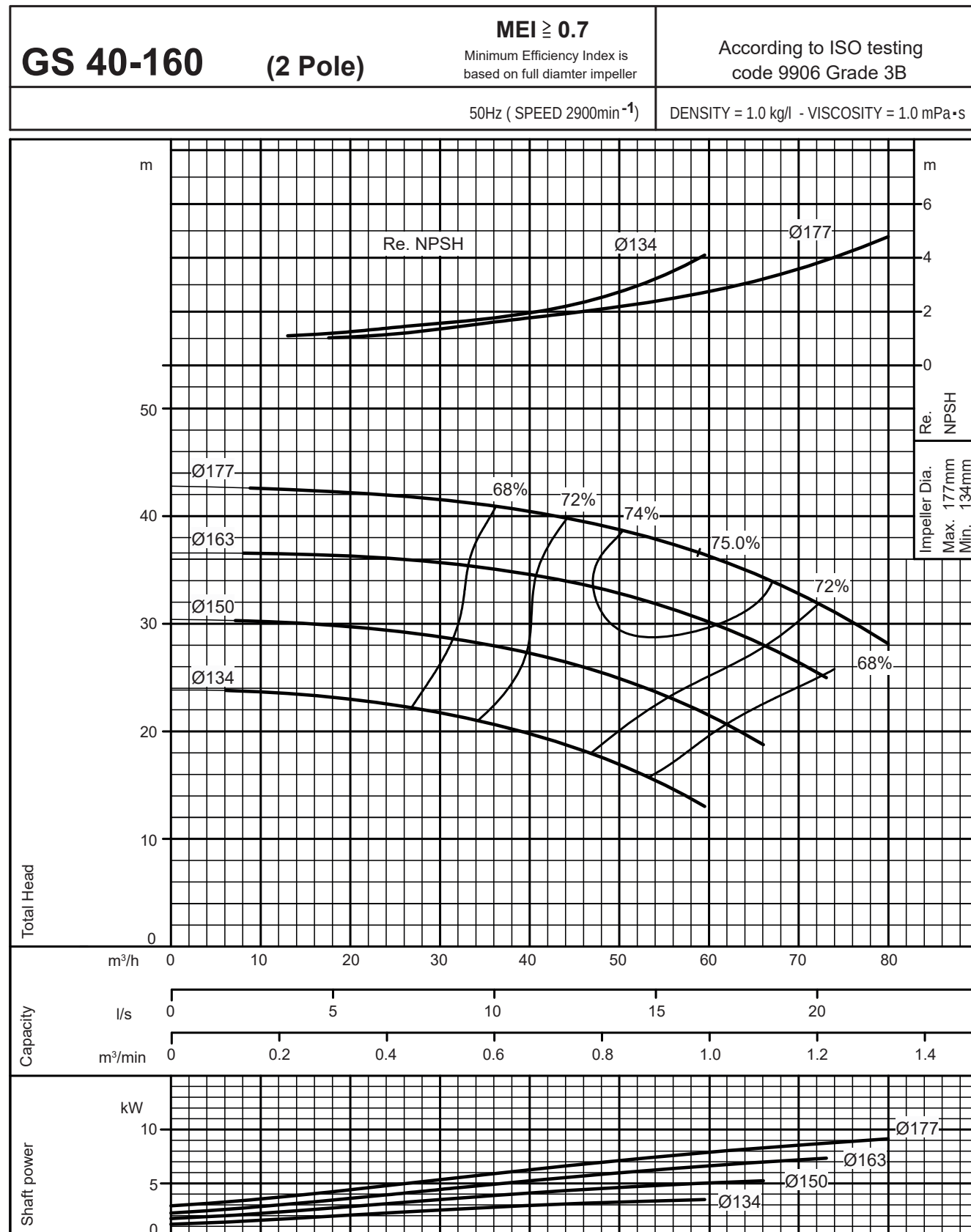
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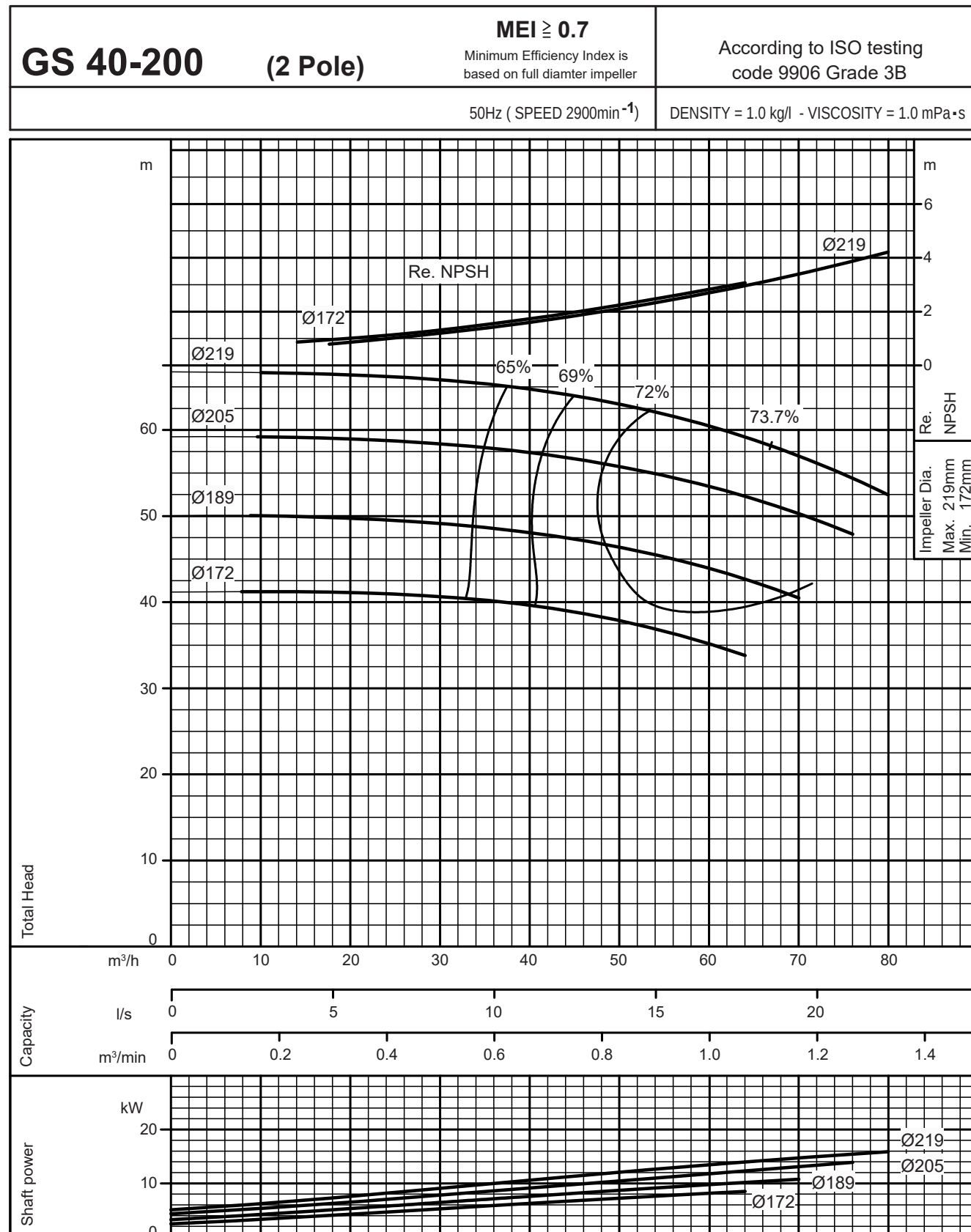
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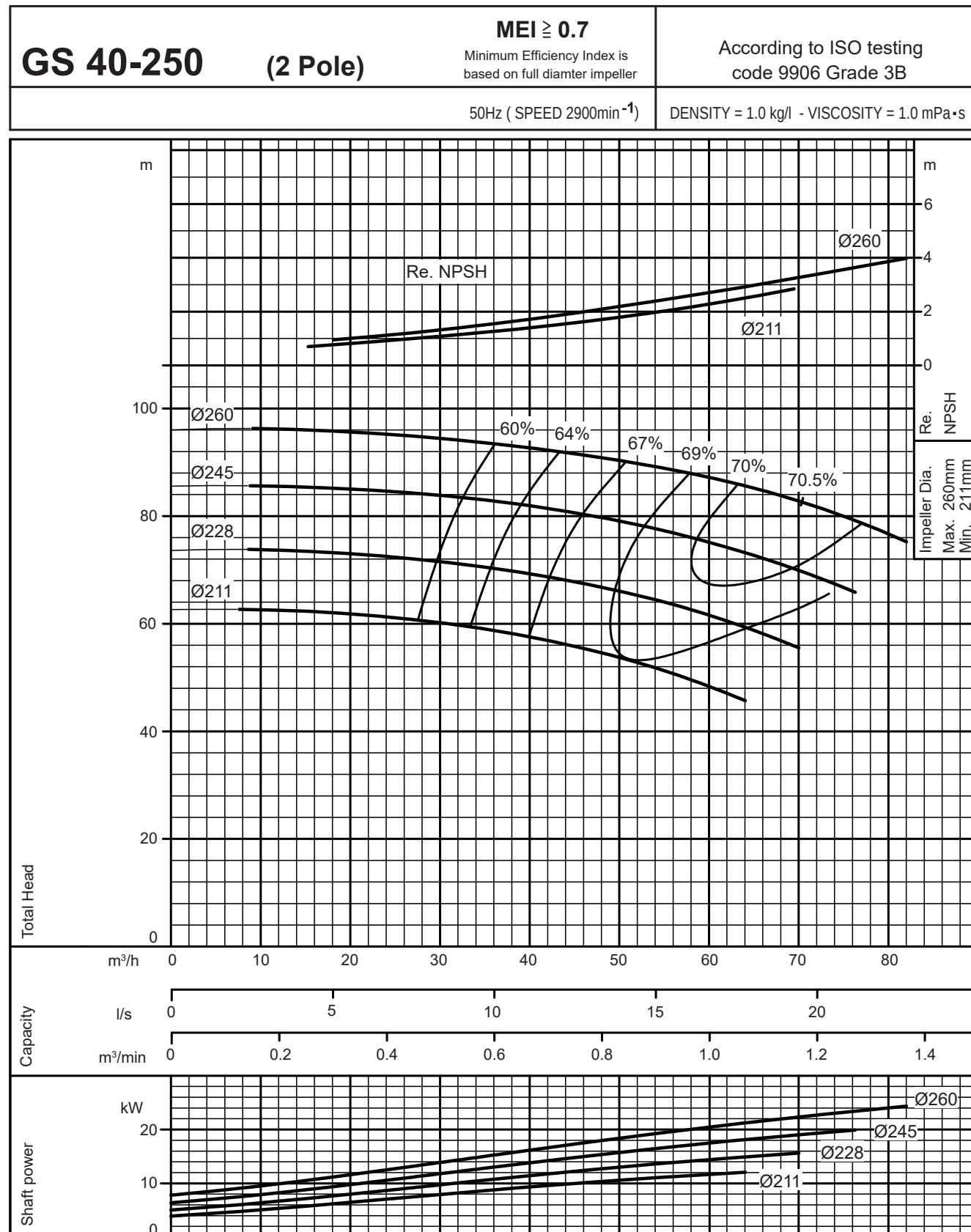
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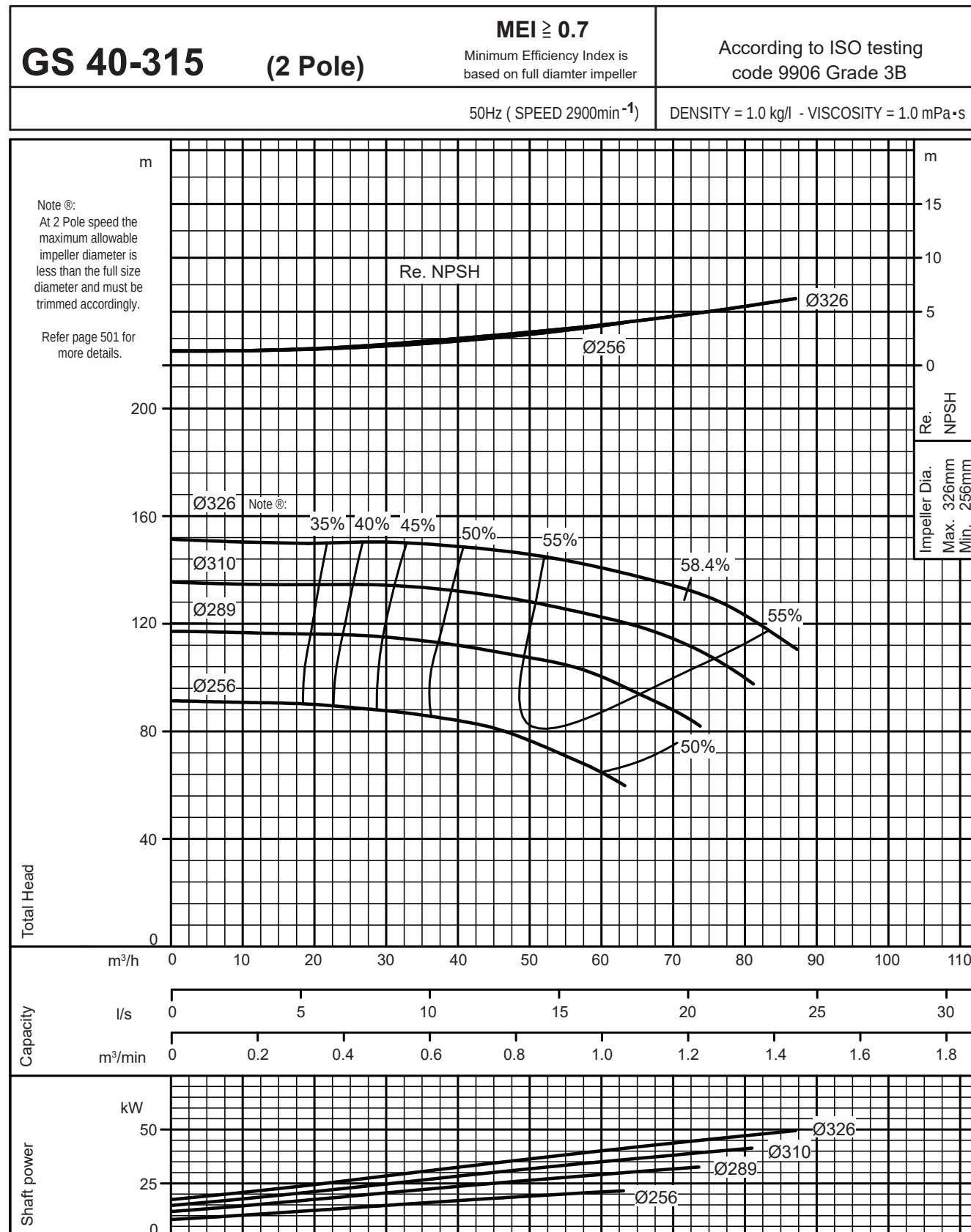
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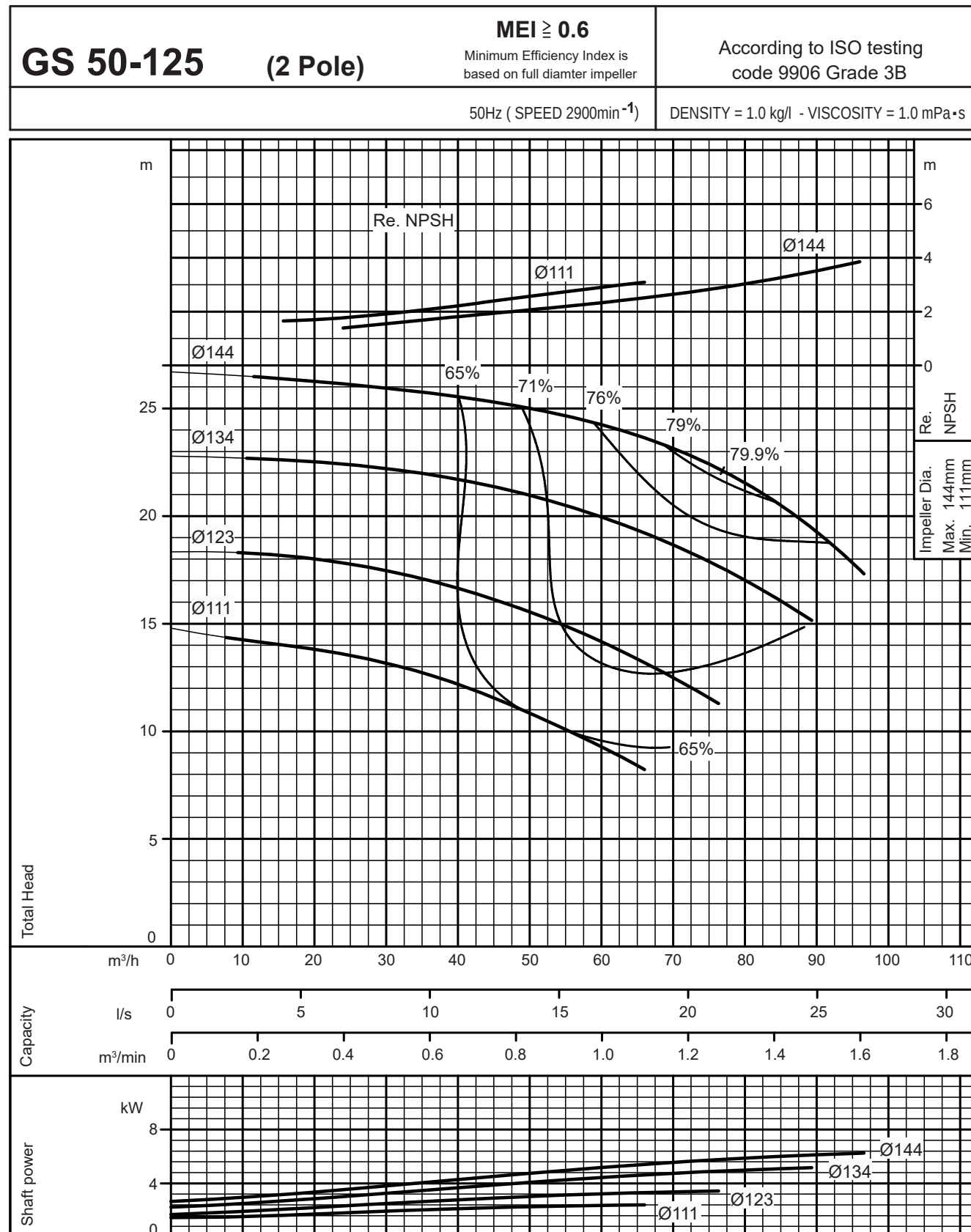
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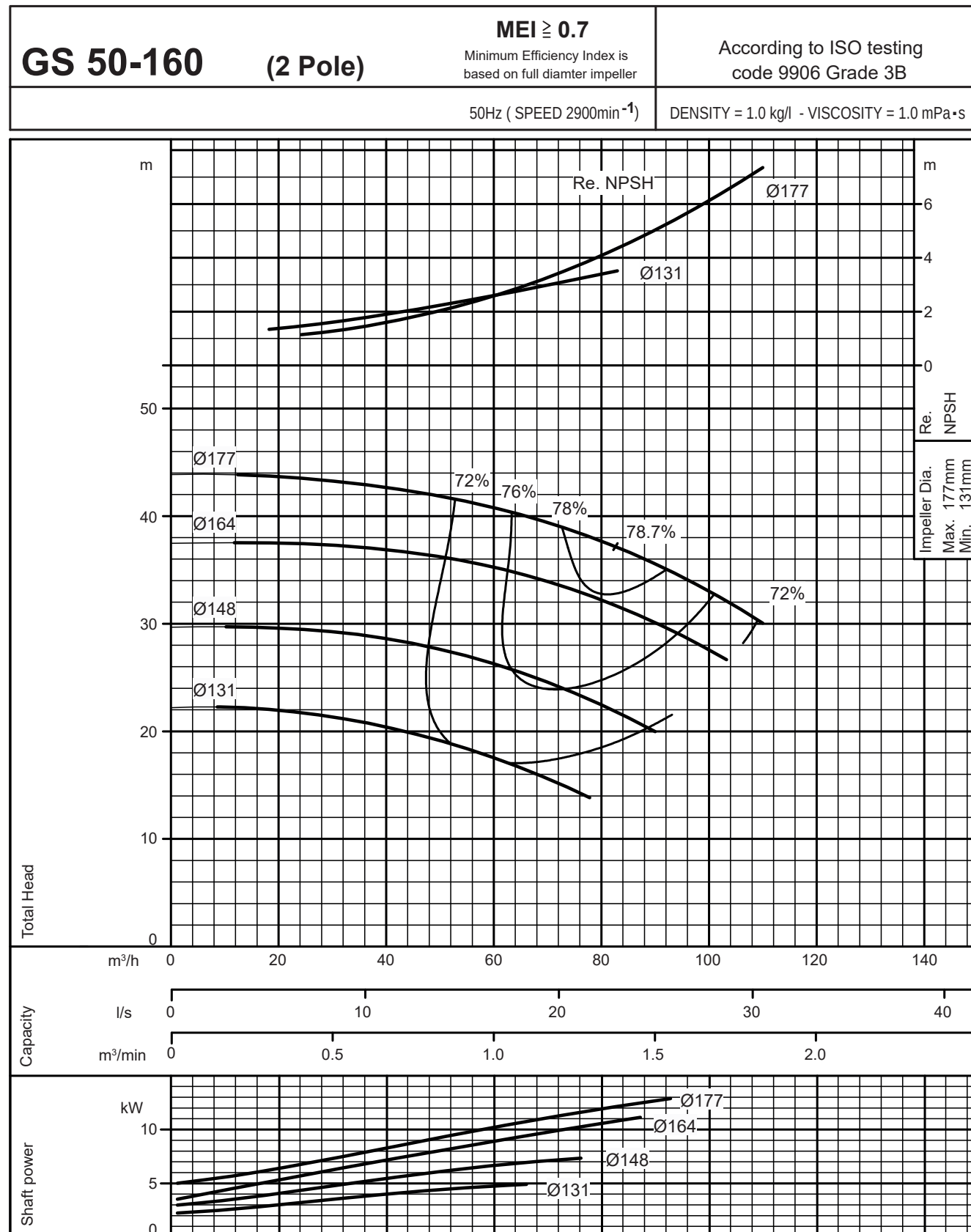
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Performance Curve



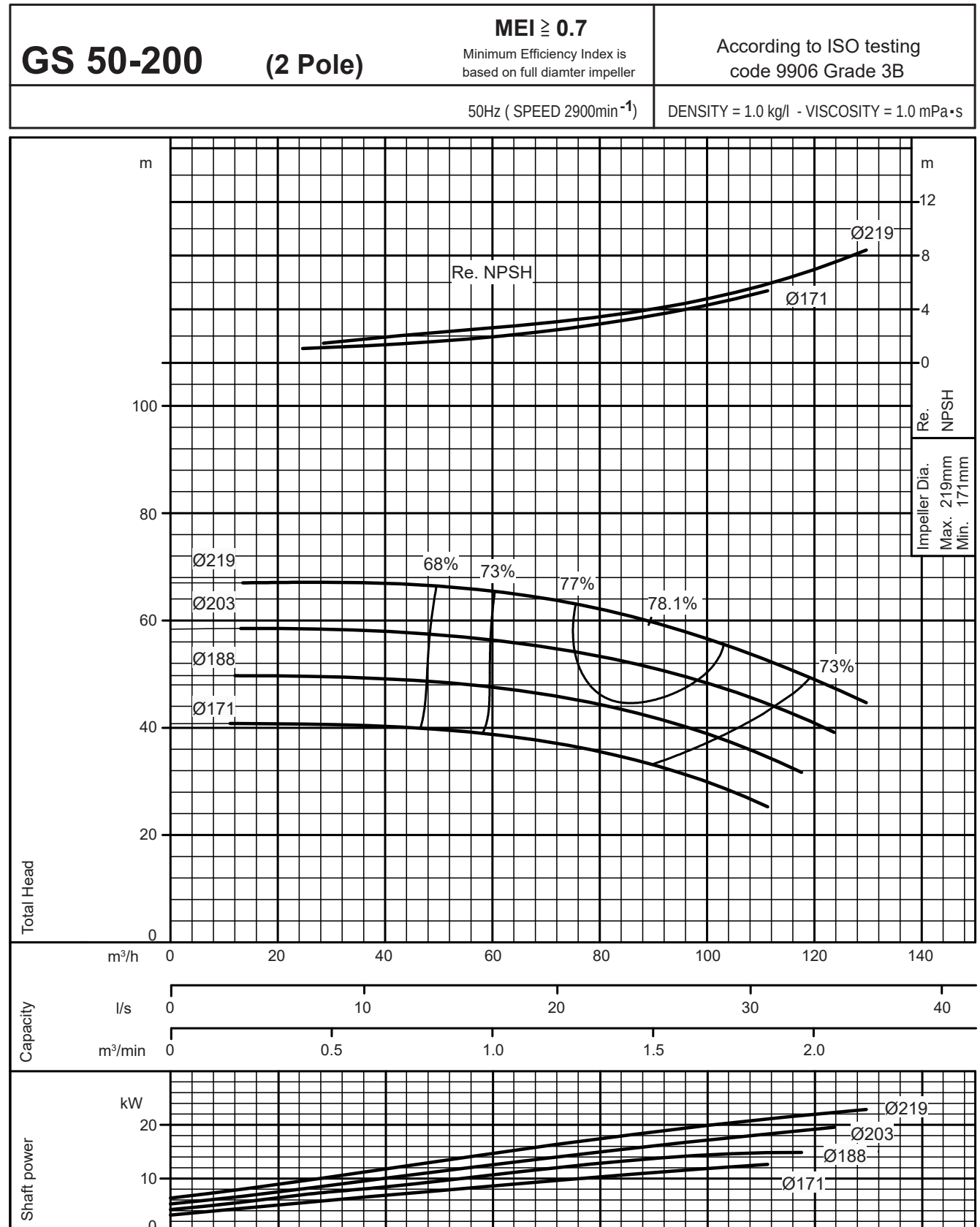
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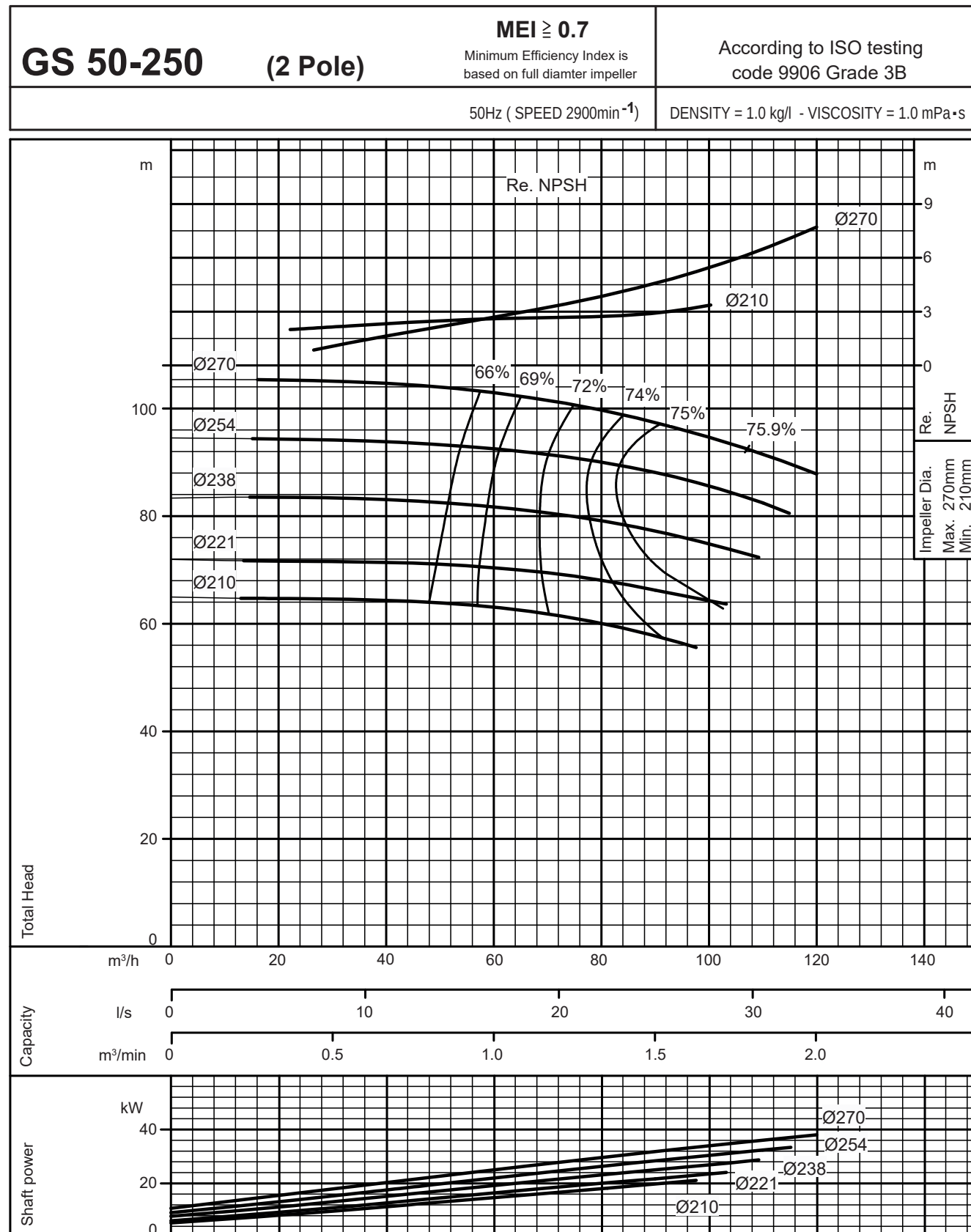
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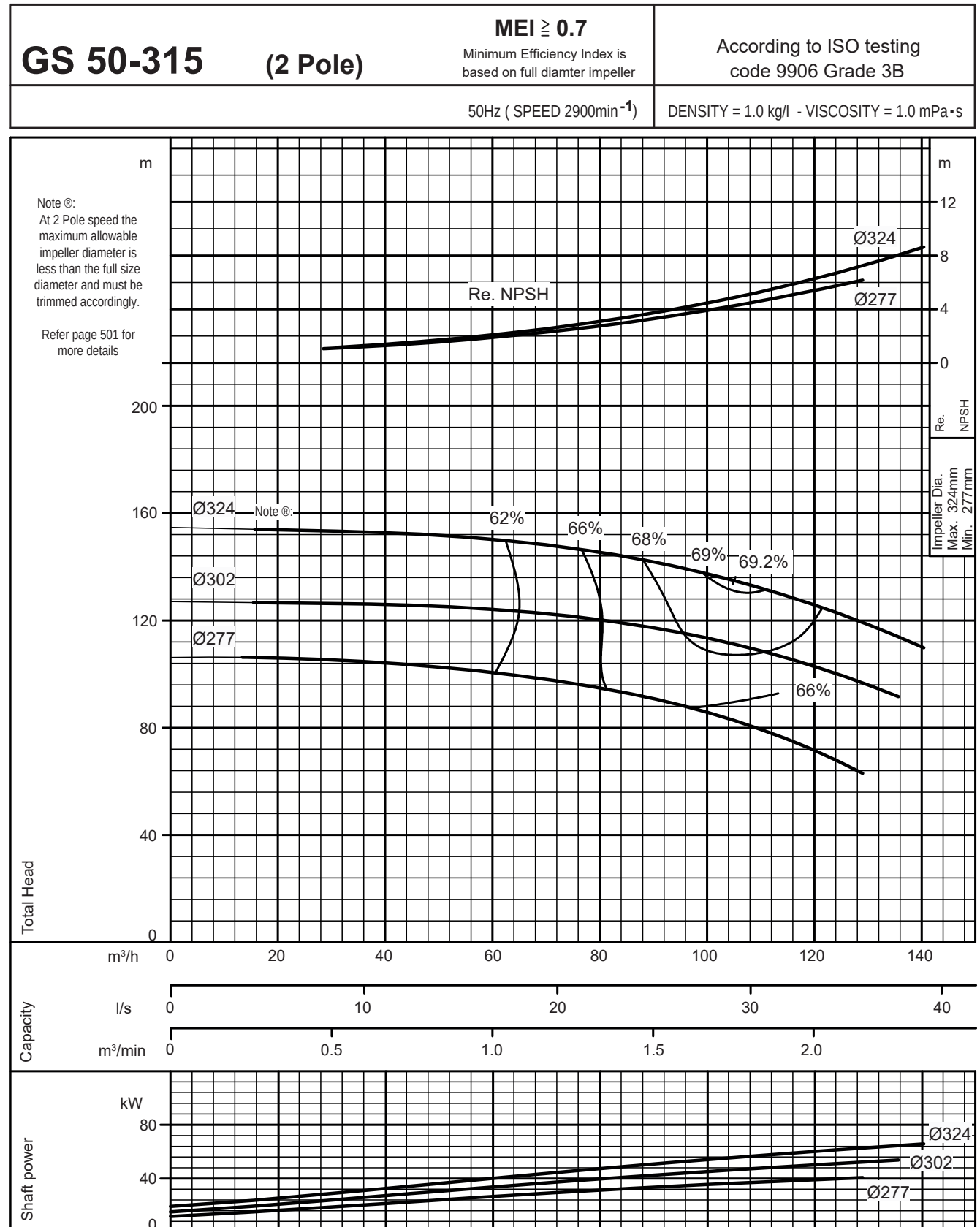
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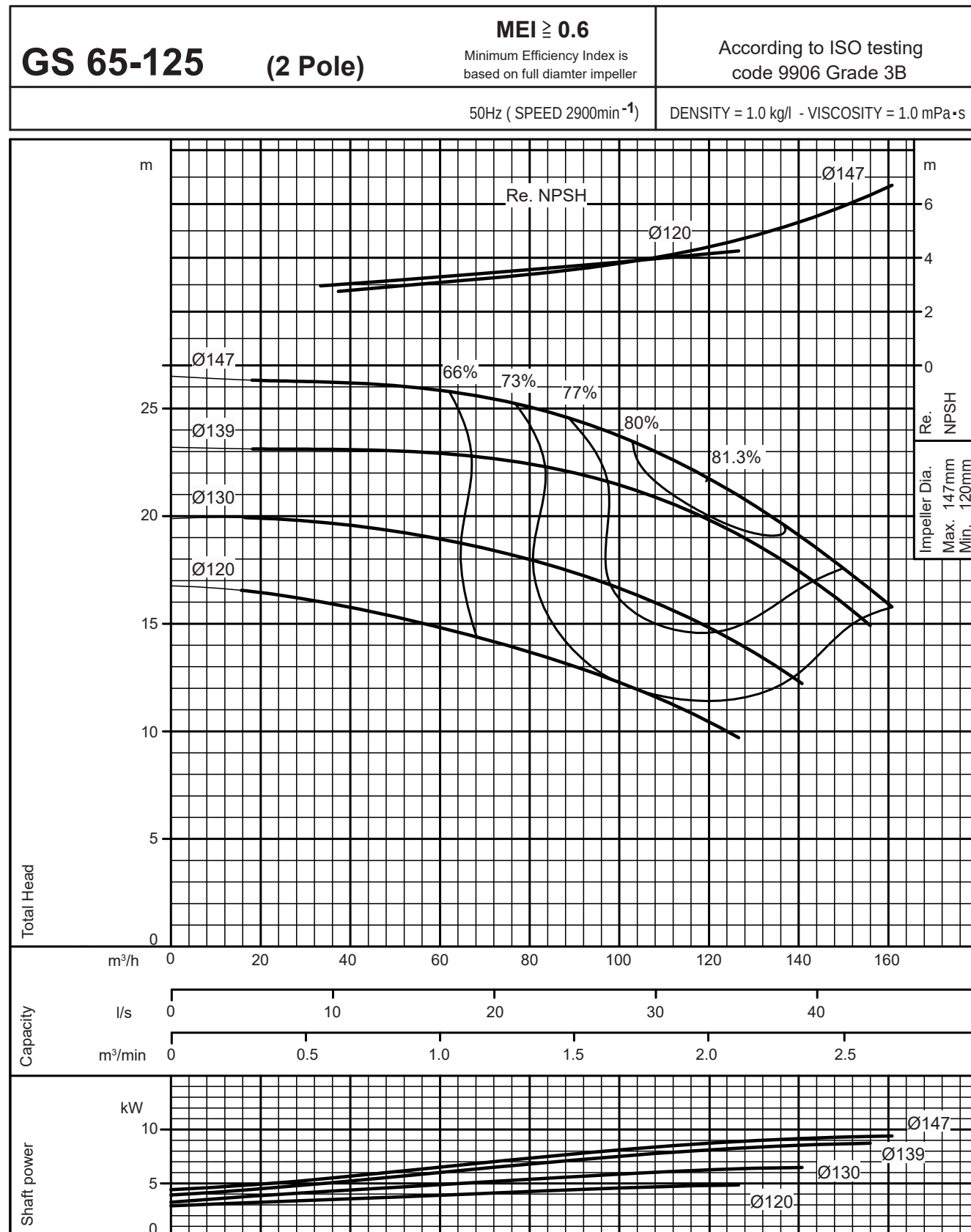
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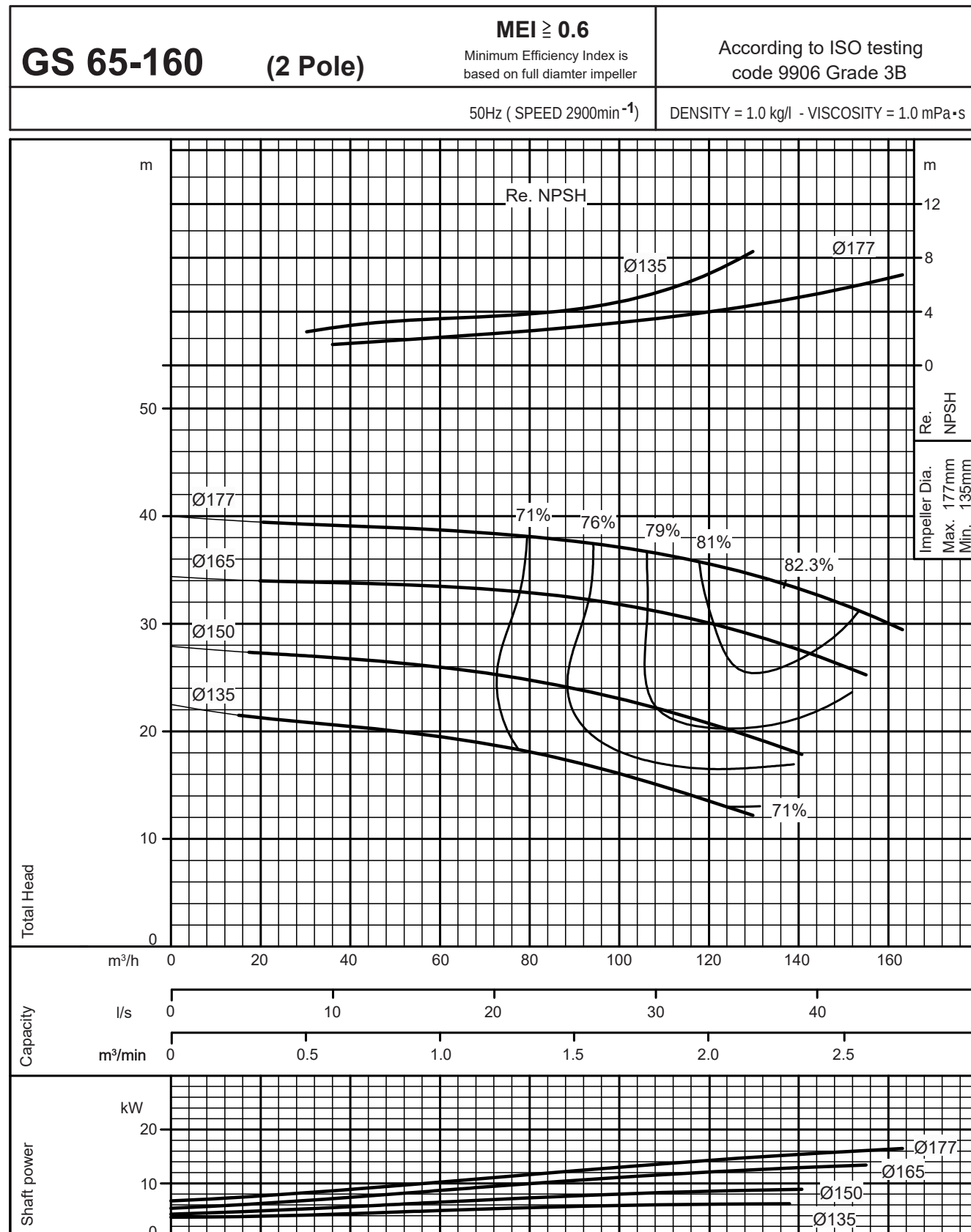
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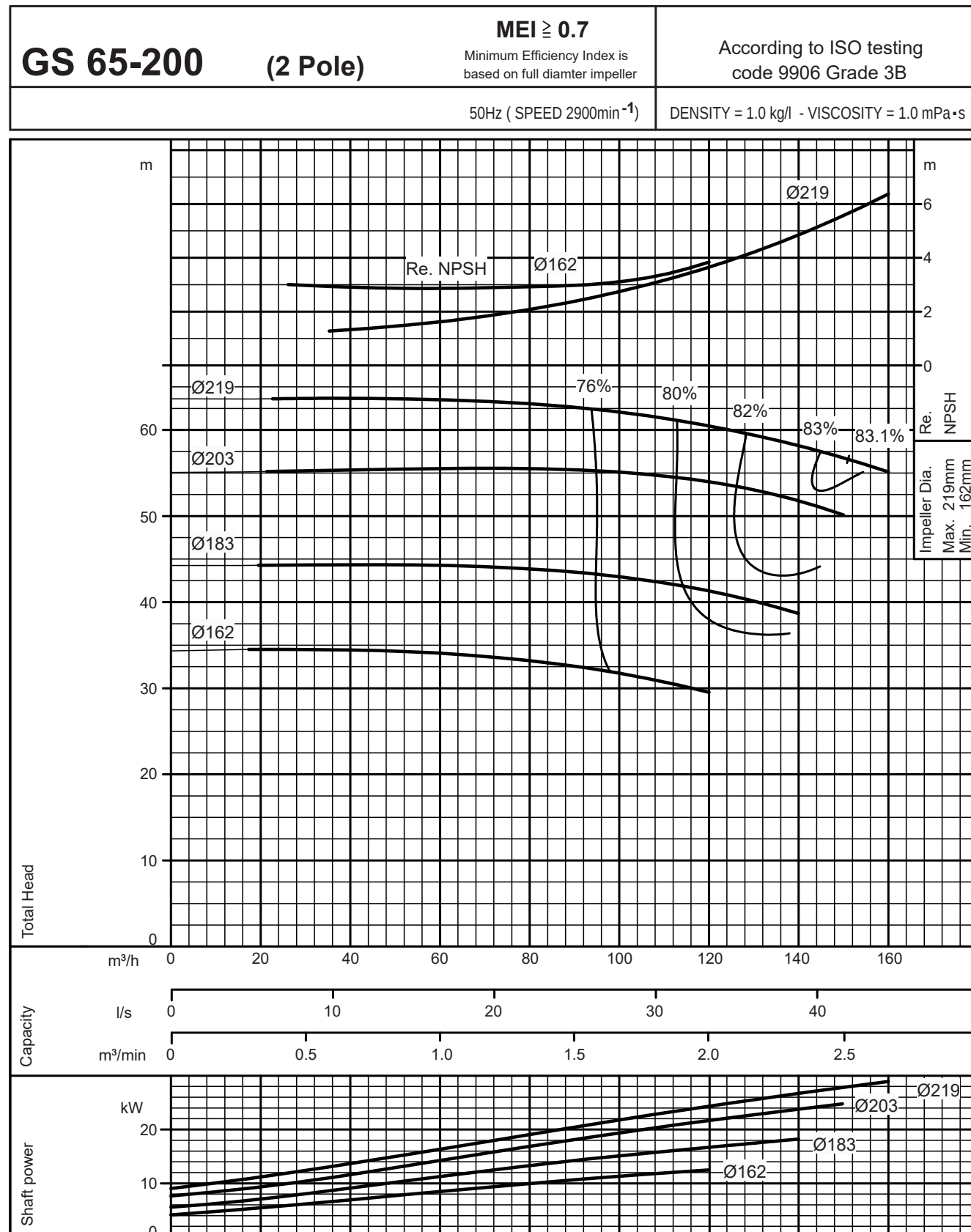
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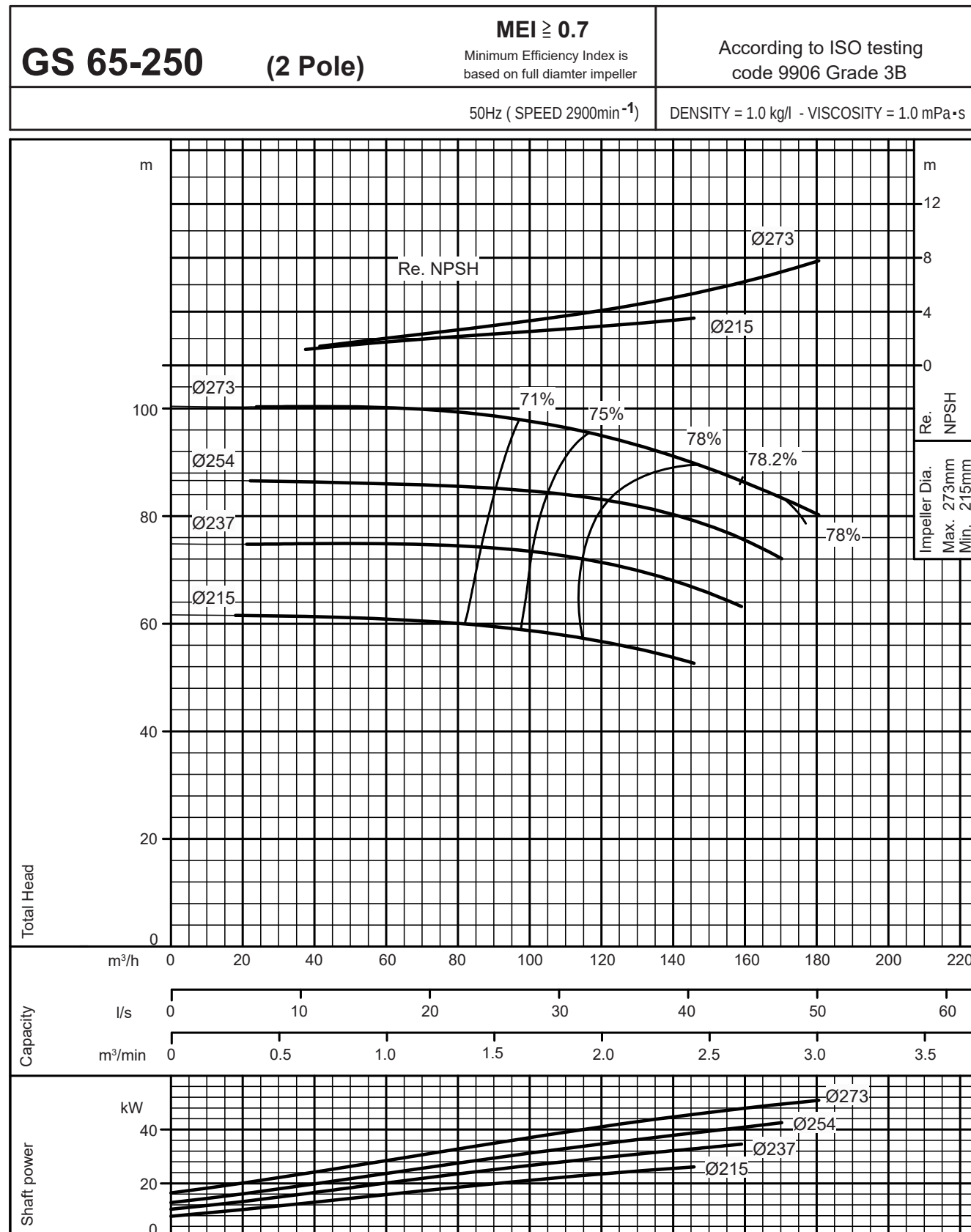
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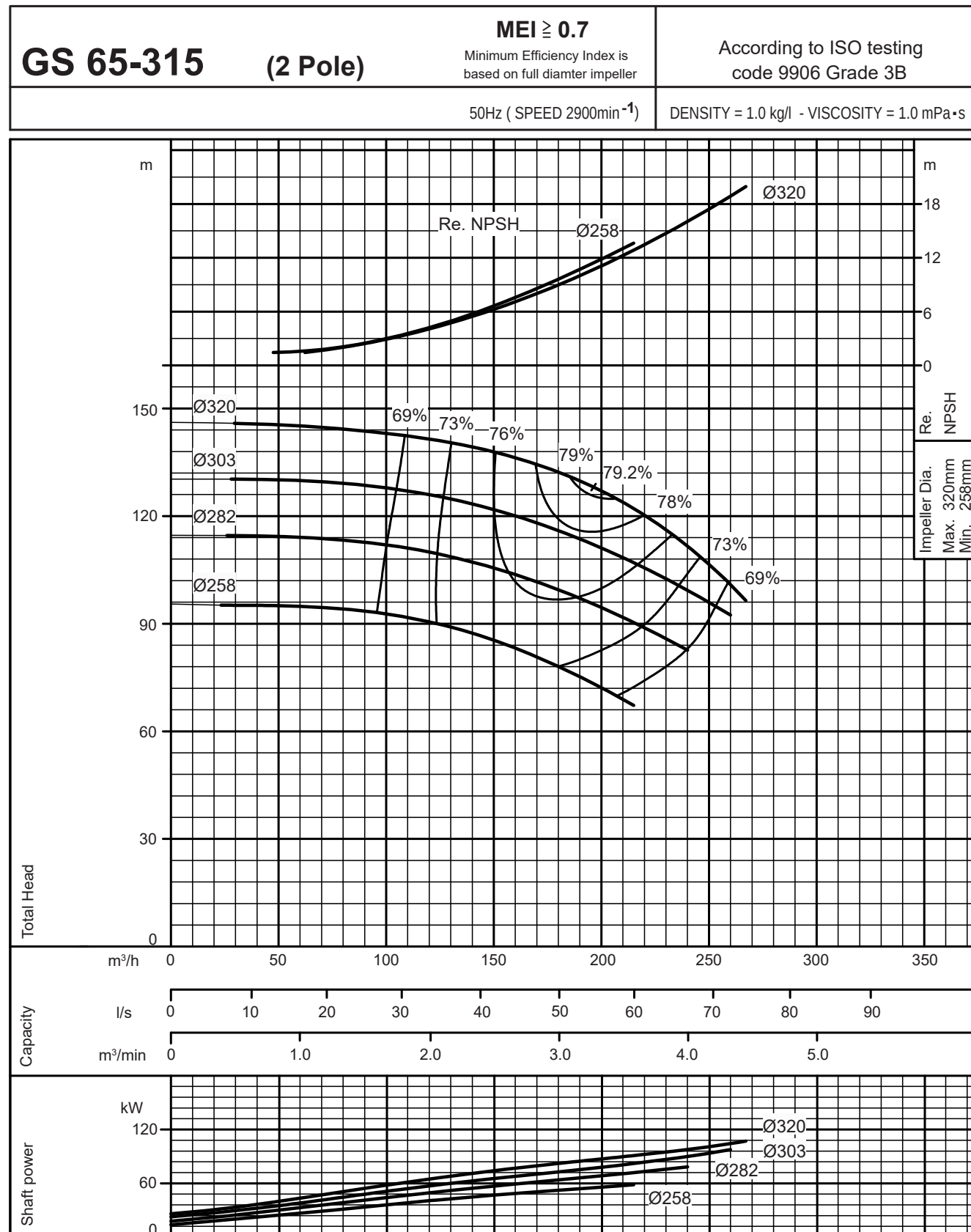
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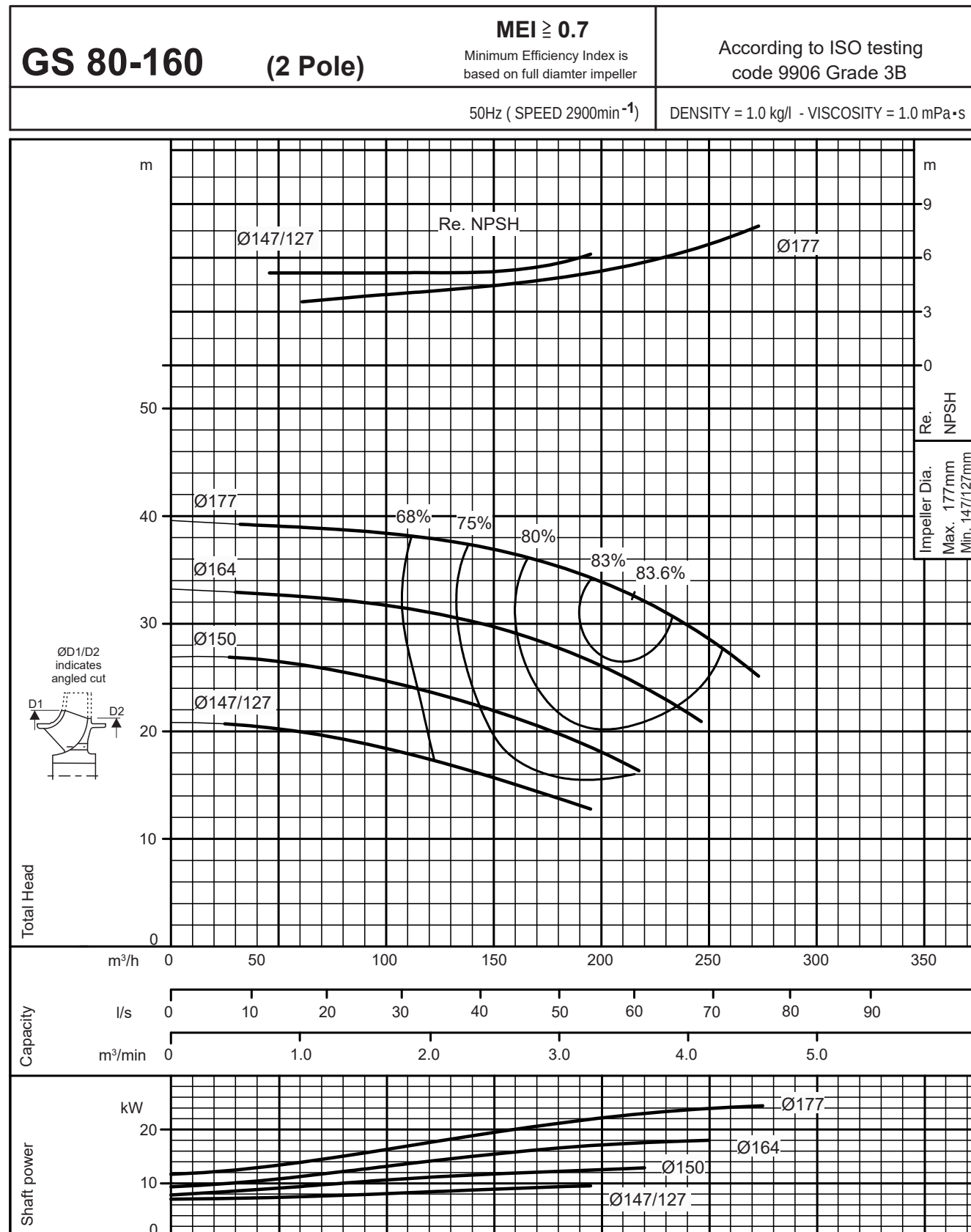
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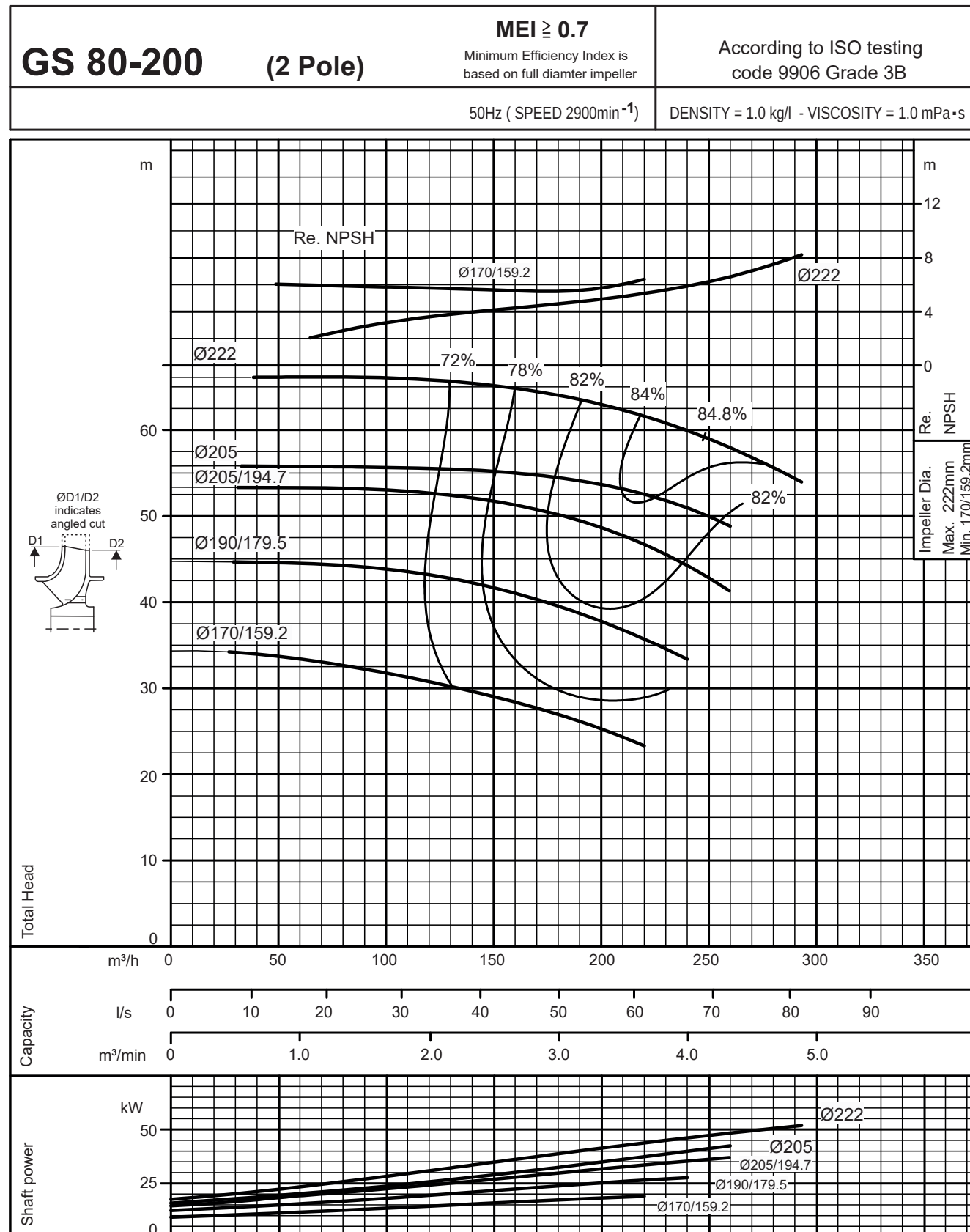
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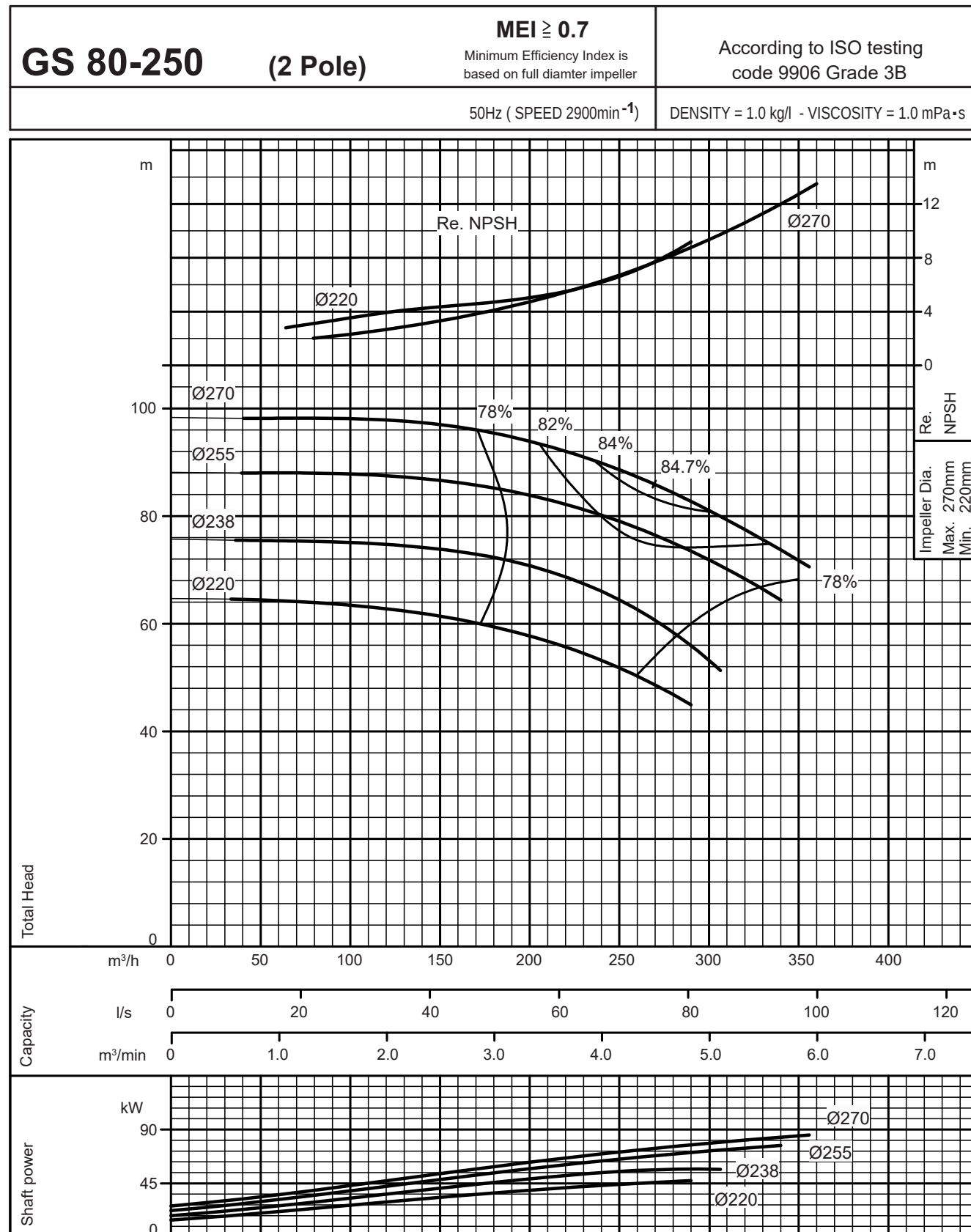
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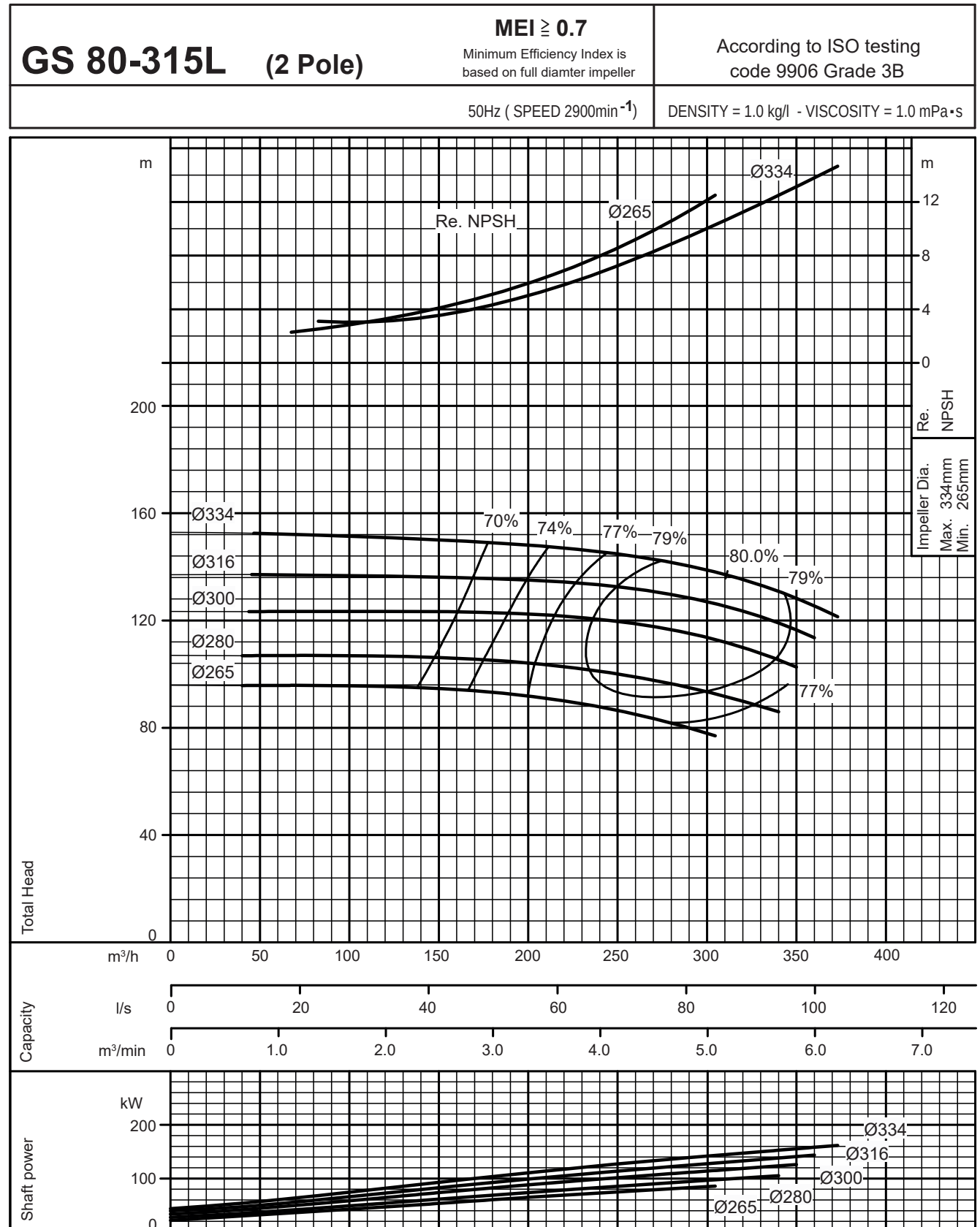
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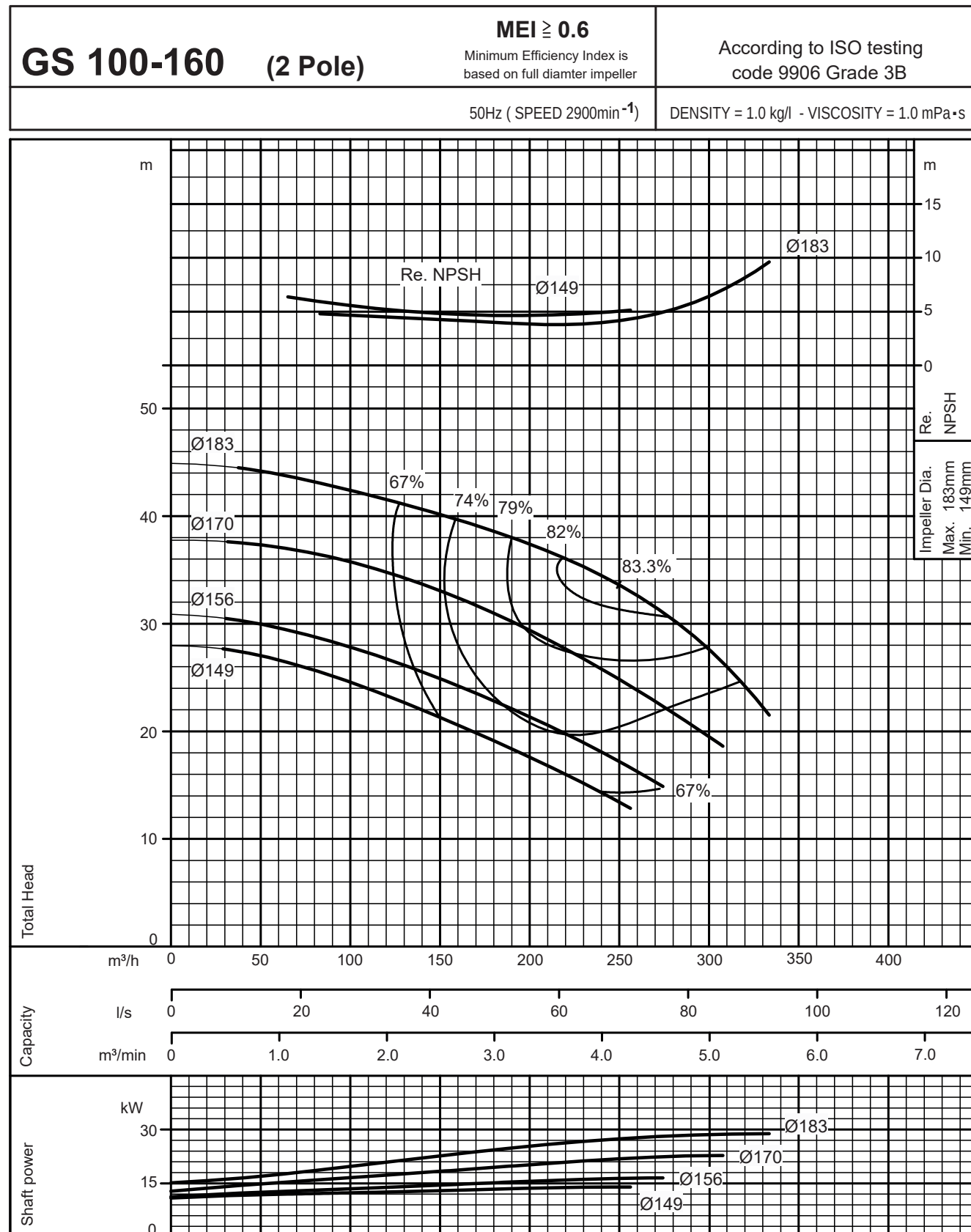
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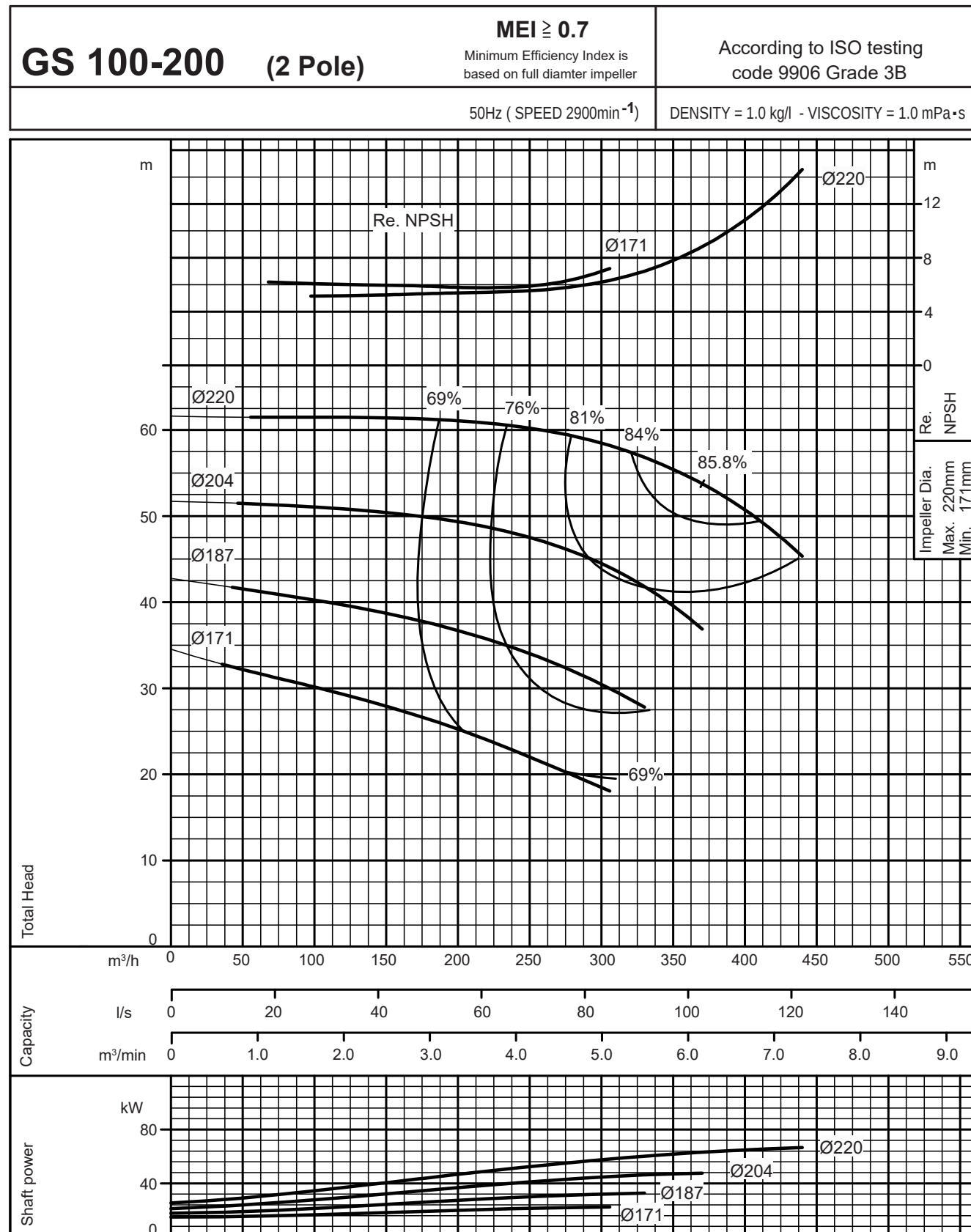
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Performance Curve



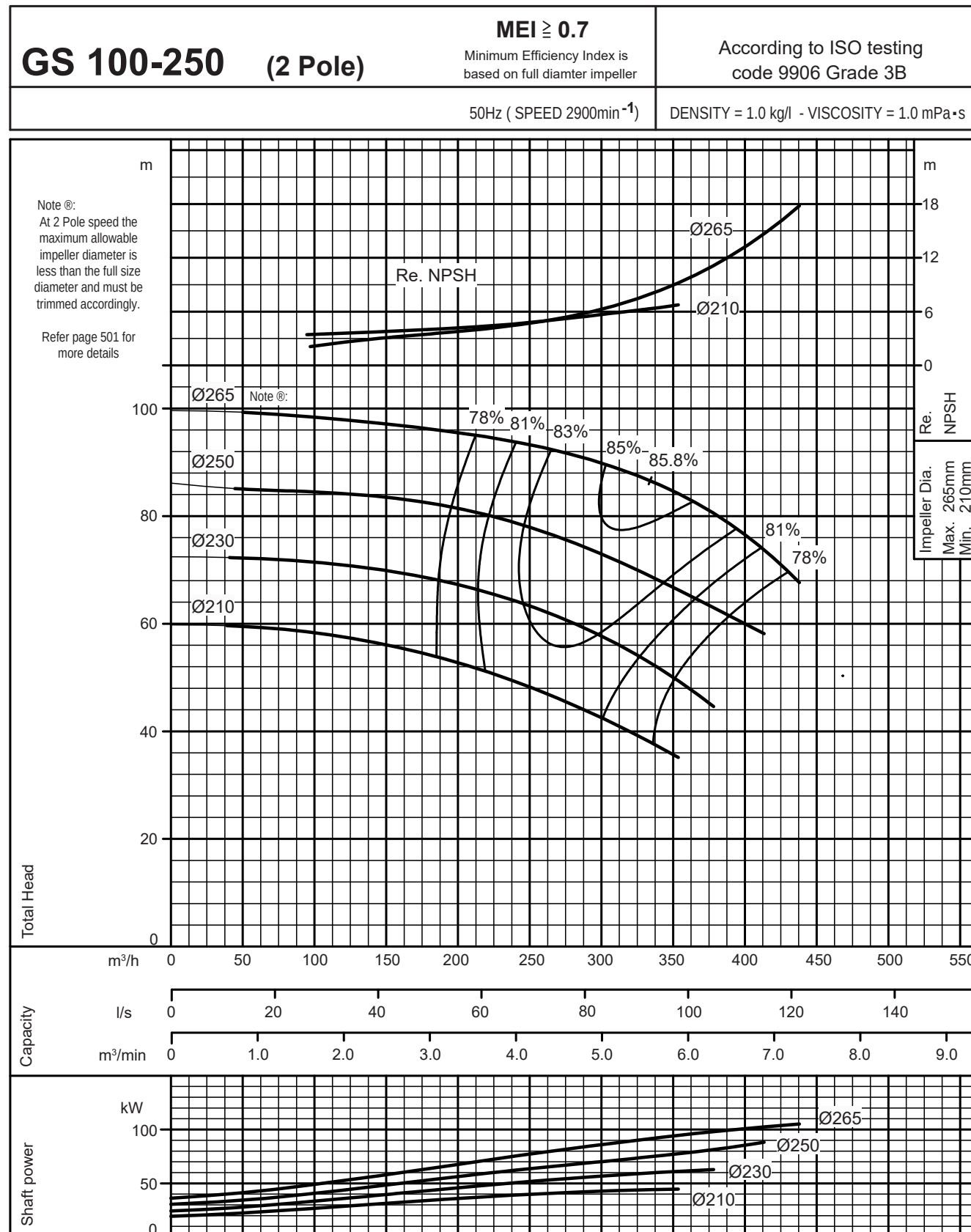
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Performance Curve



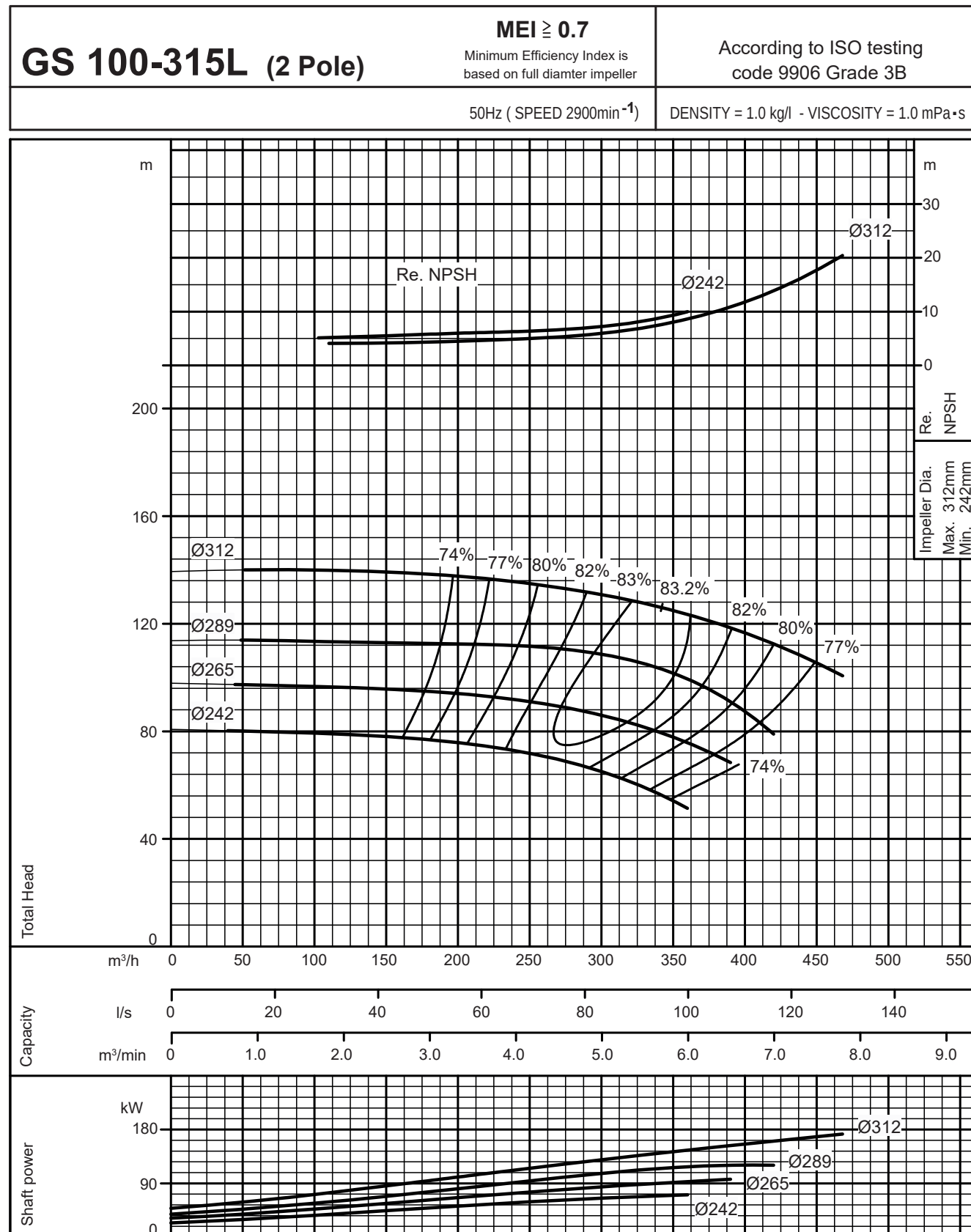
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Performance Curve



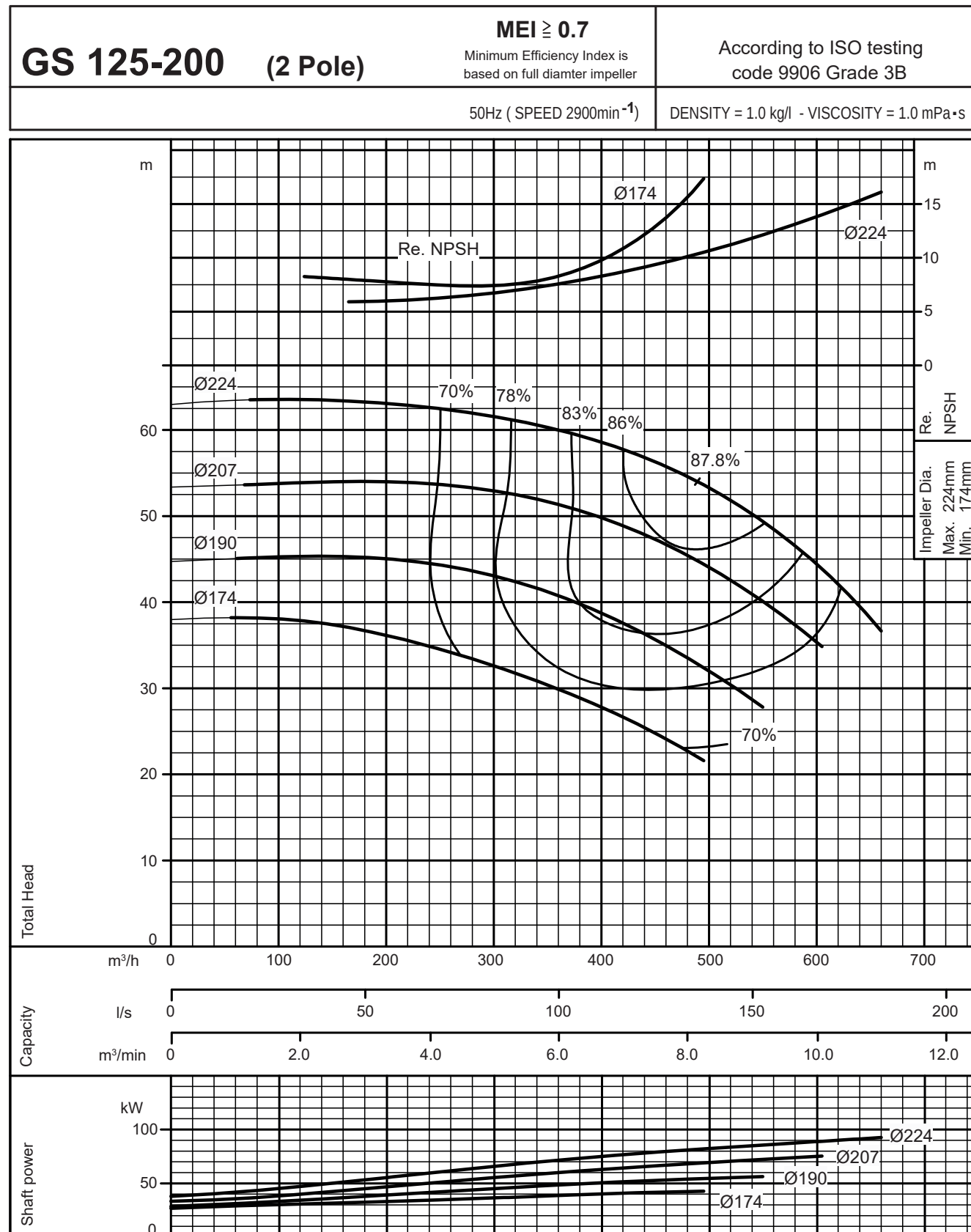
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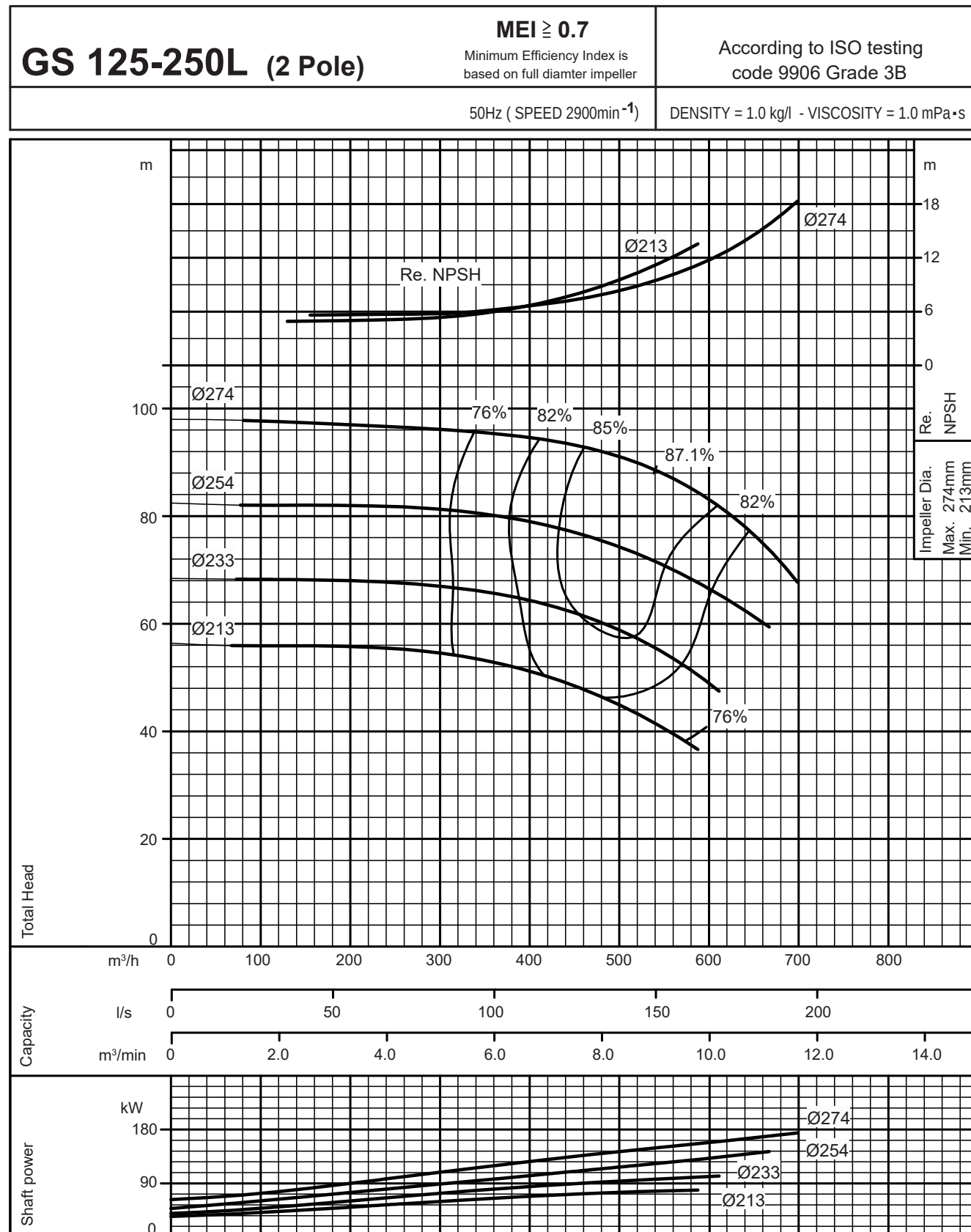
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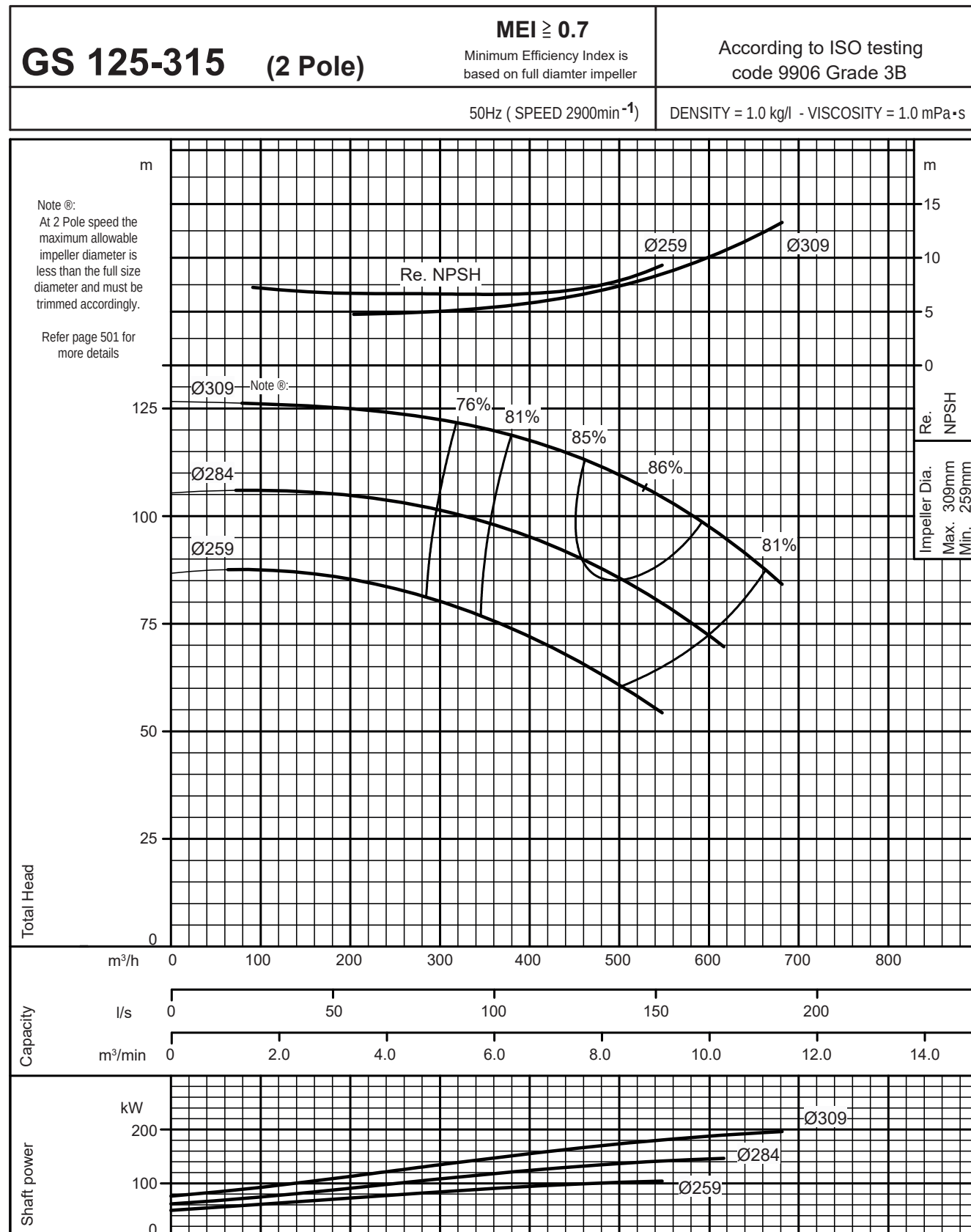
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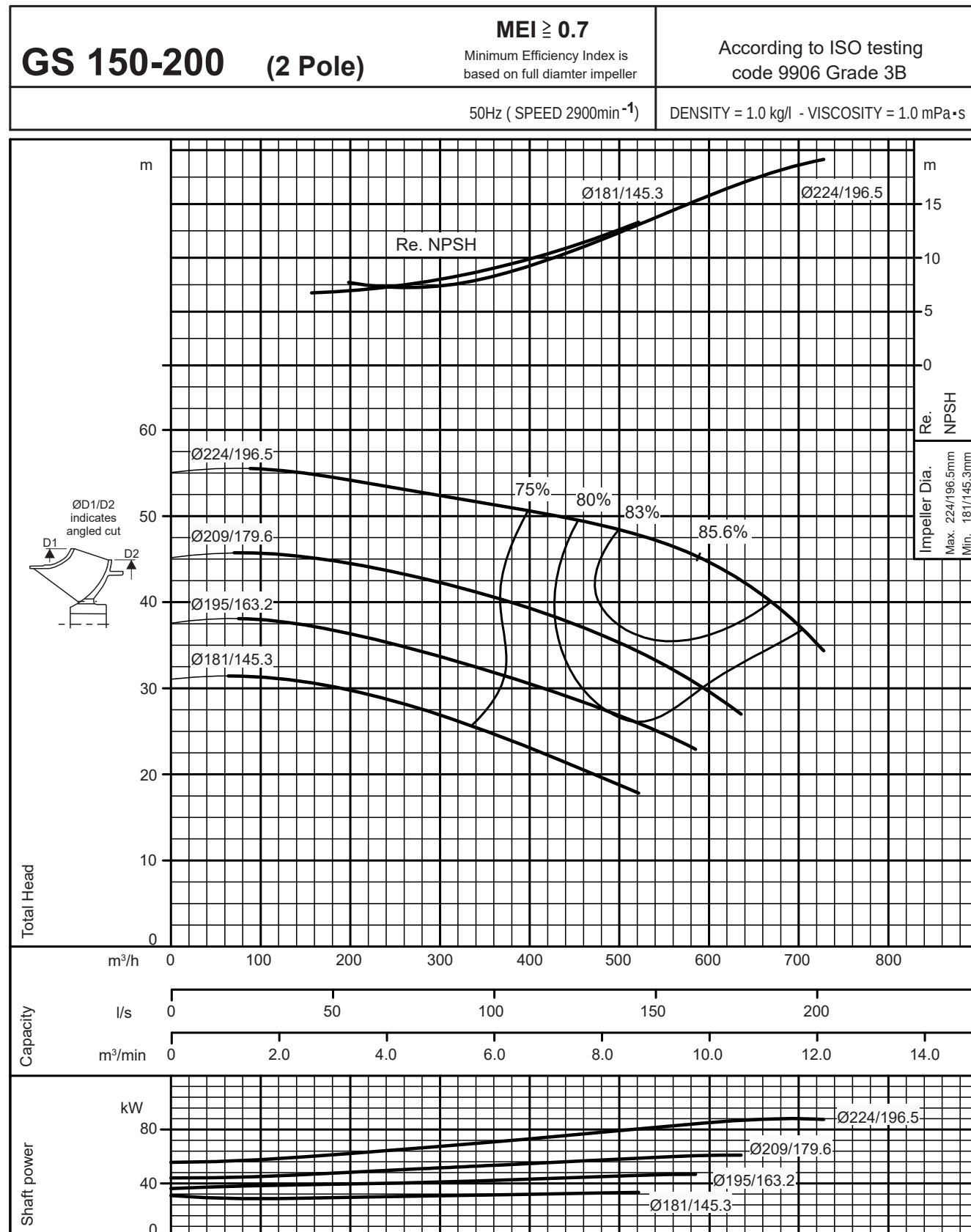
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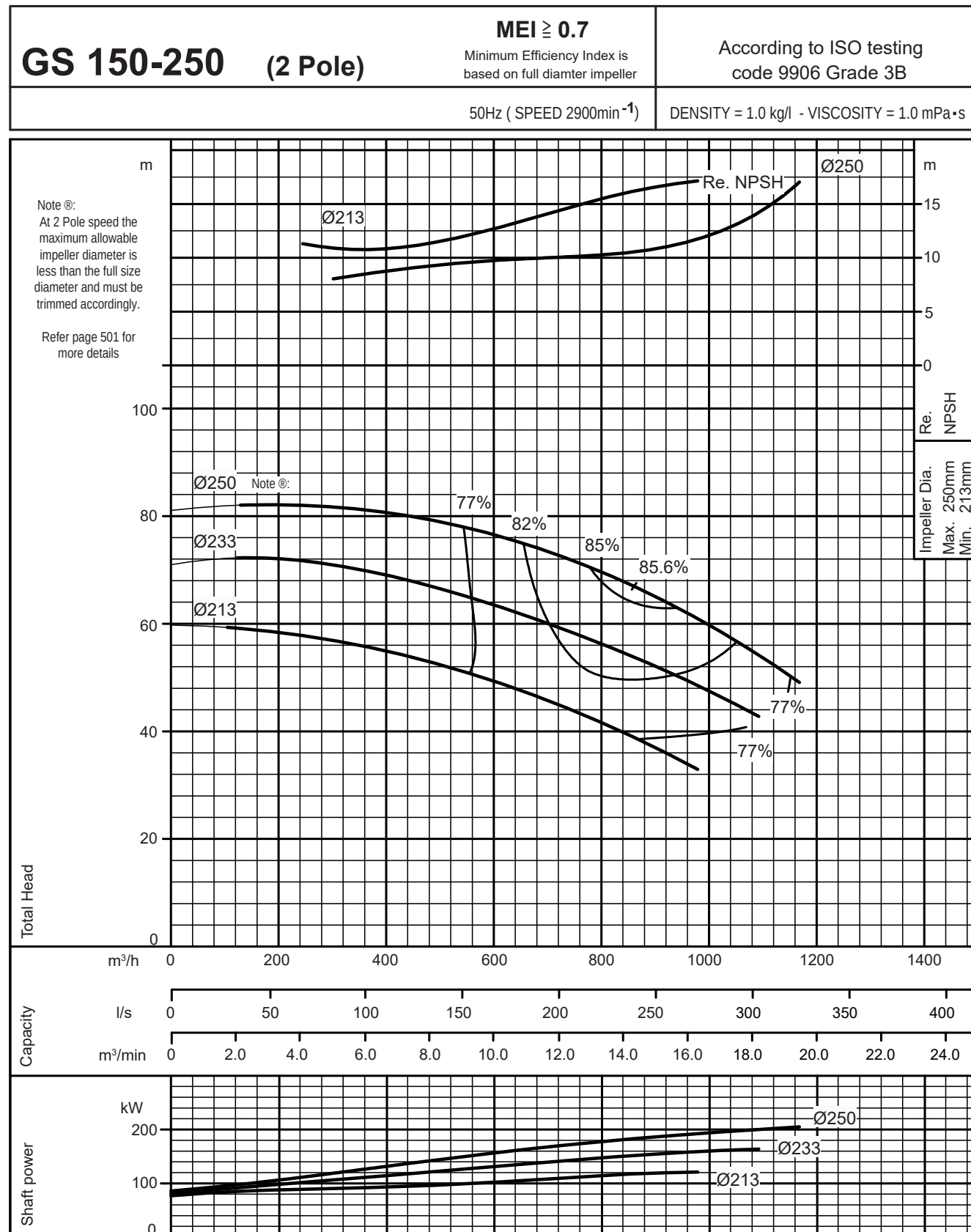
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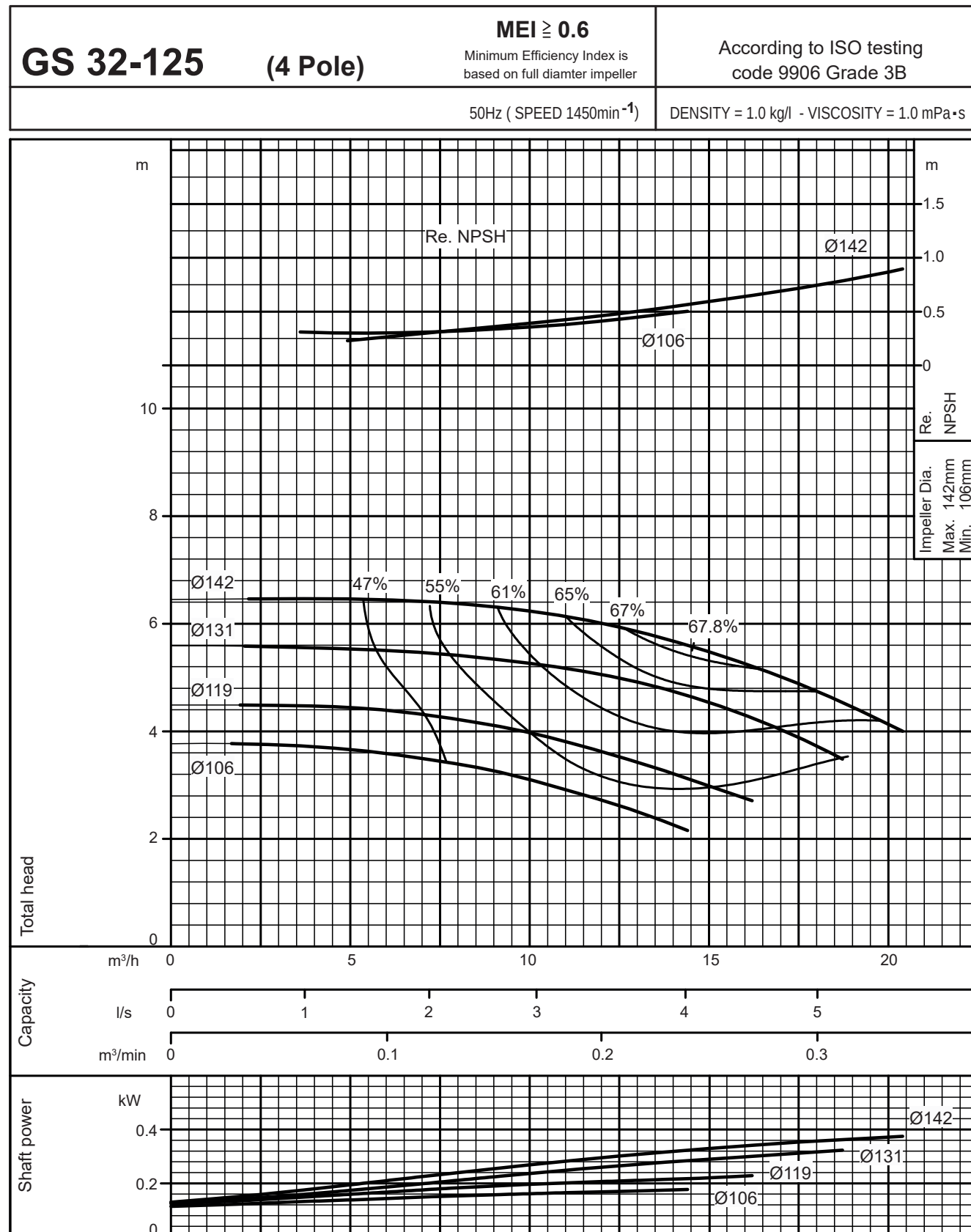
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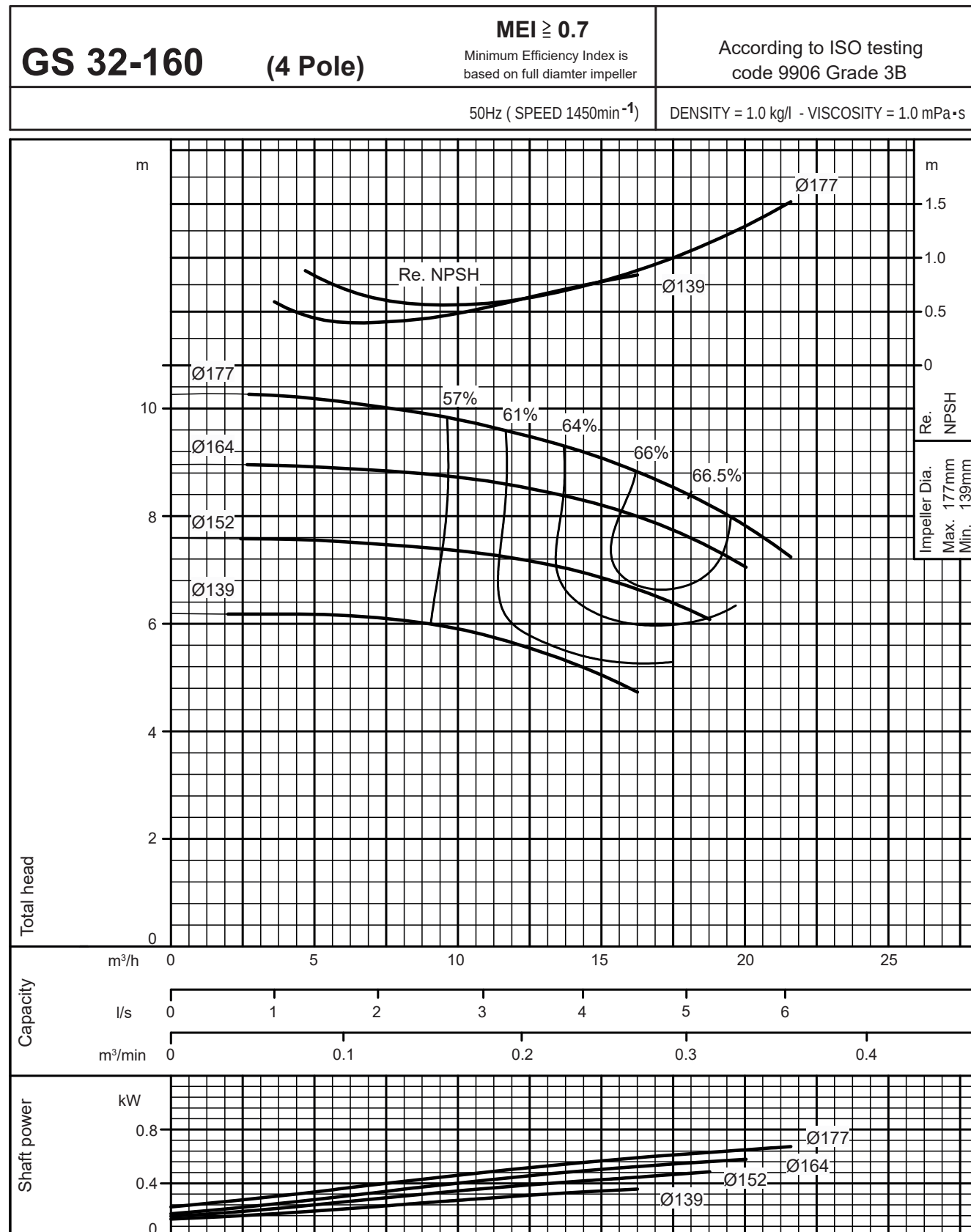
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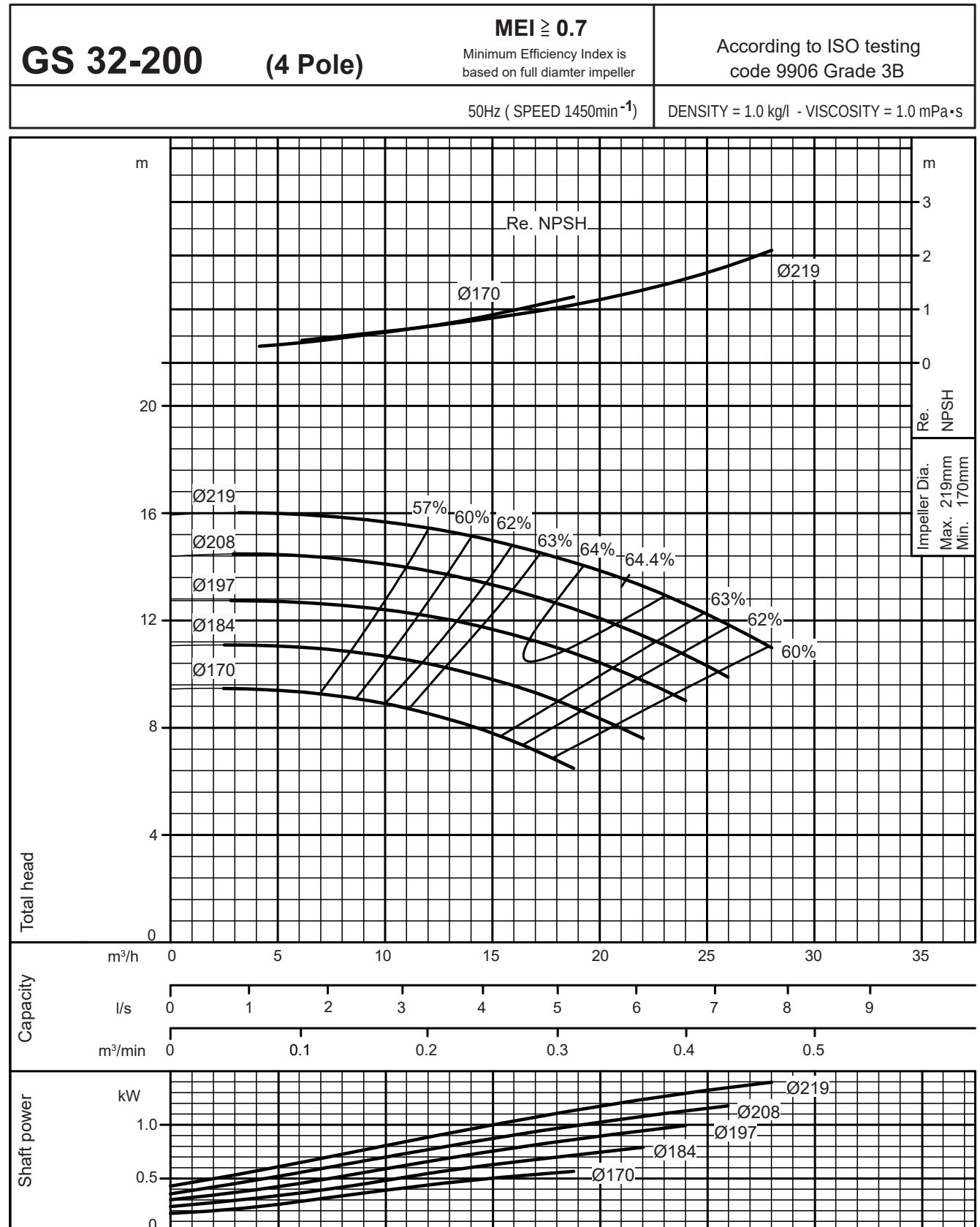
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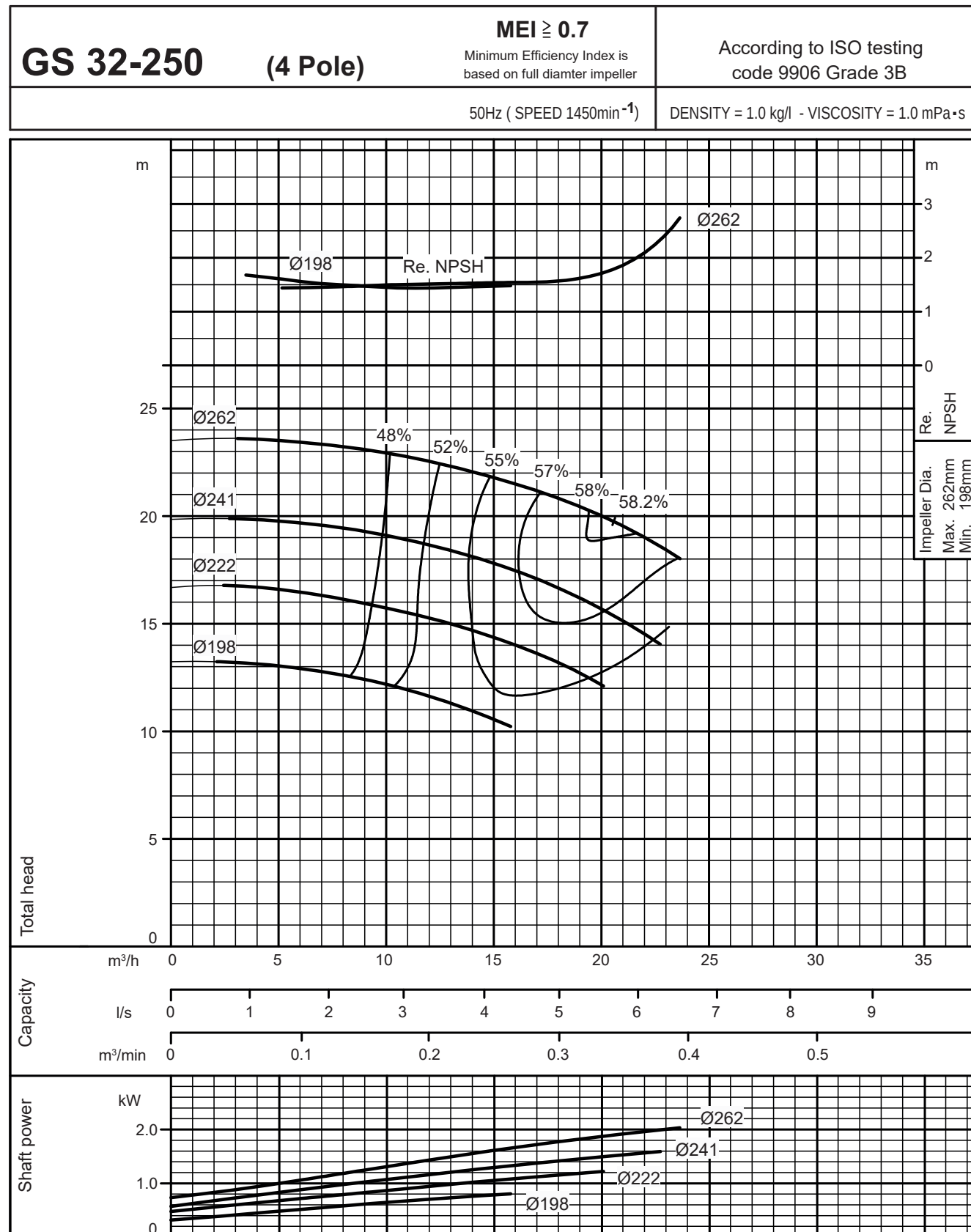
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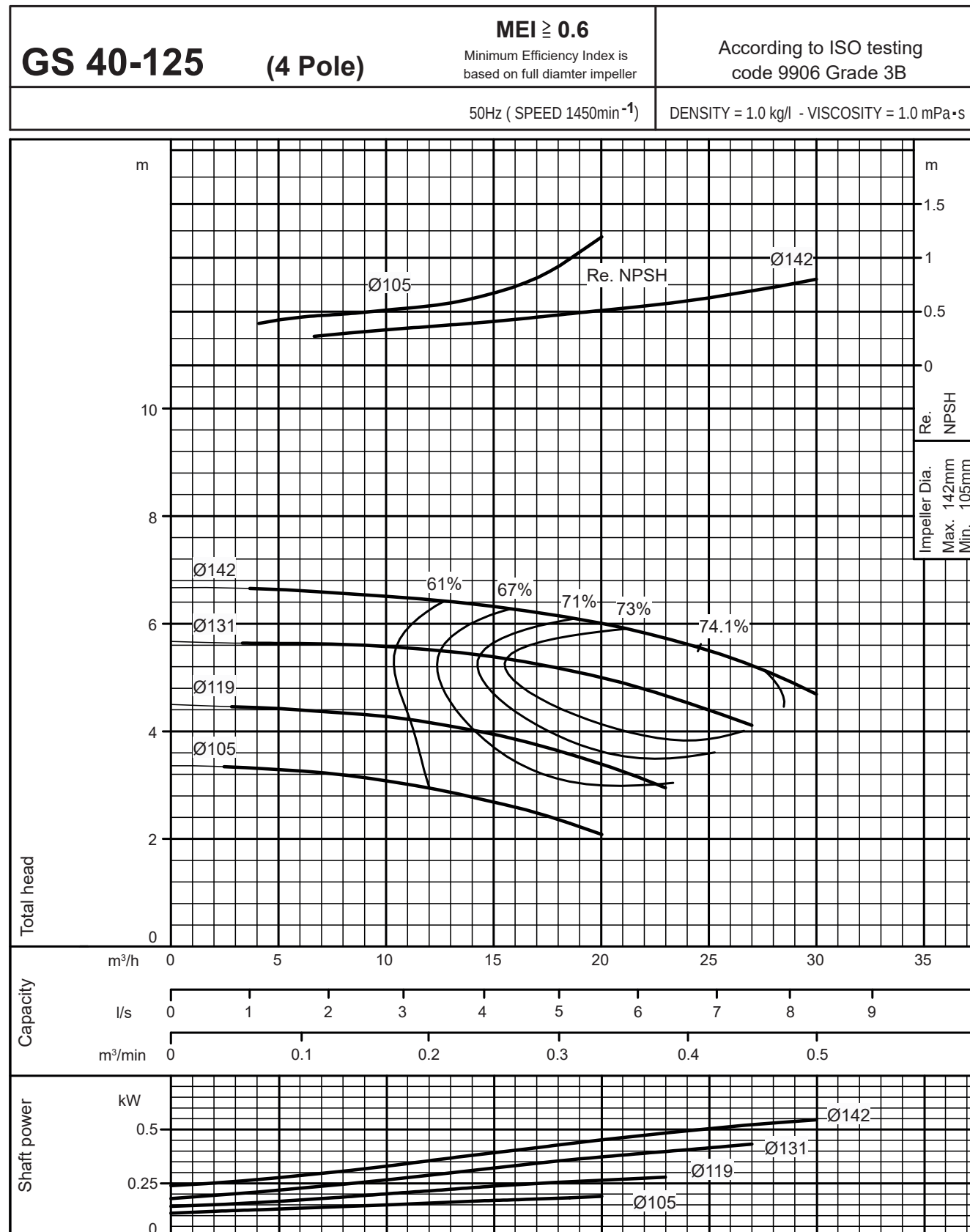
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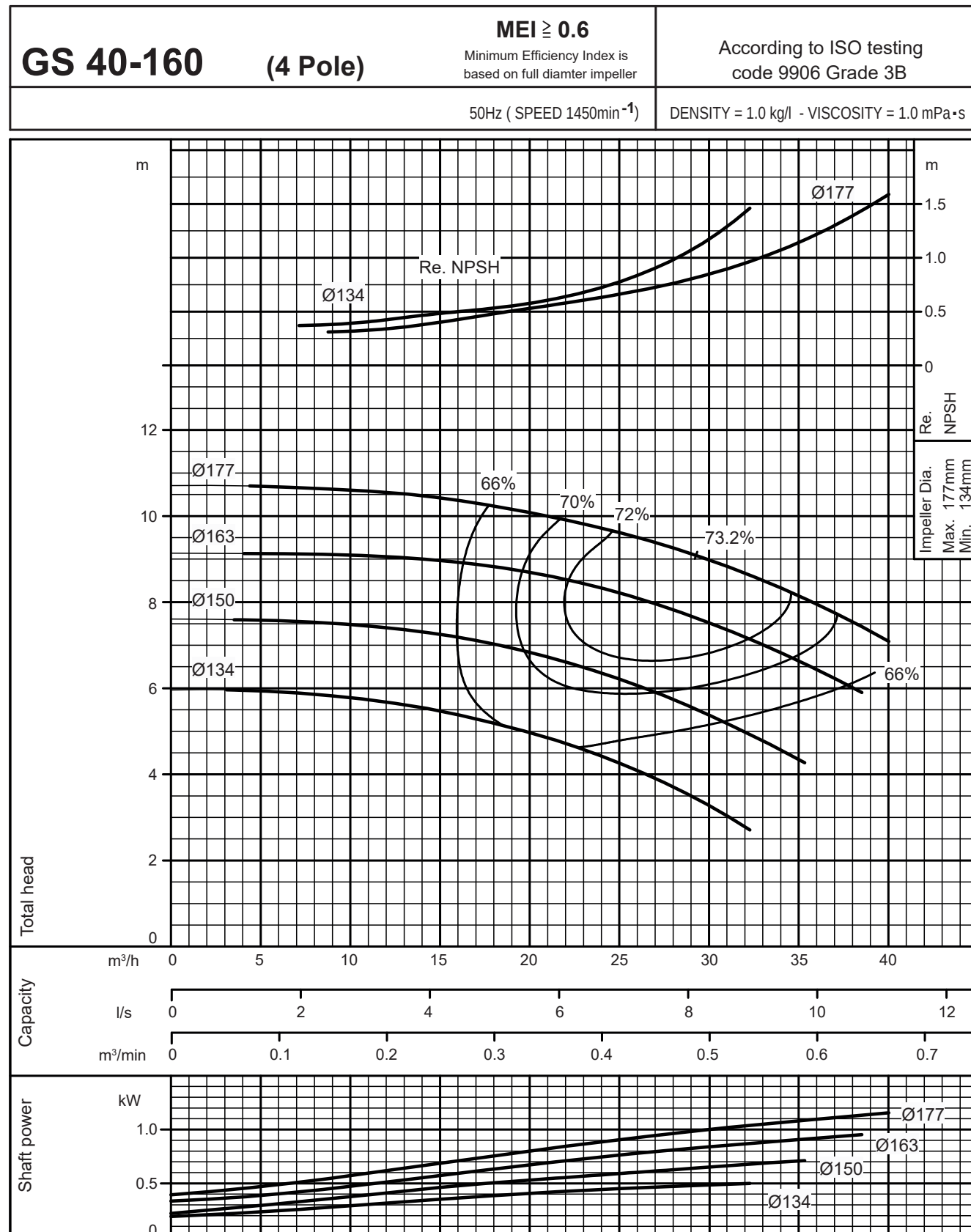
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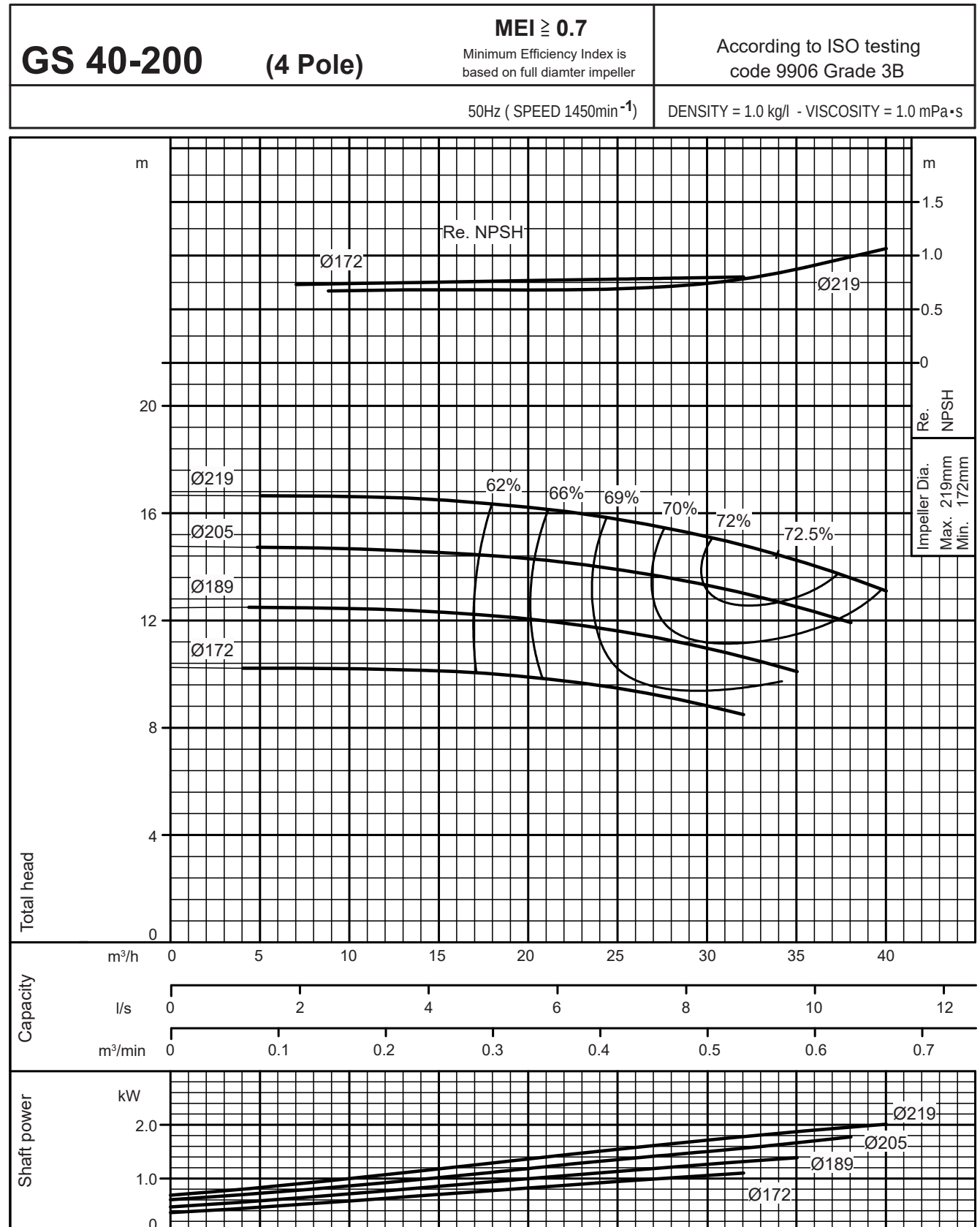
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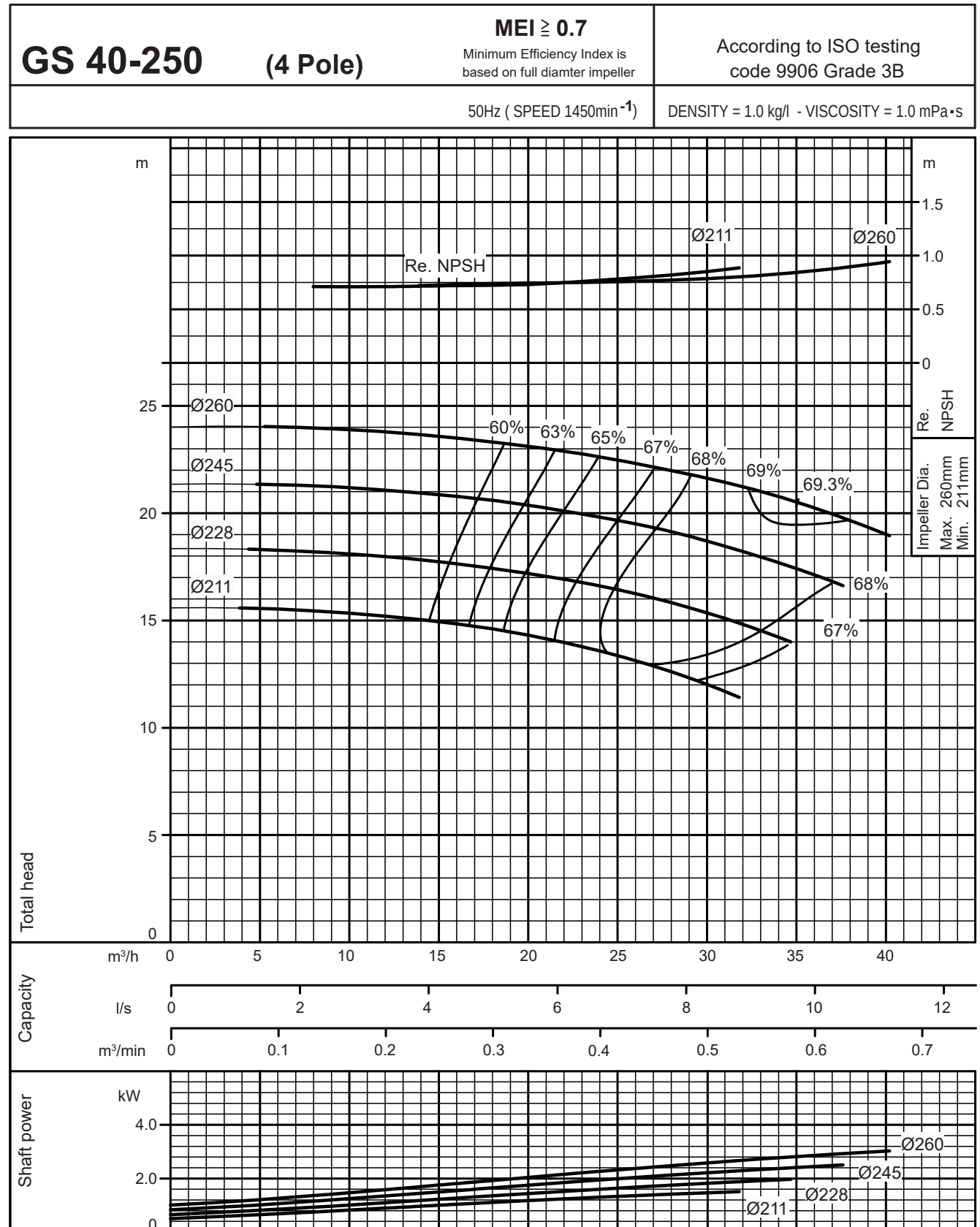
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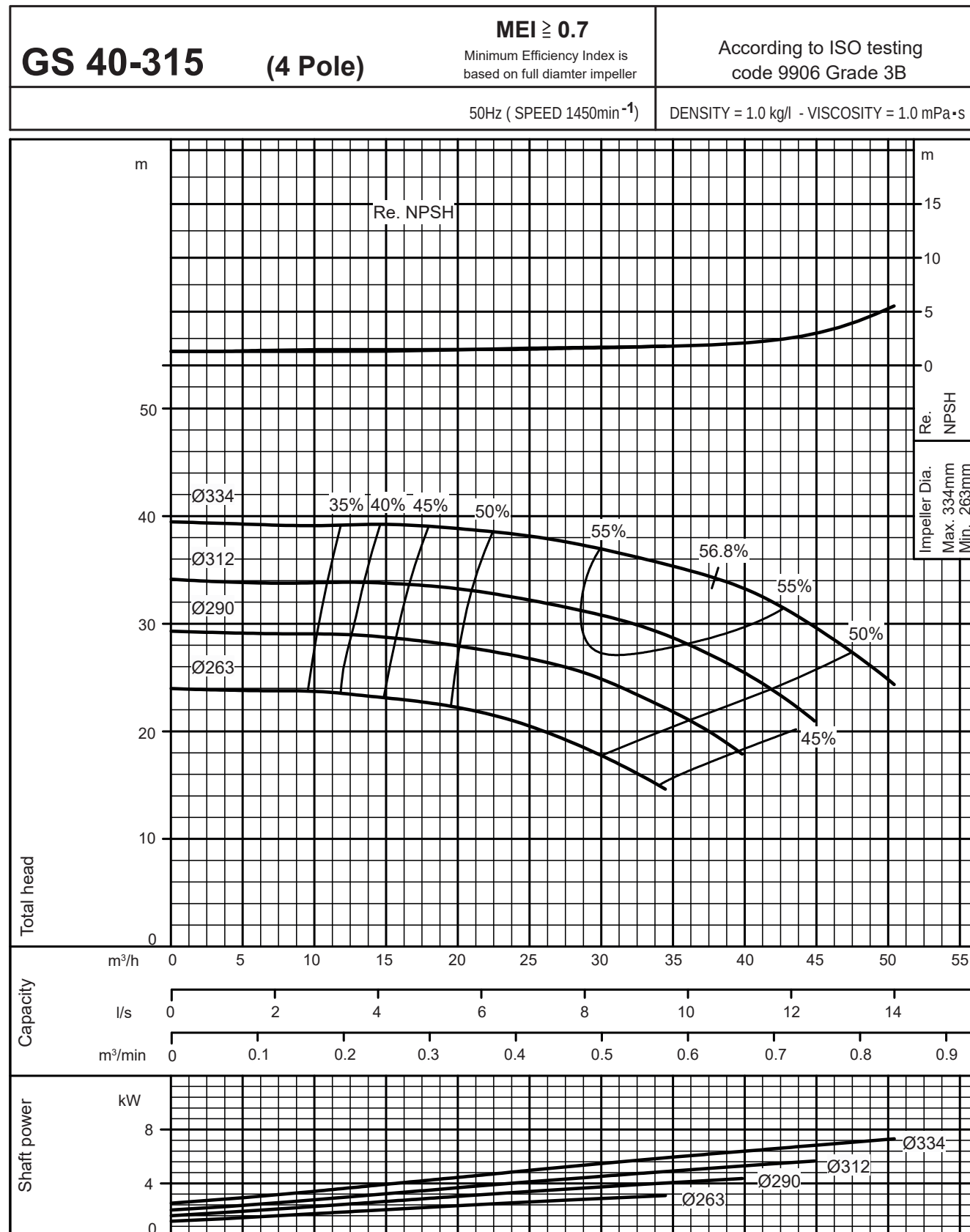
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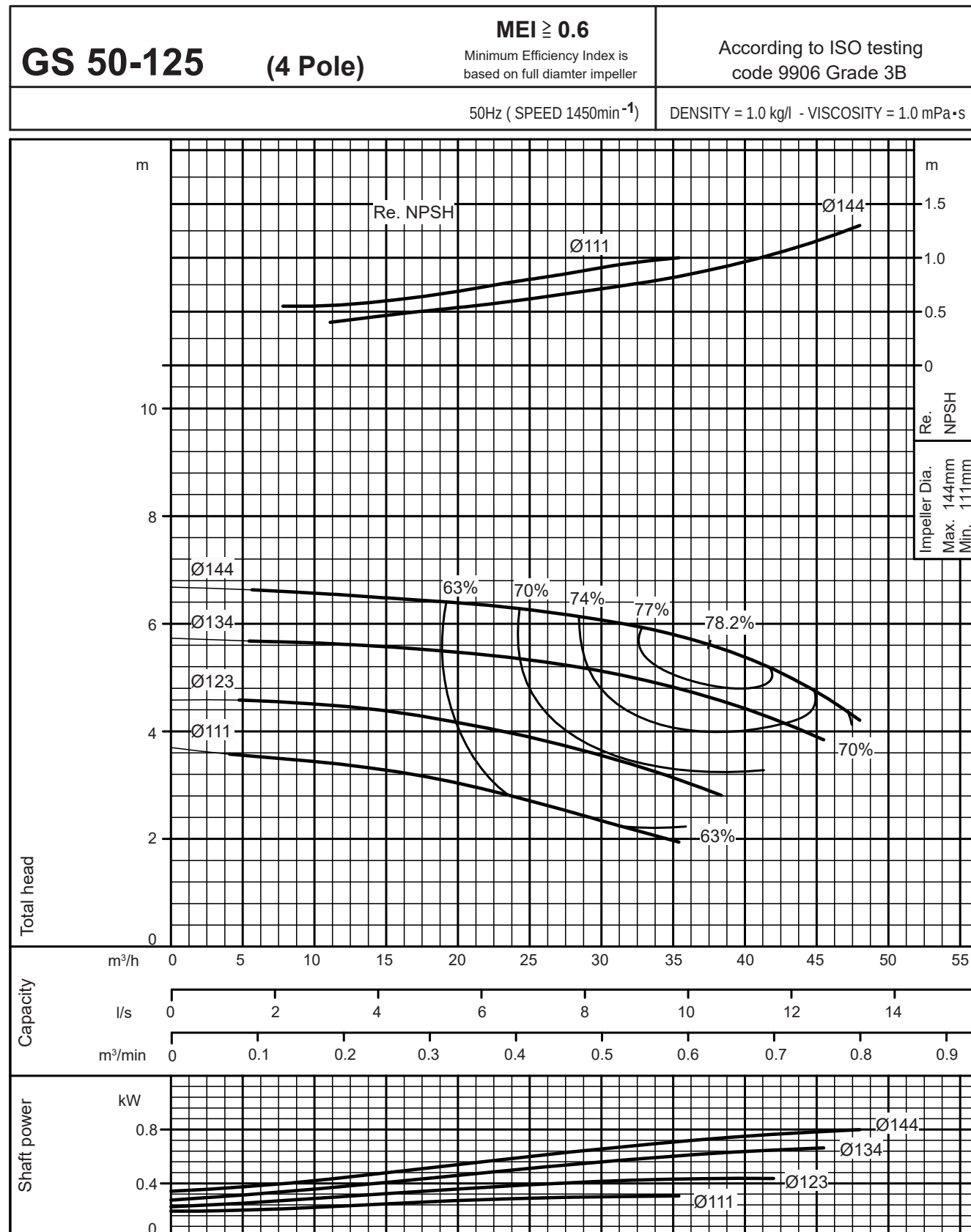
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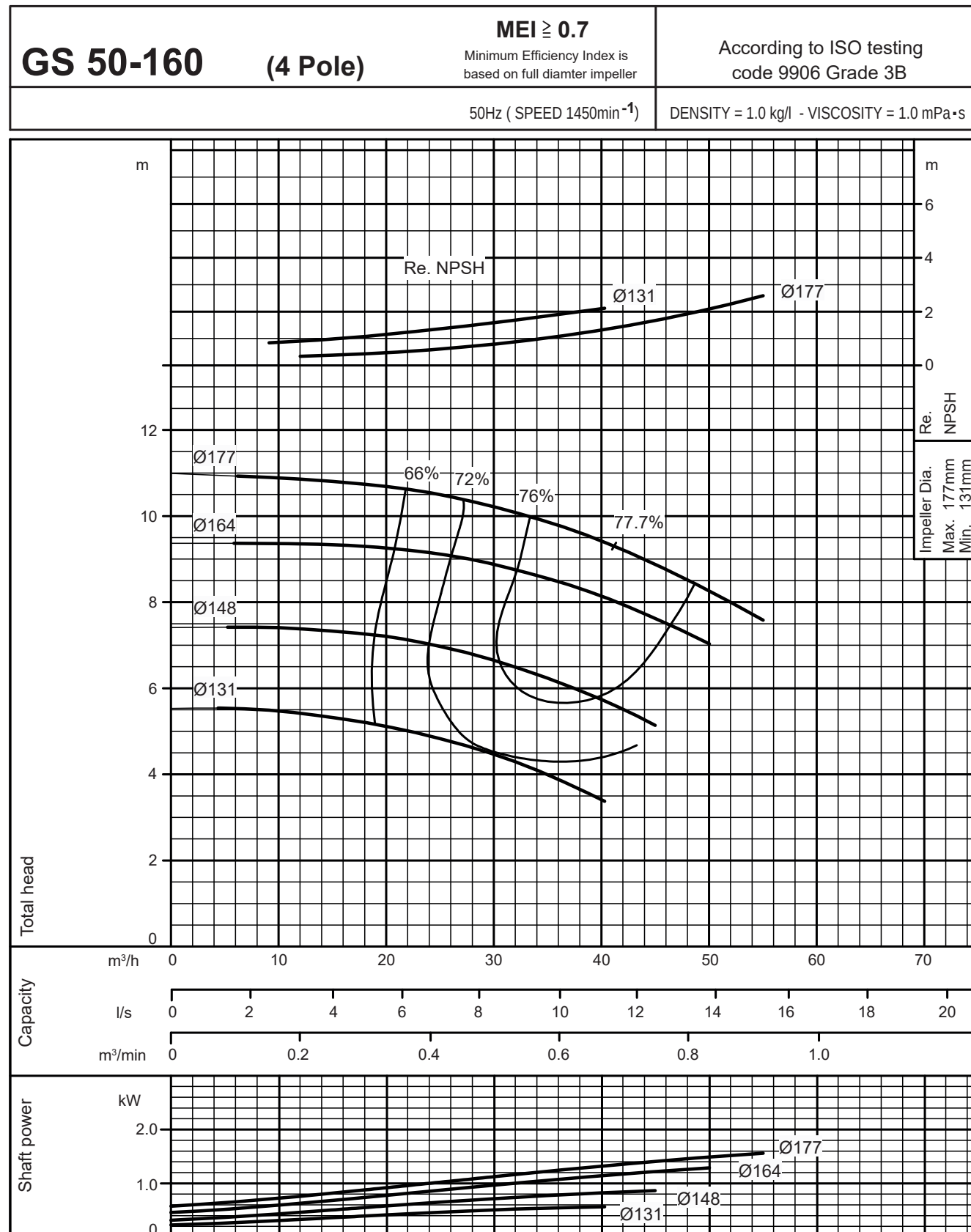
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Performance Curve



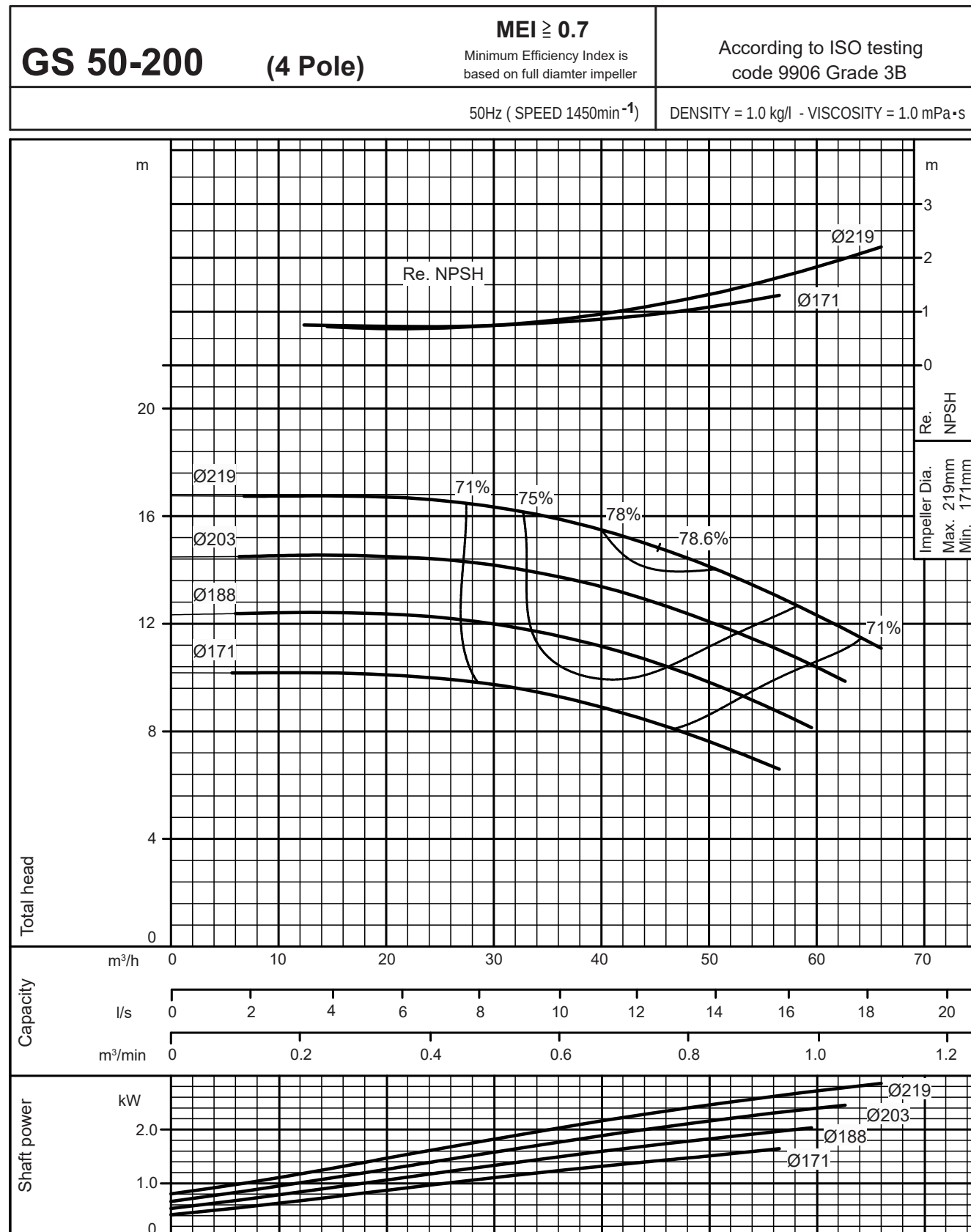
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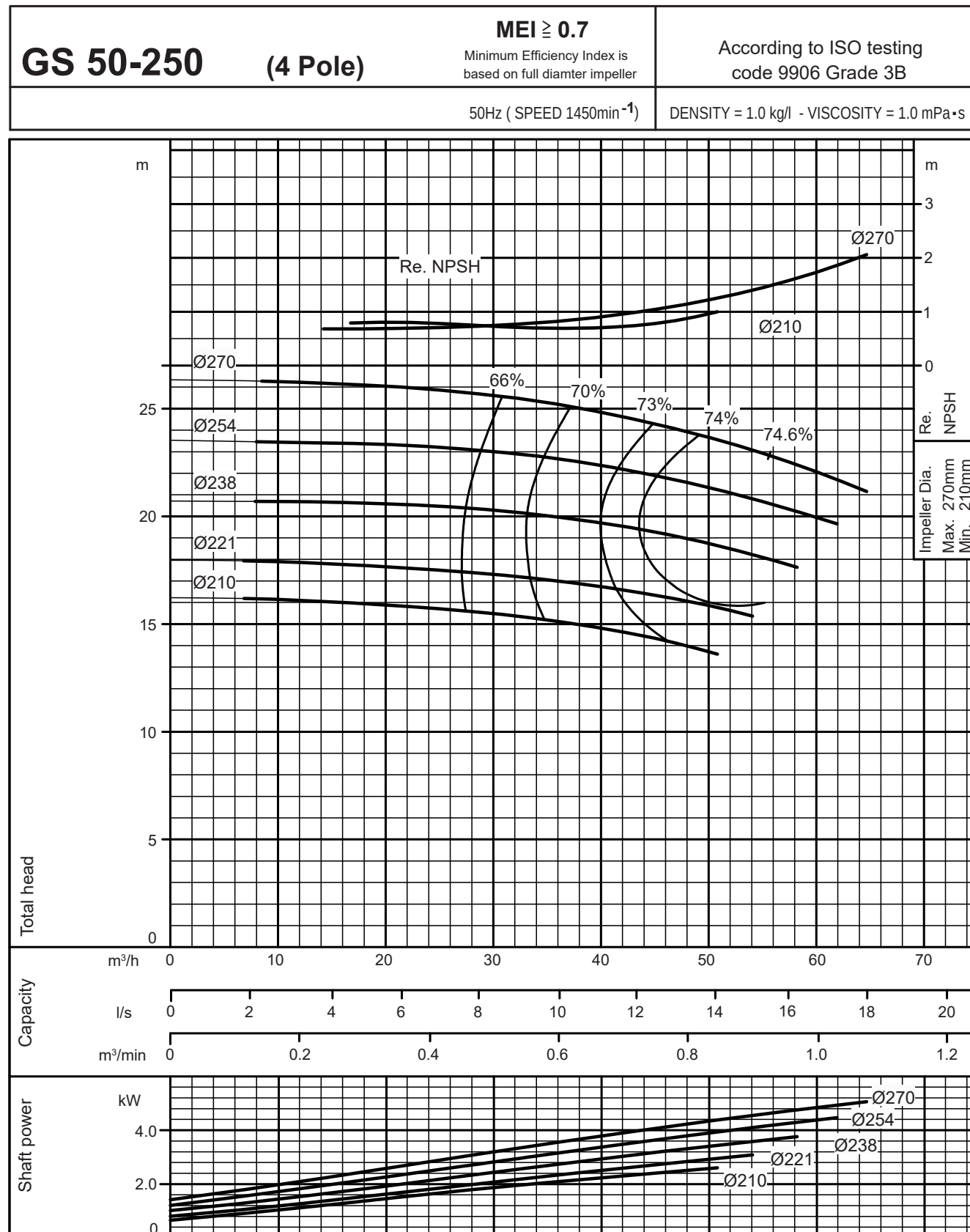
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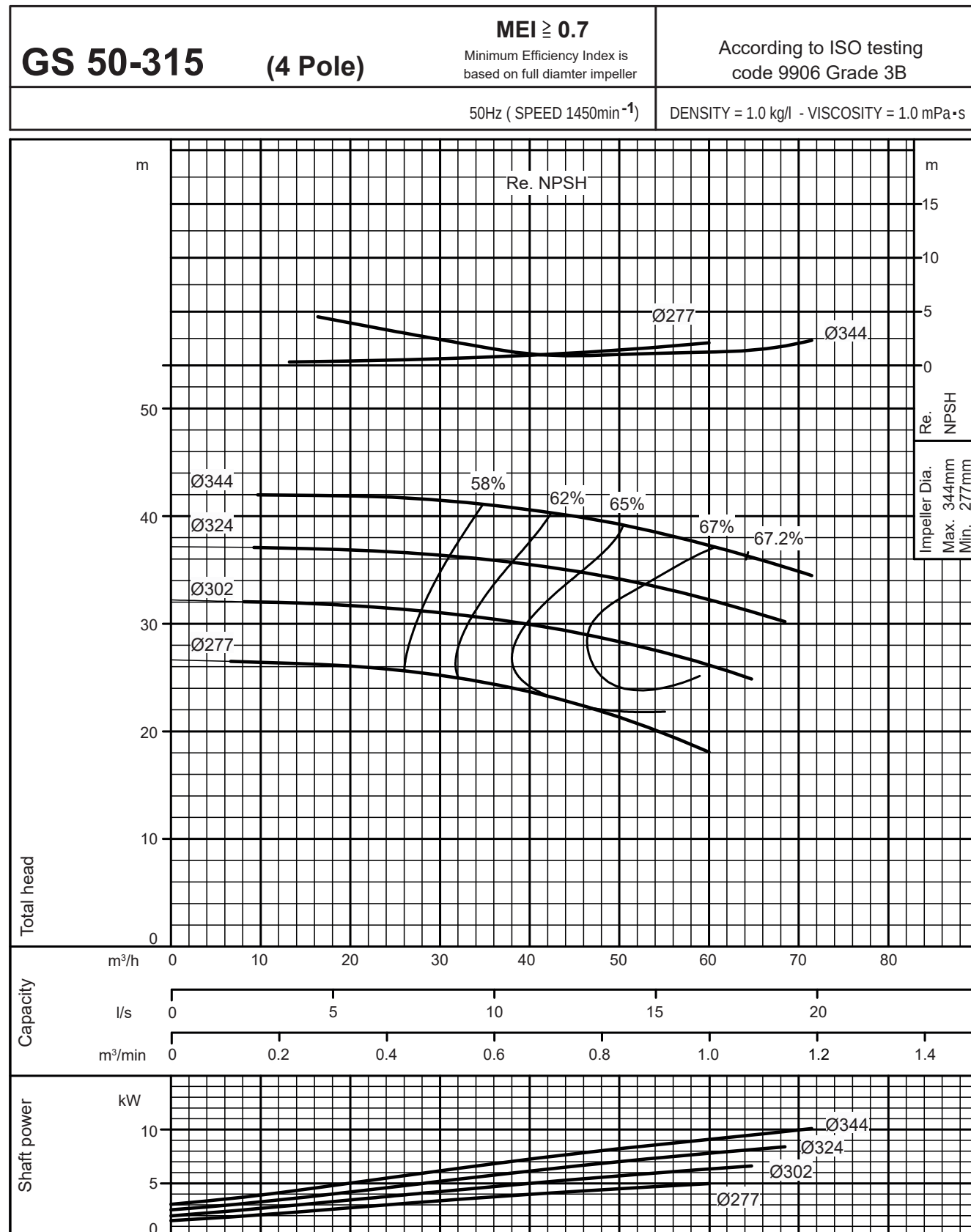
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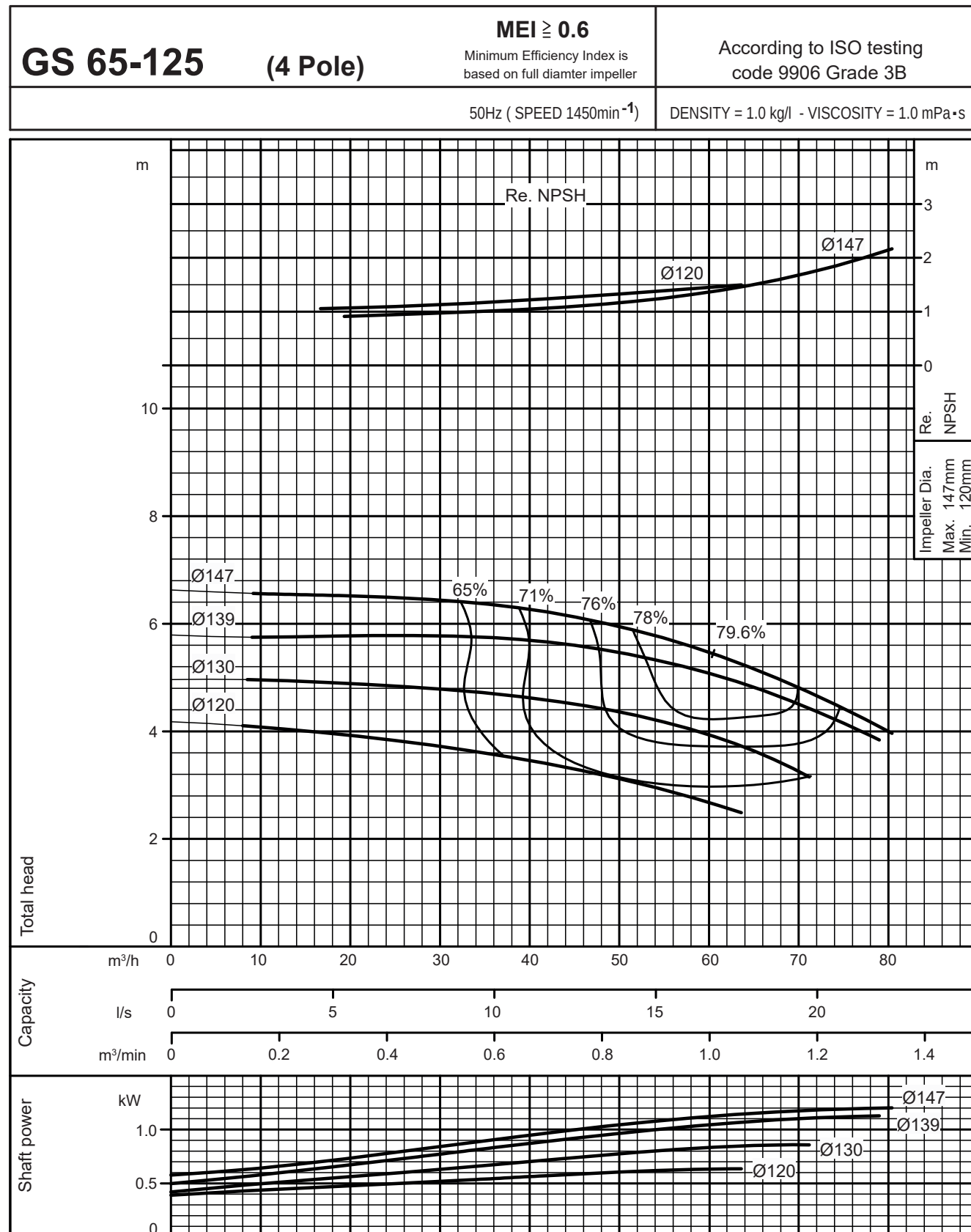
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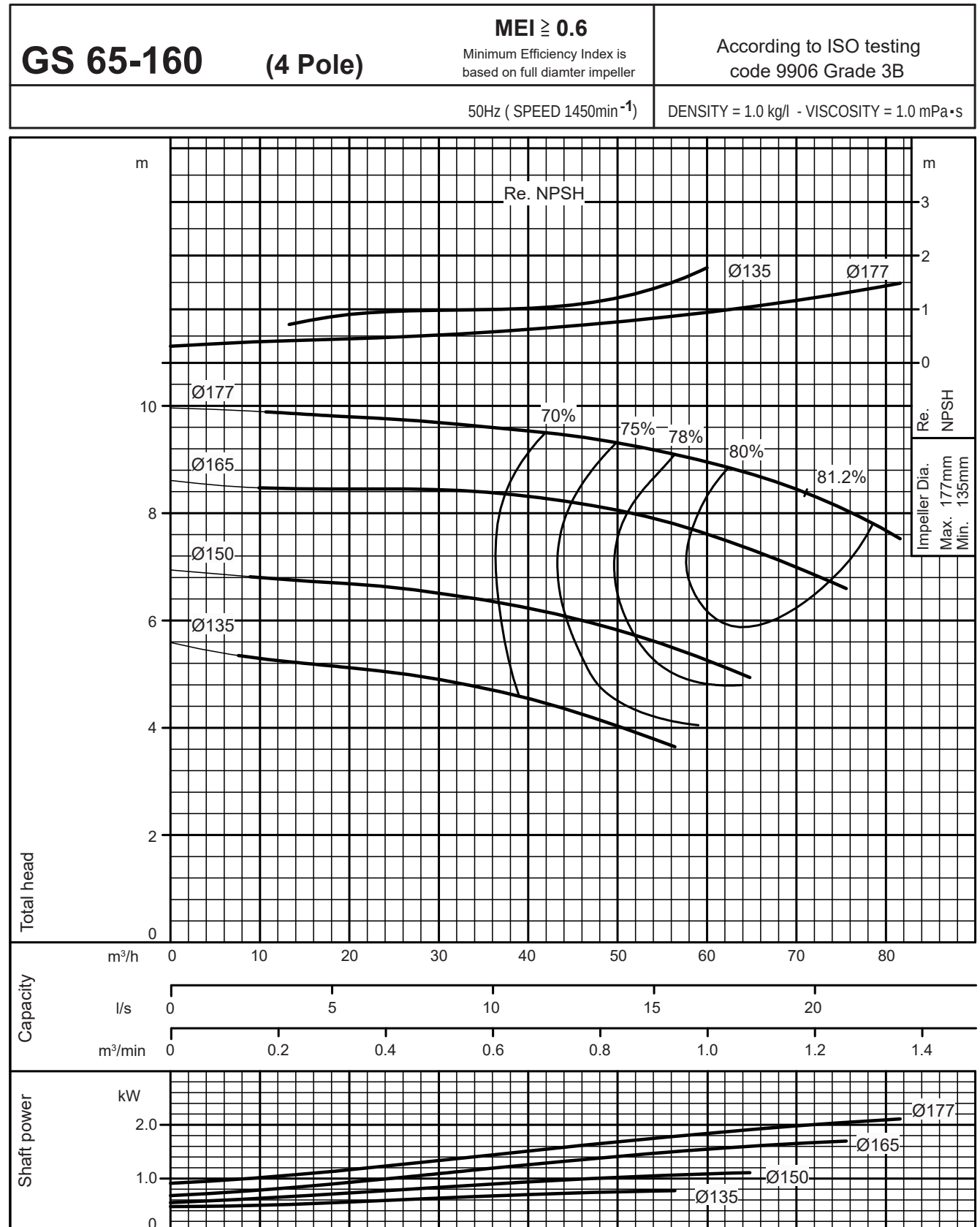
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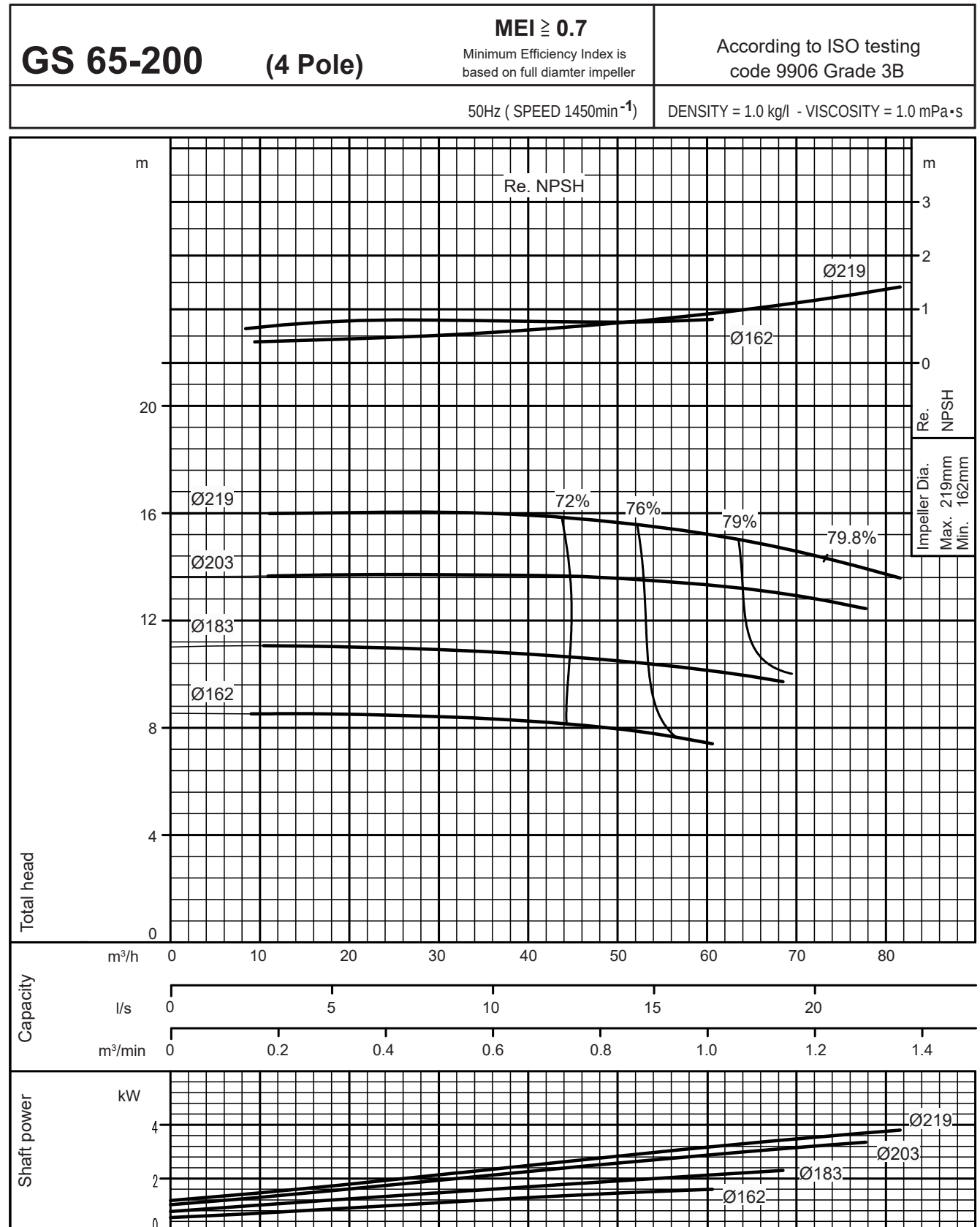
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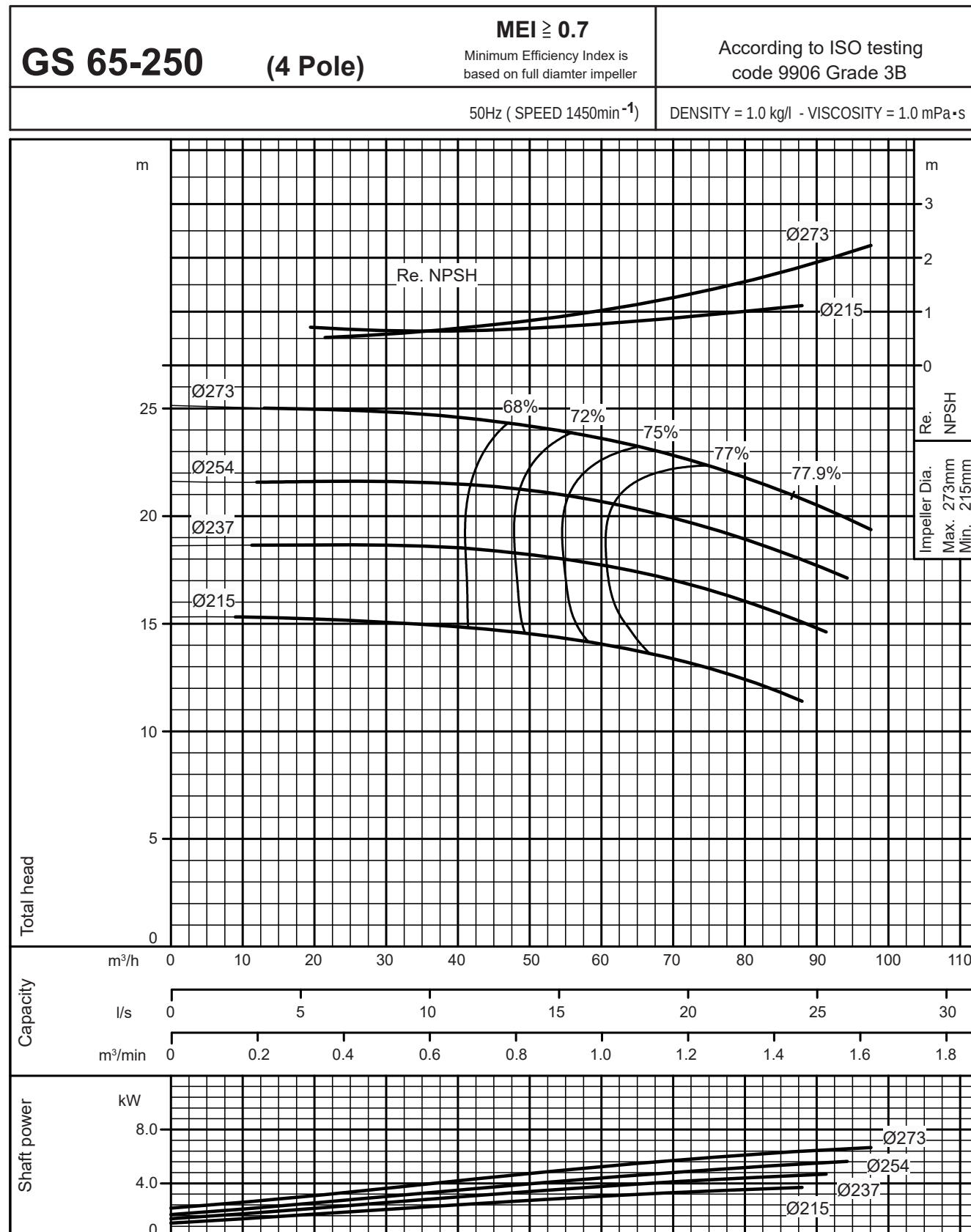
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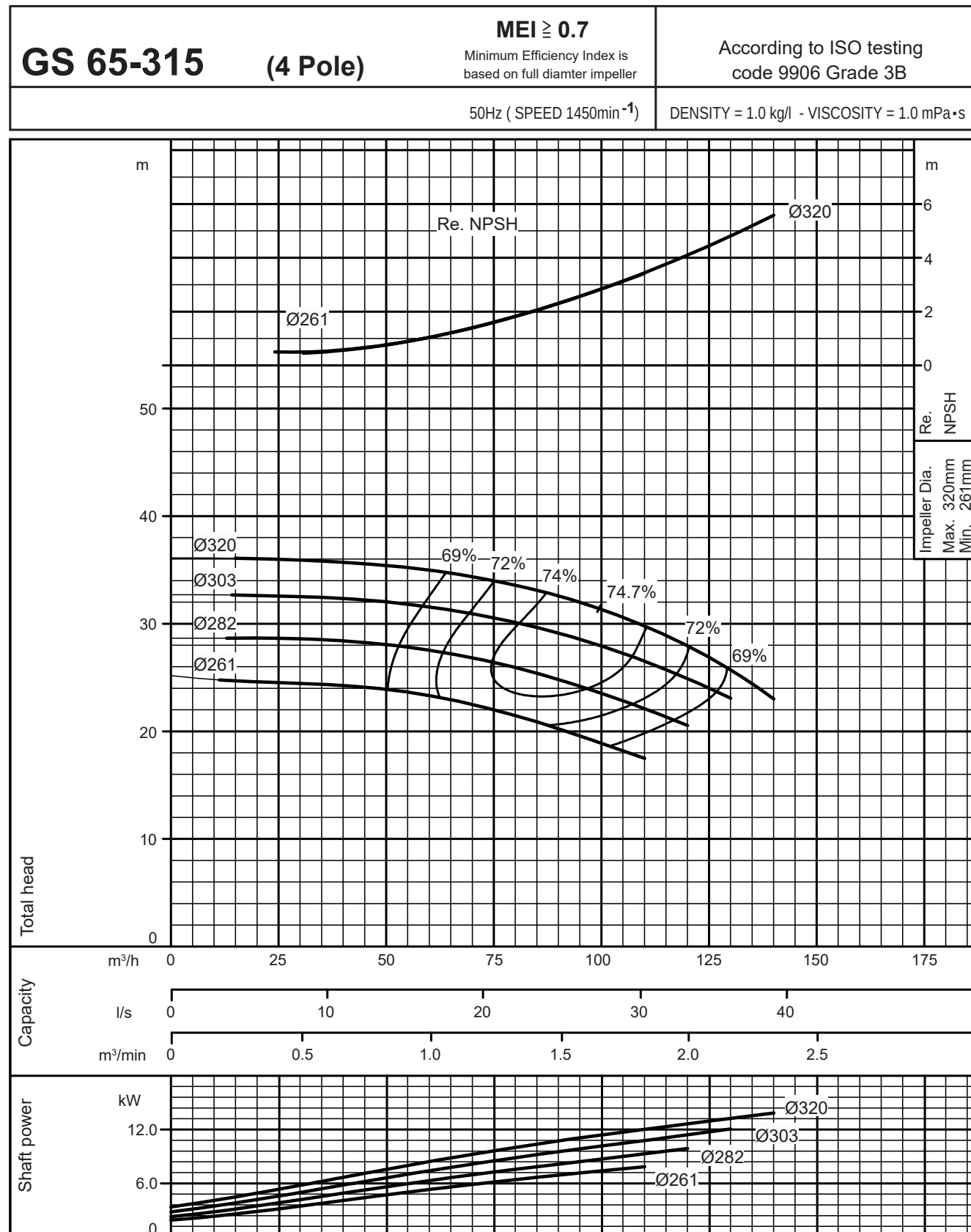
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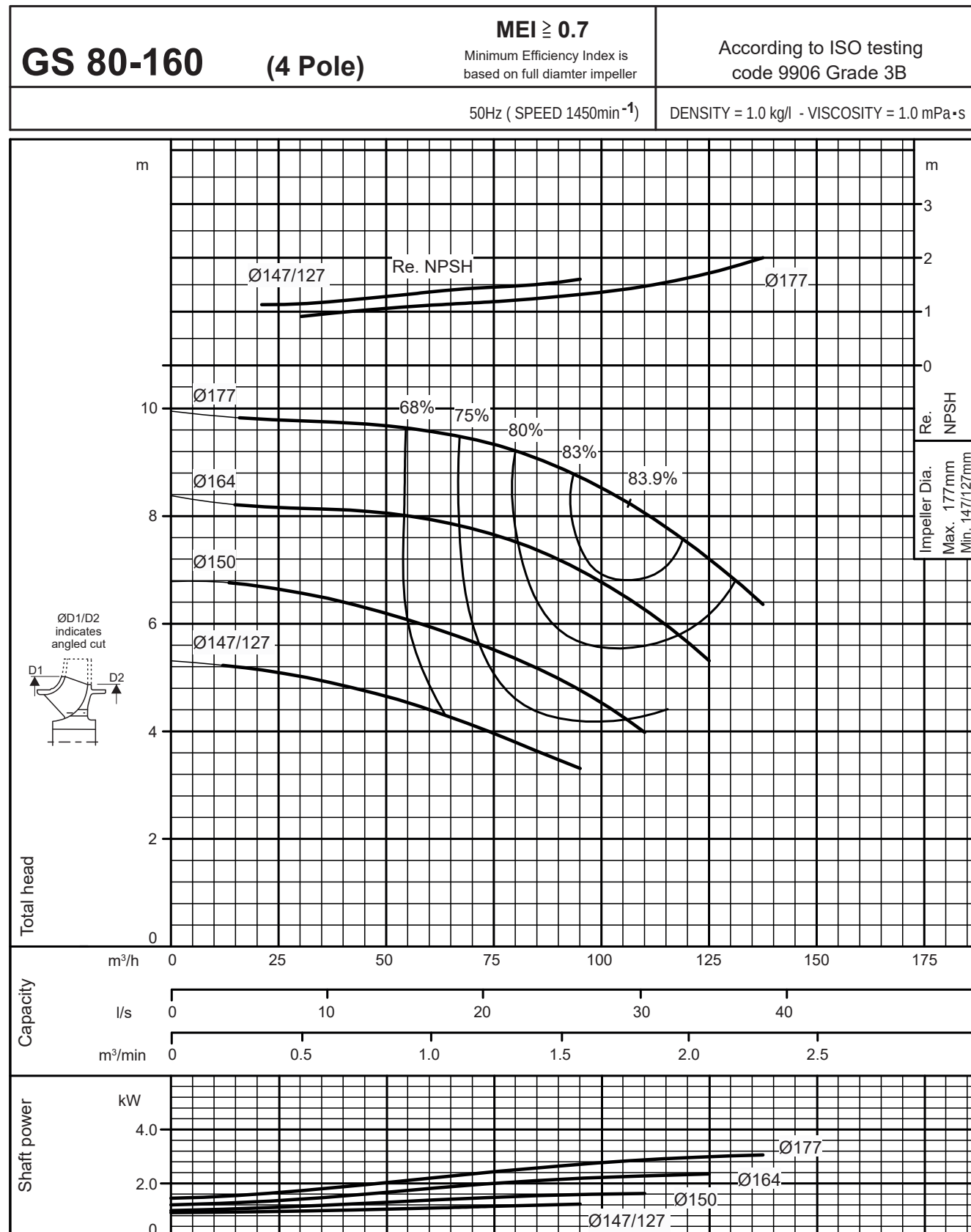
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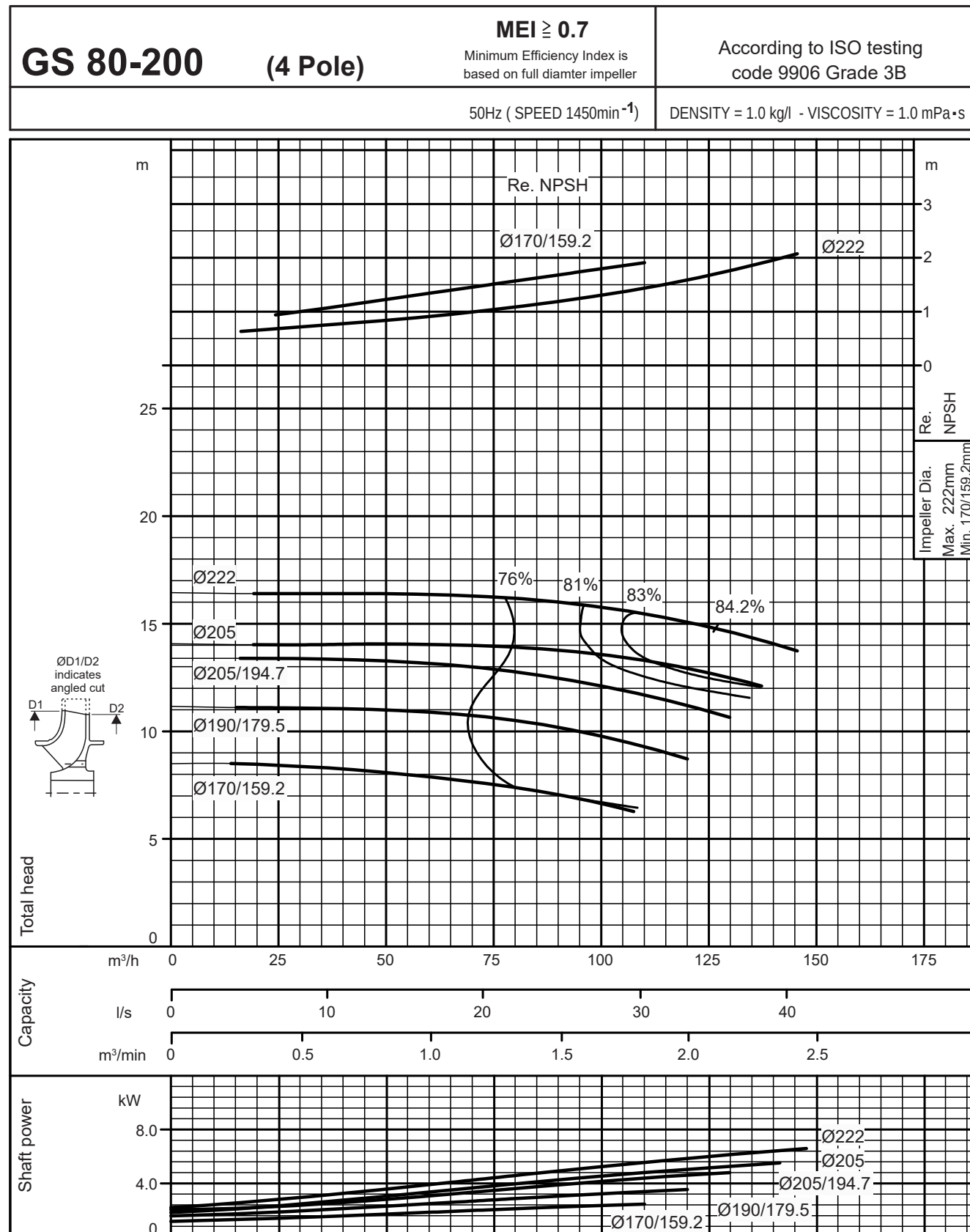
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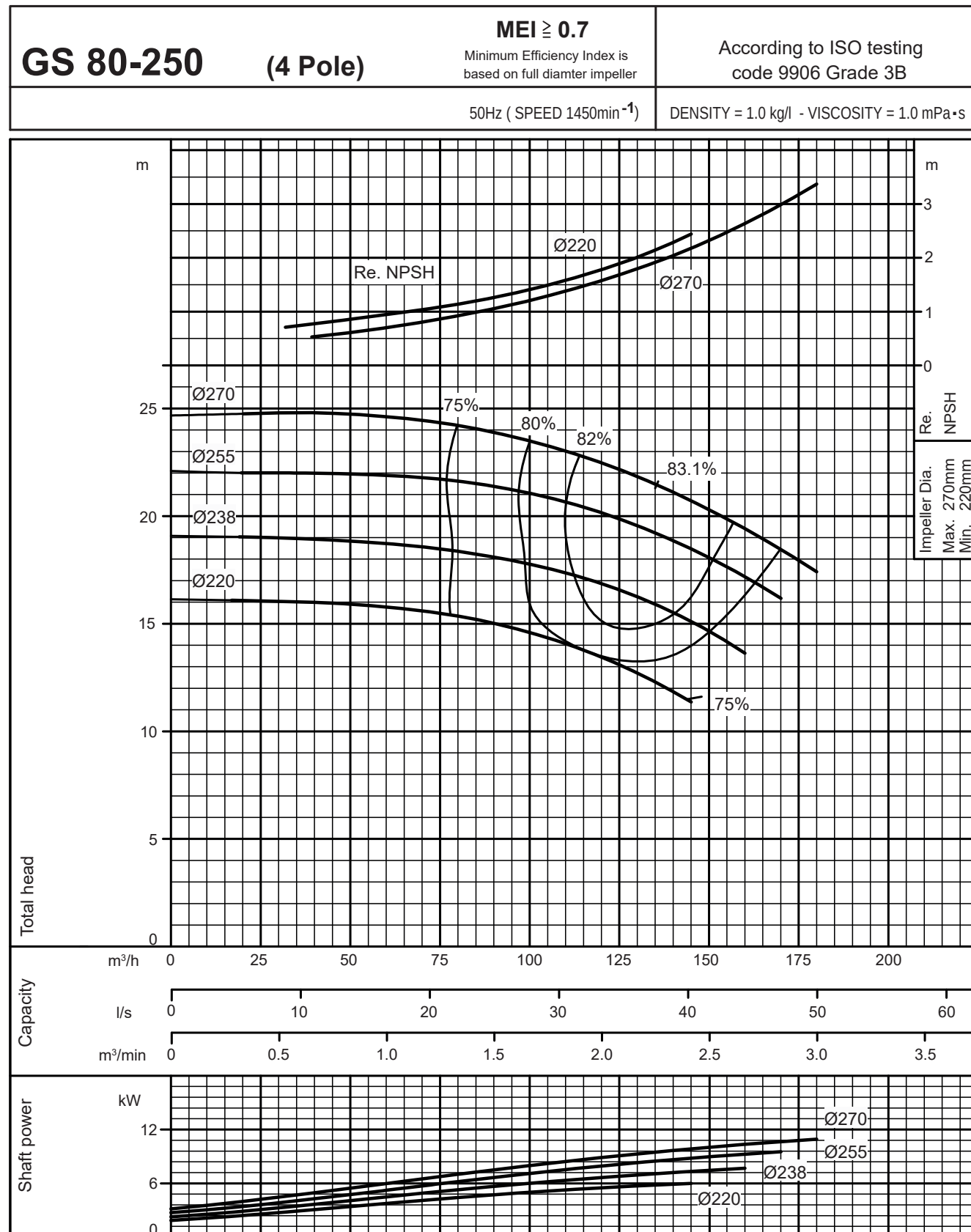
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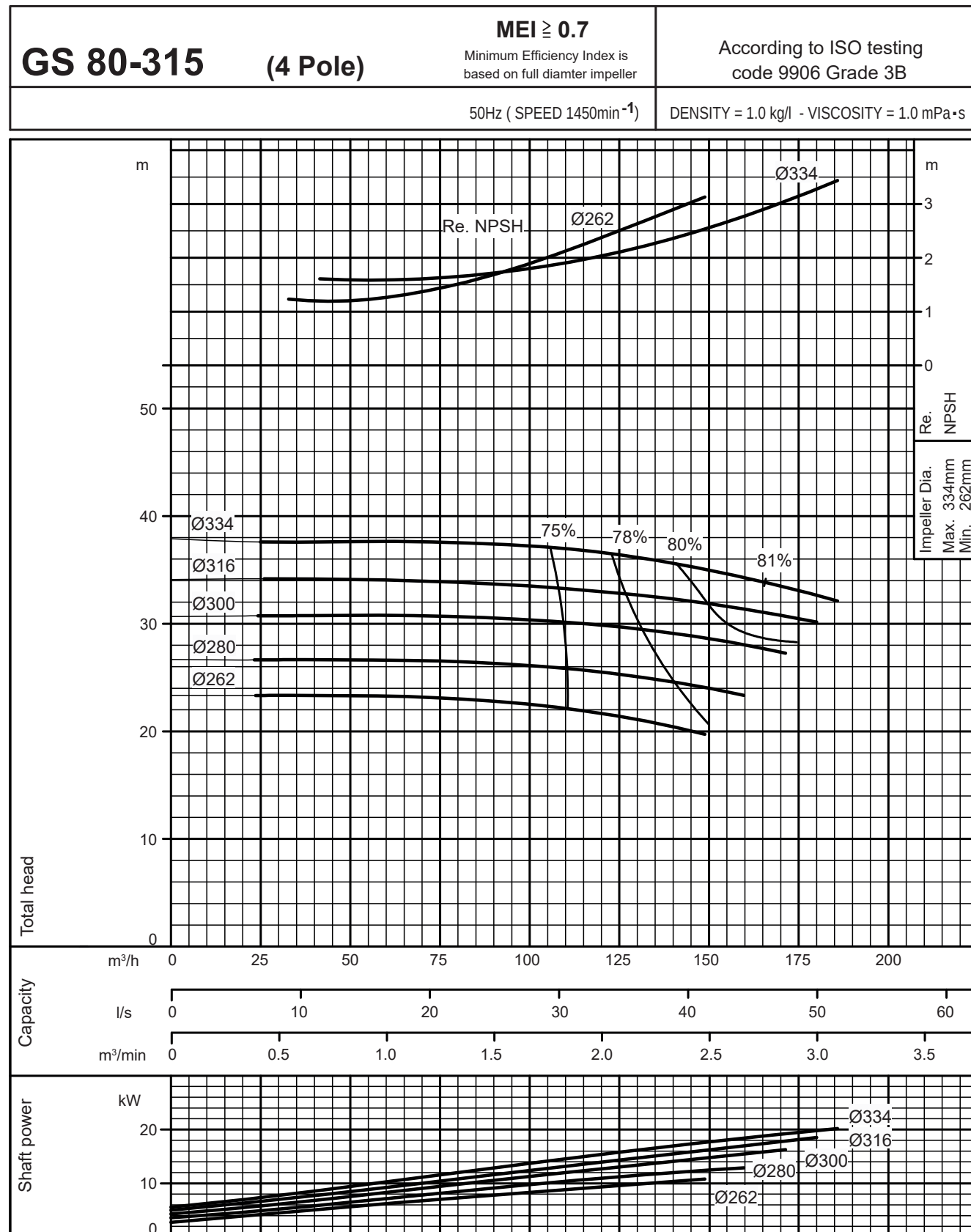
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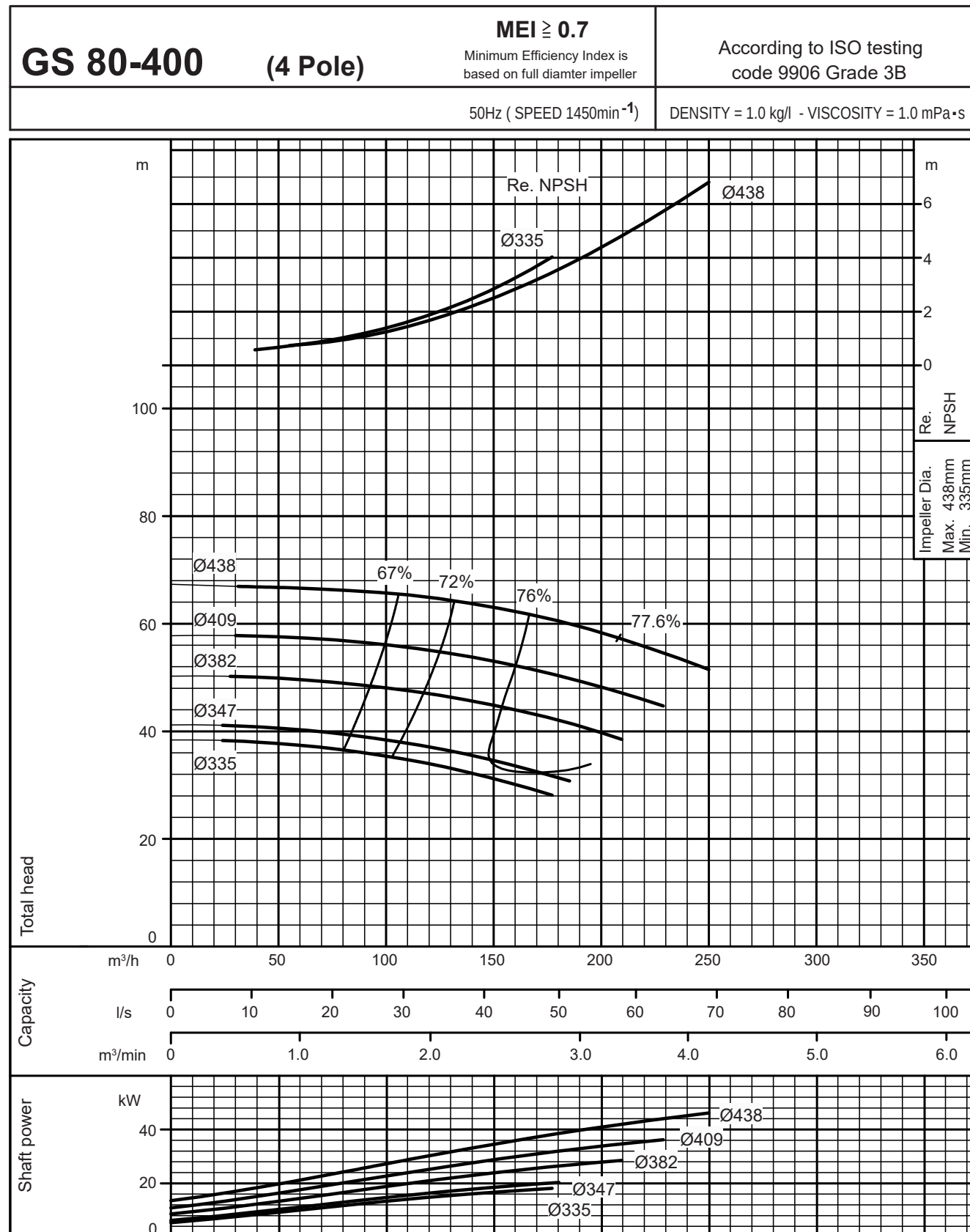
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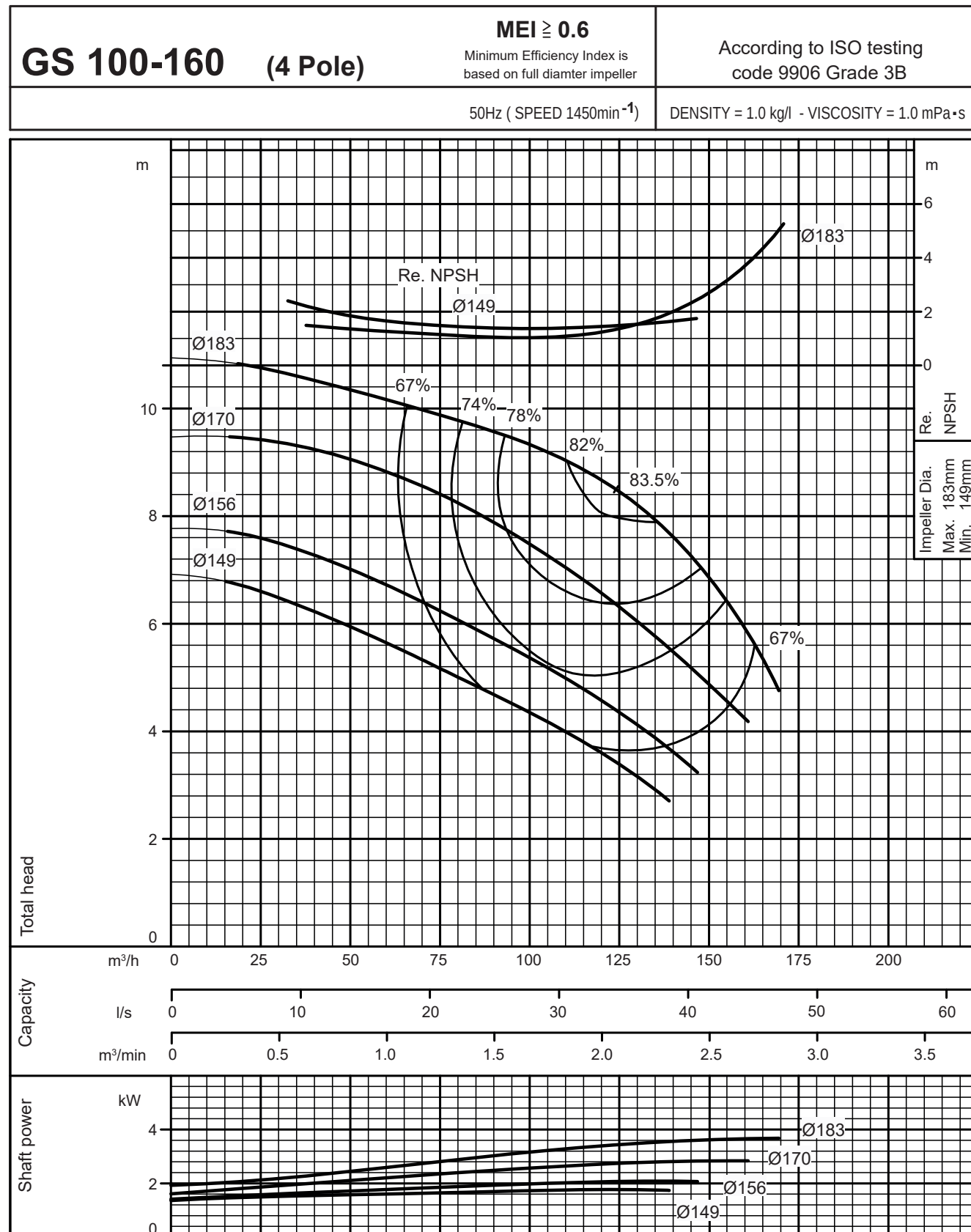
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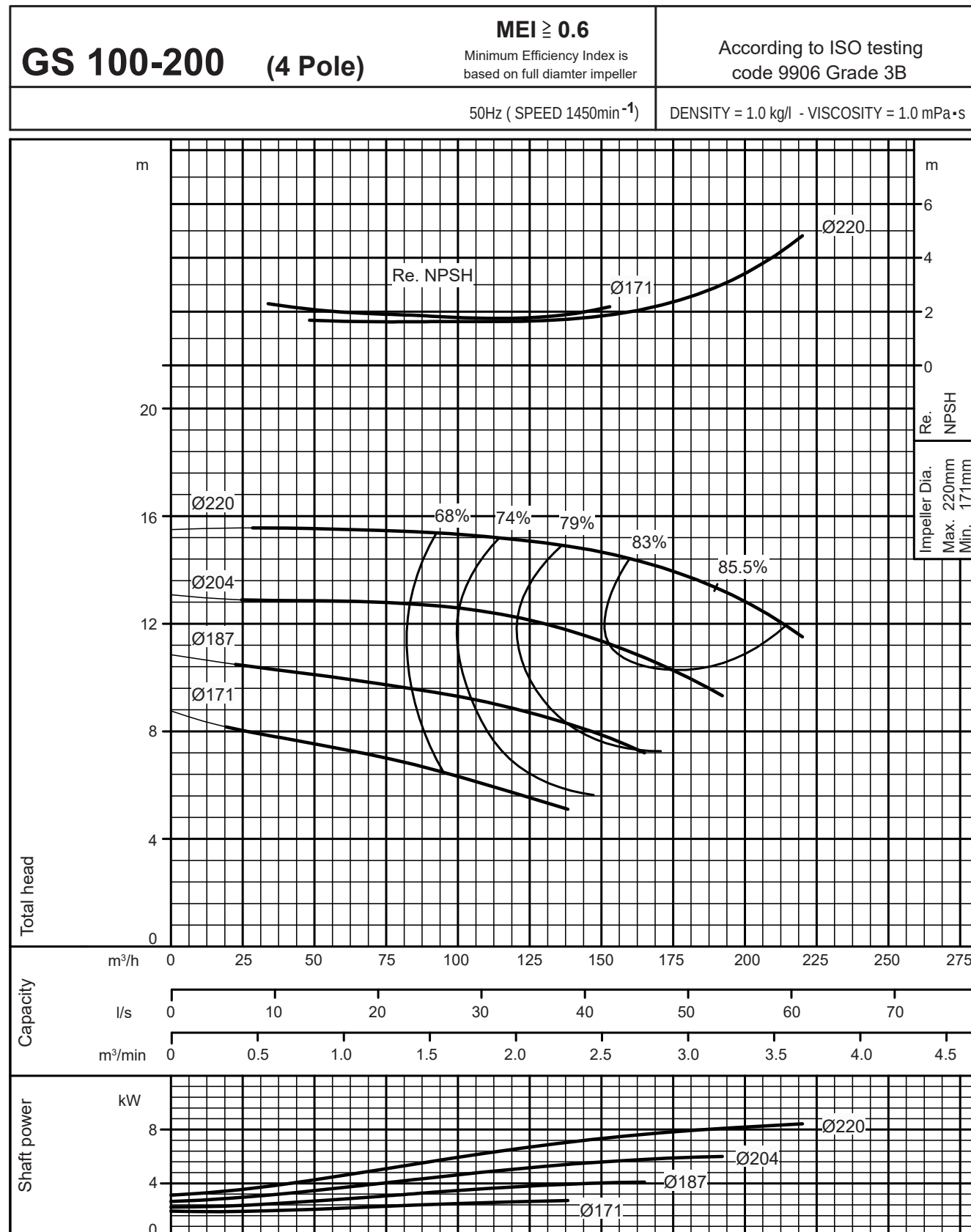
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Performance Curve



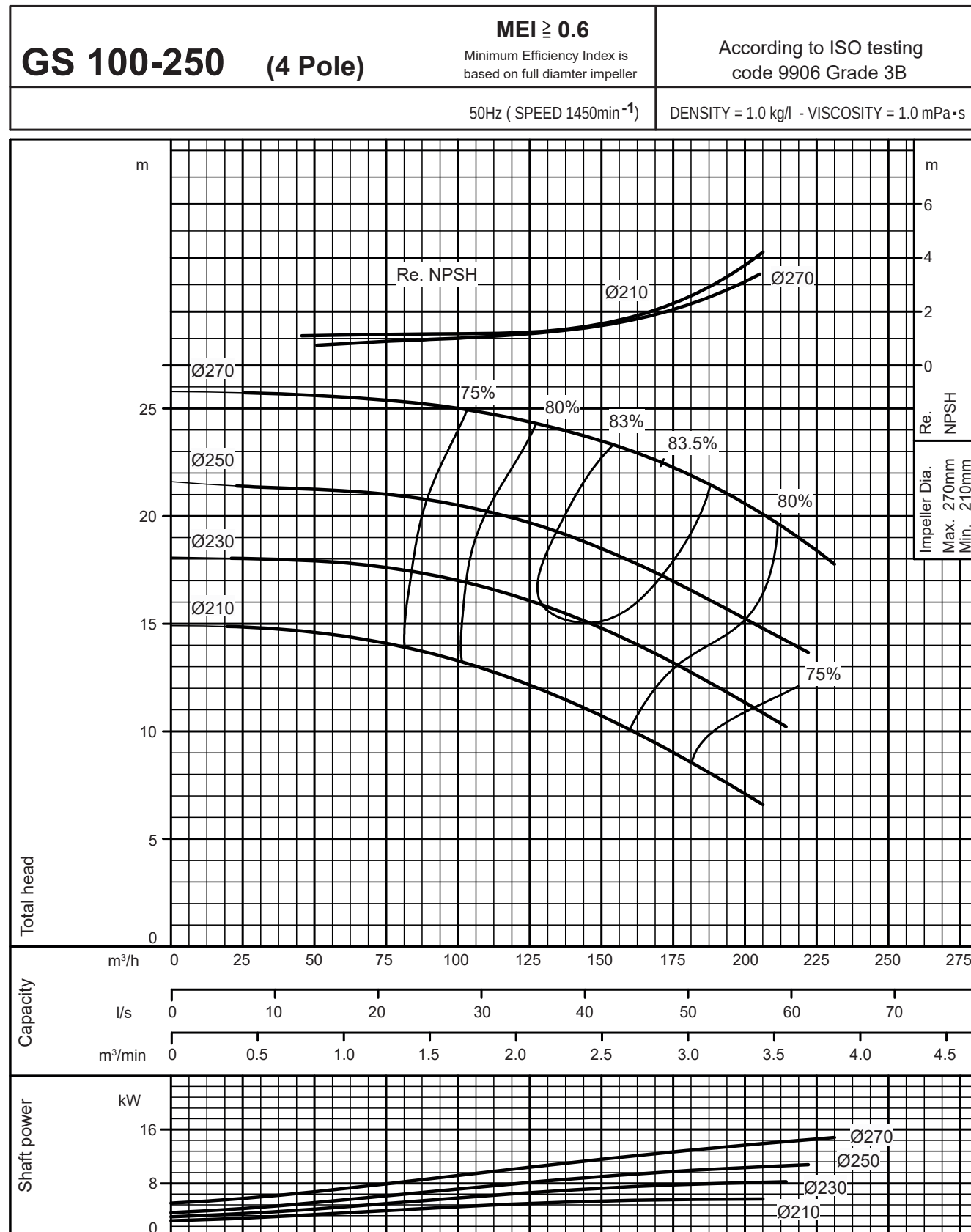
F8-1633621-01

Performance Curve



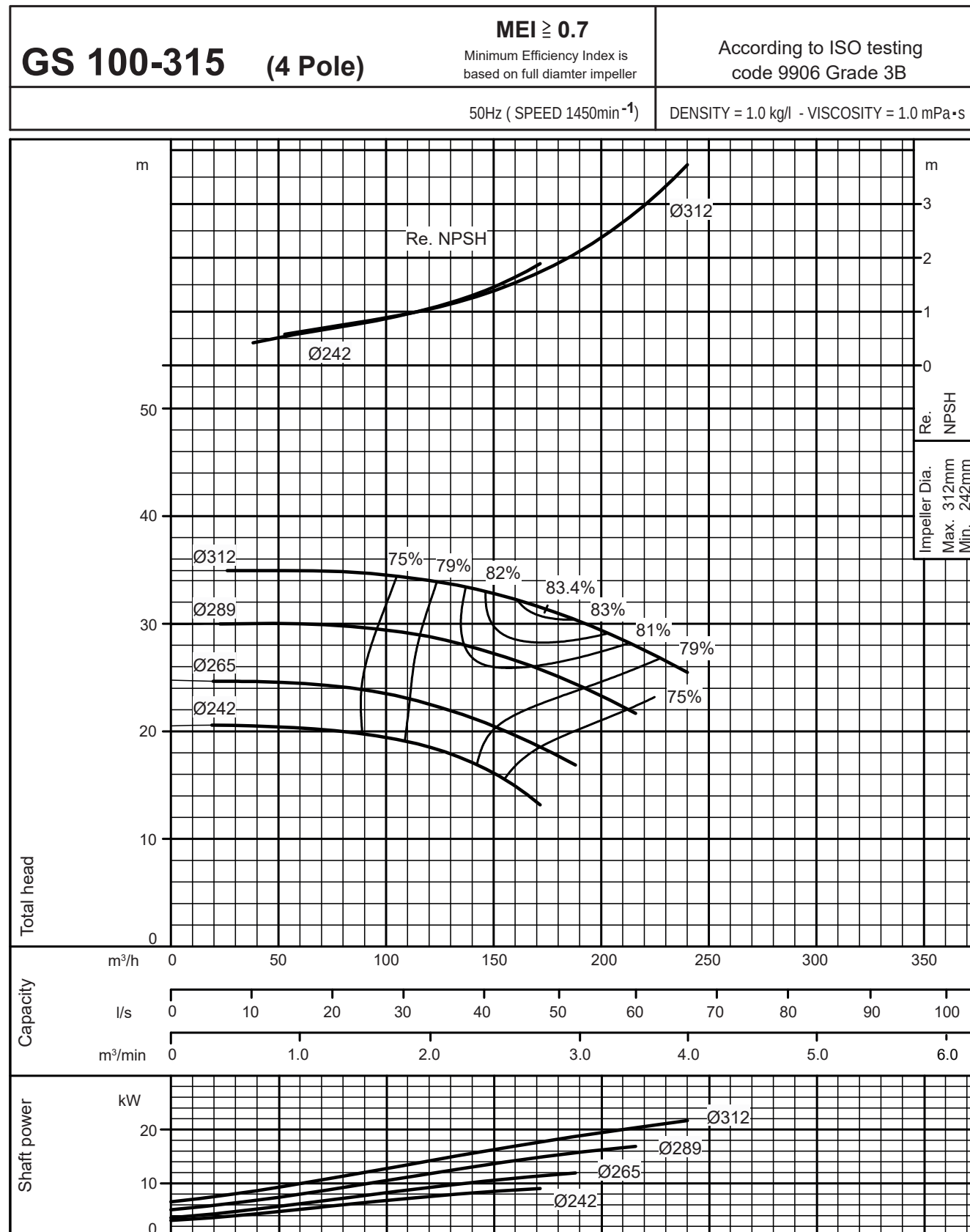
F8-1633622-01

Performance Curve



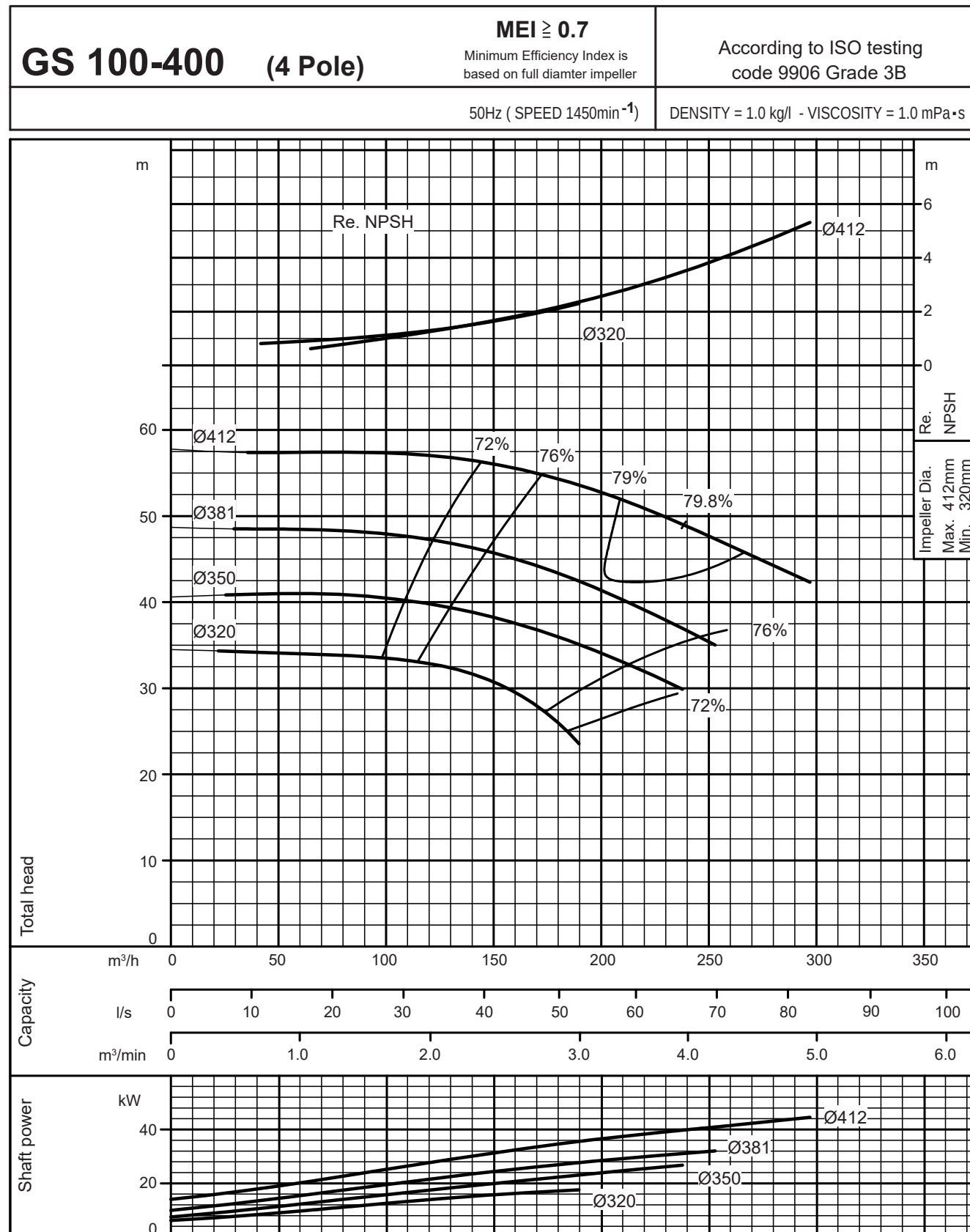
F8-1633623-01

Performance Curve



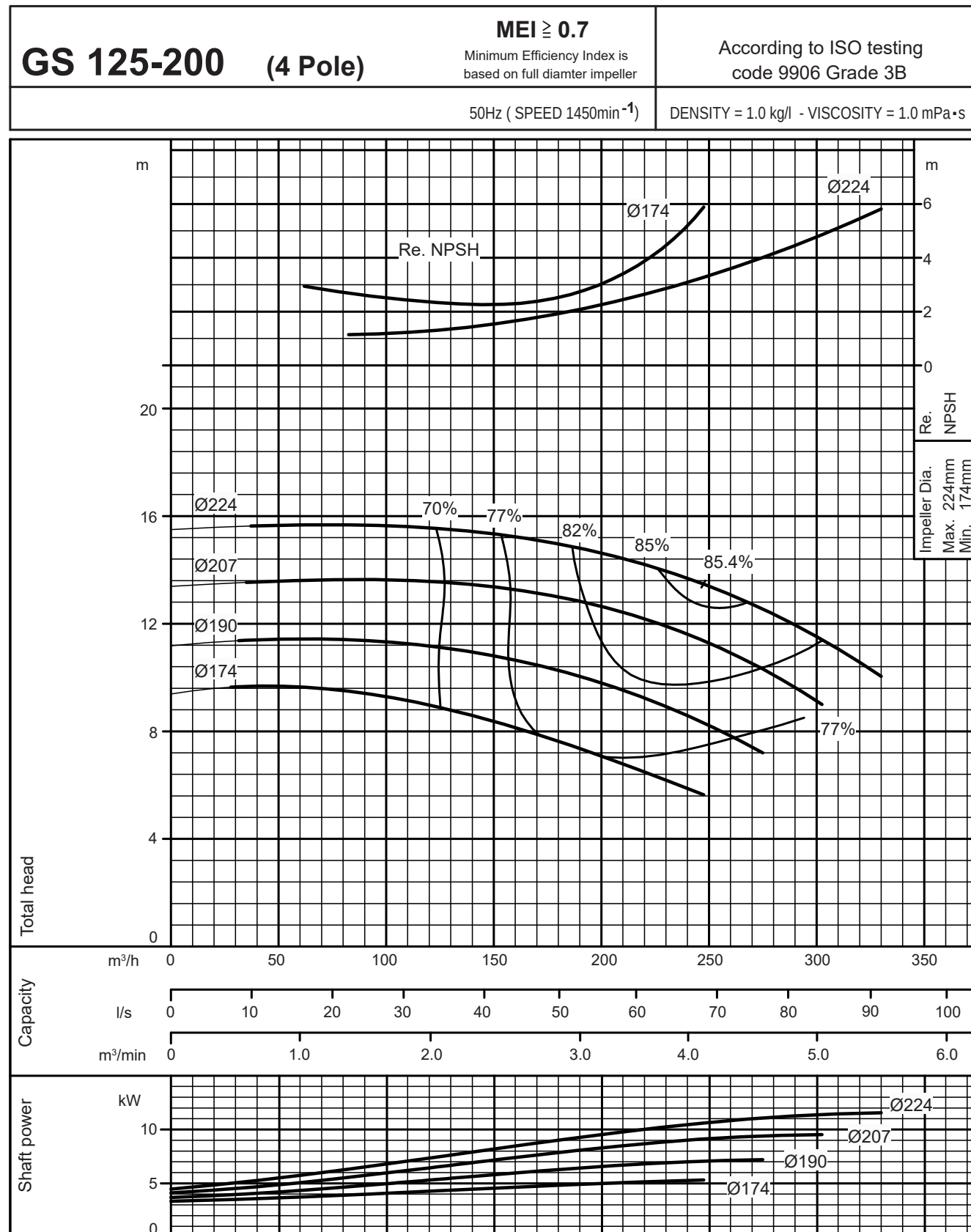
F8-1633624-01

Performance Curve



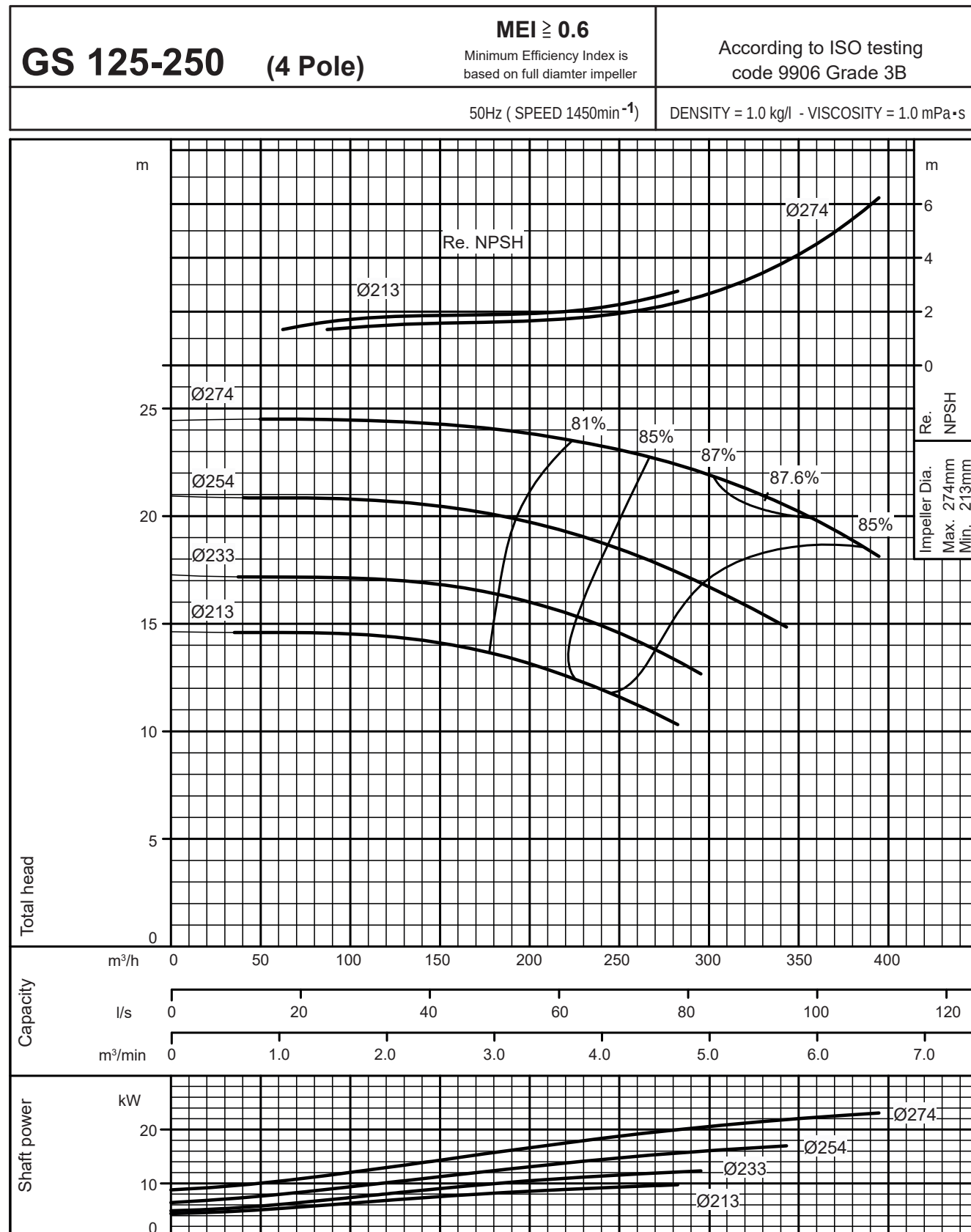
F8-1633625-01

Performance Curve



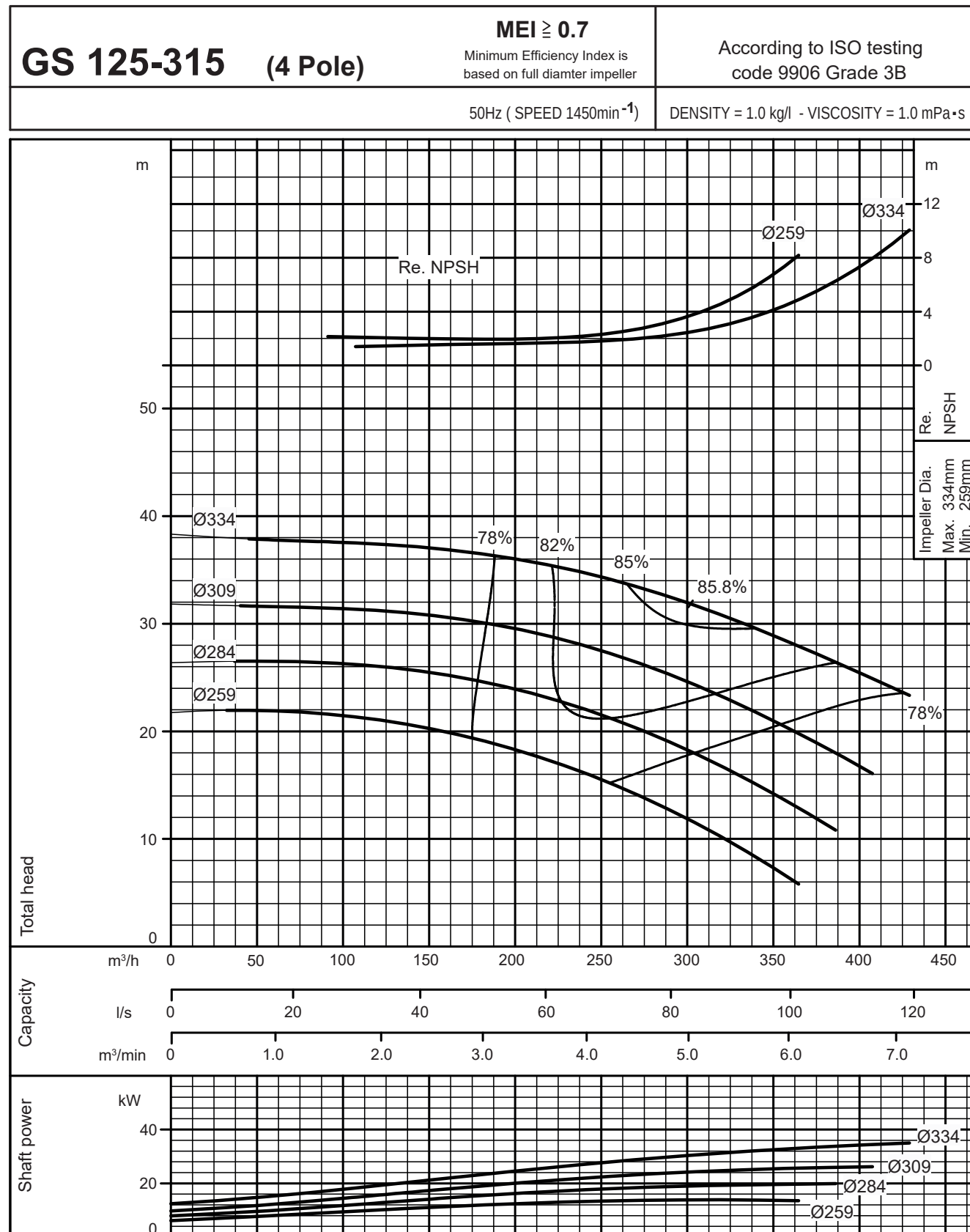
F8-1633626-01

Performance Curve



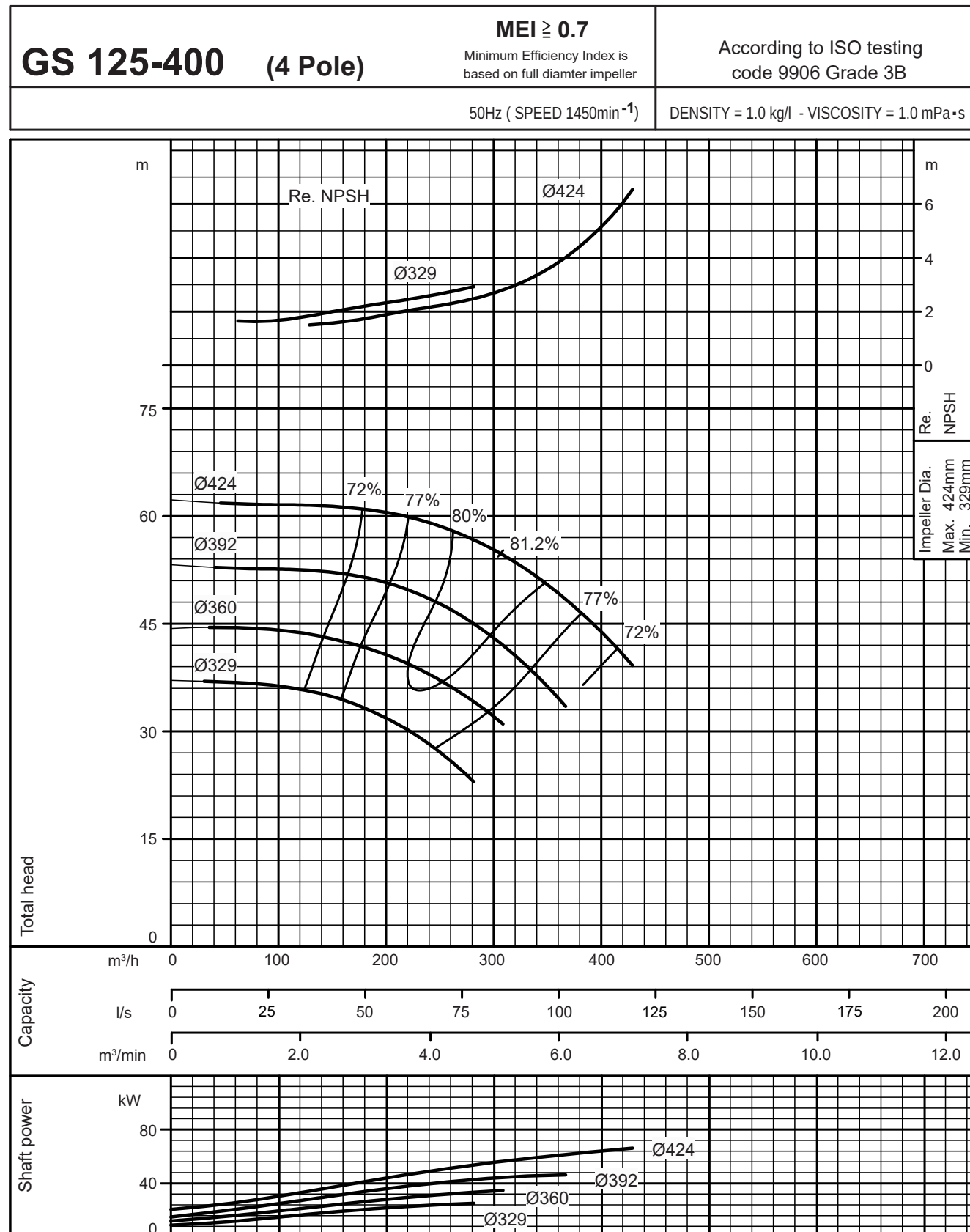
F8-1633627-01

Performance Curve



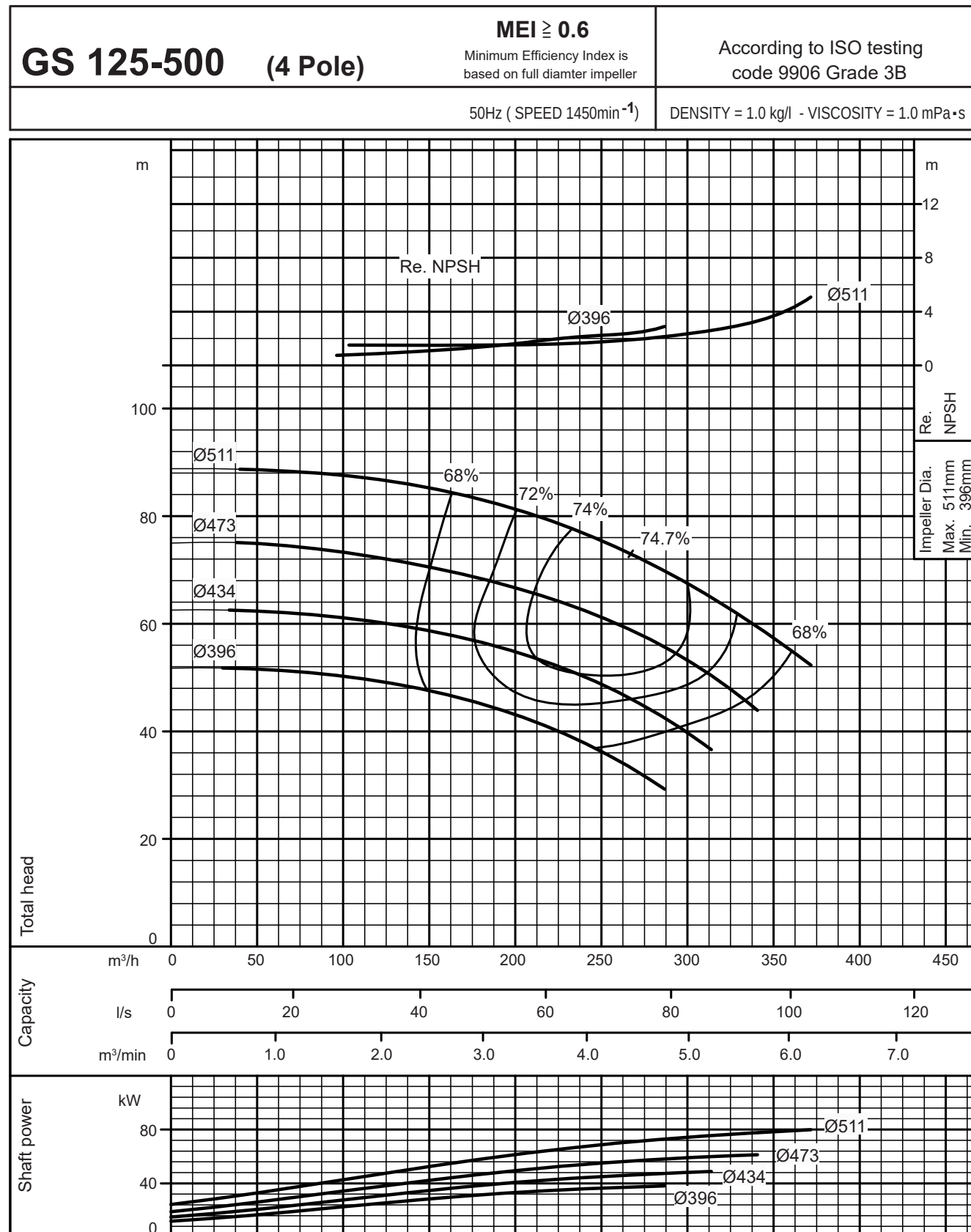
F8-1633628-01

Performance Curve



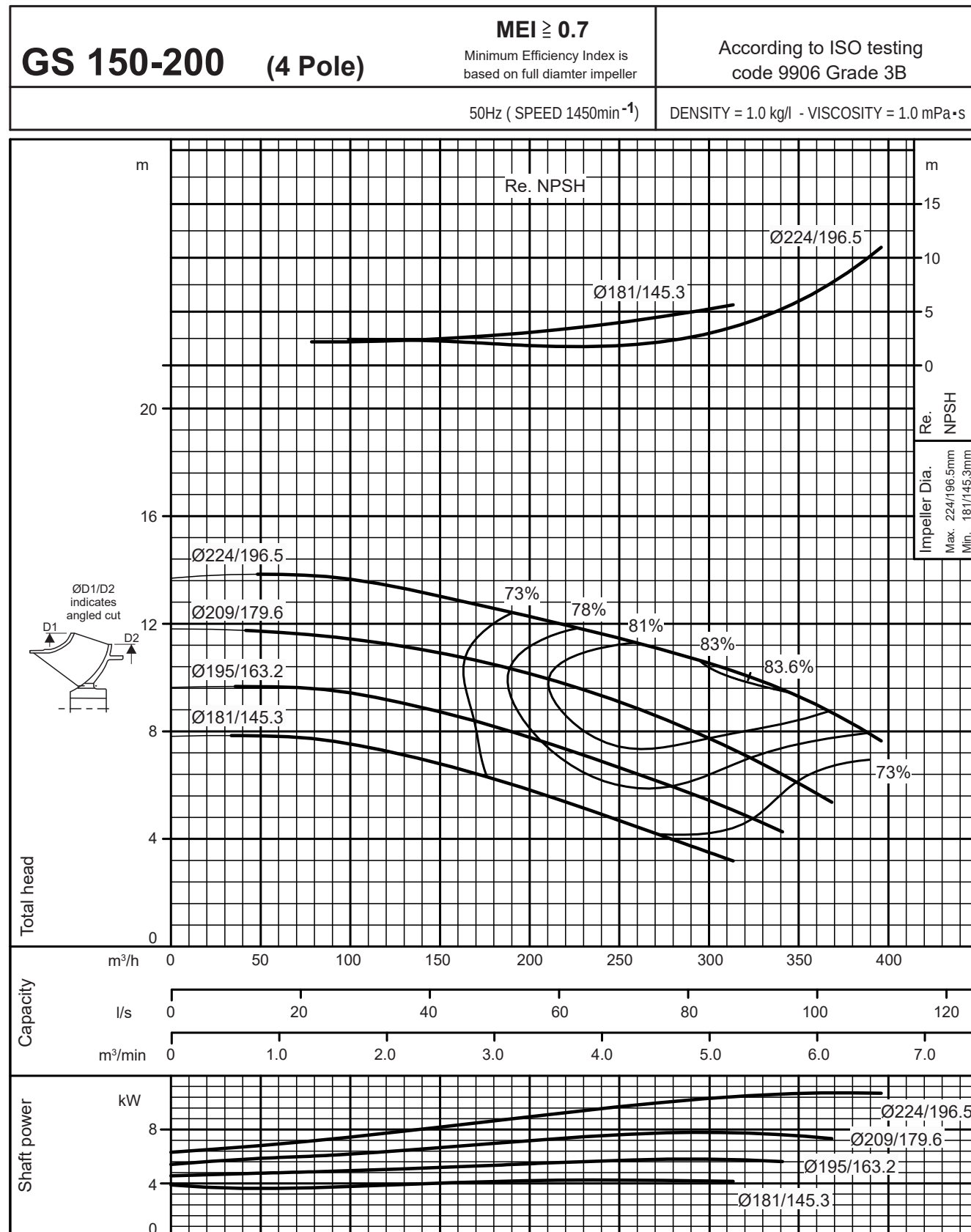
F8-1633629-00

Performance Curve



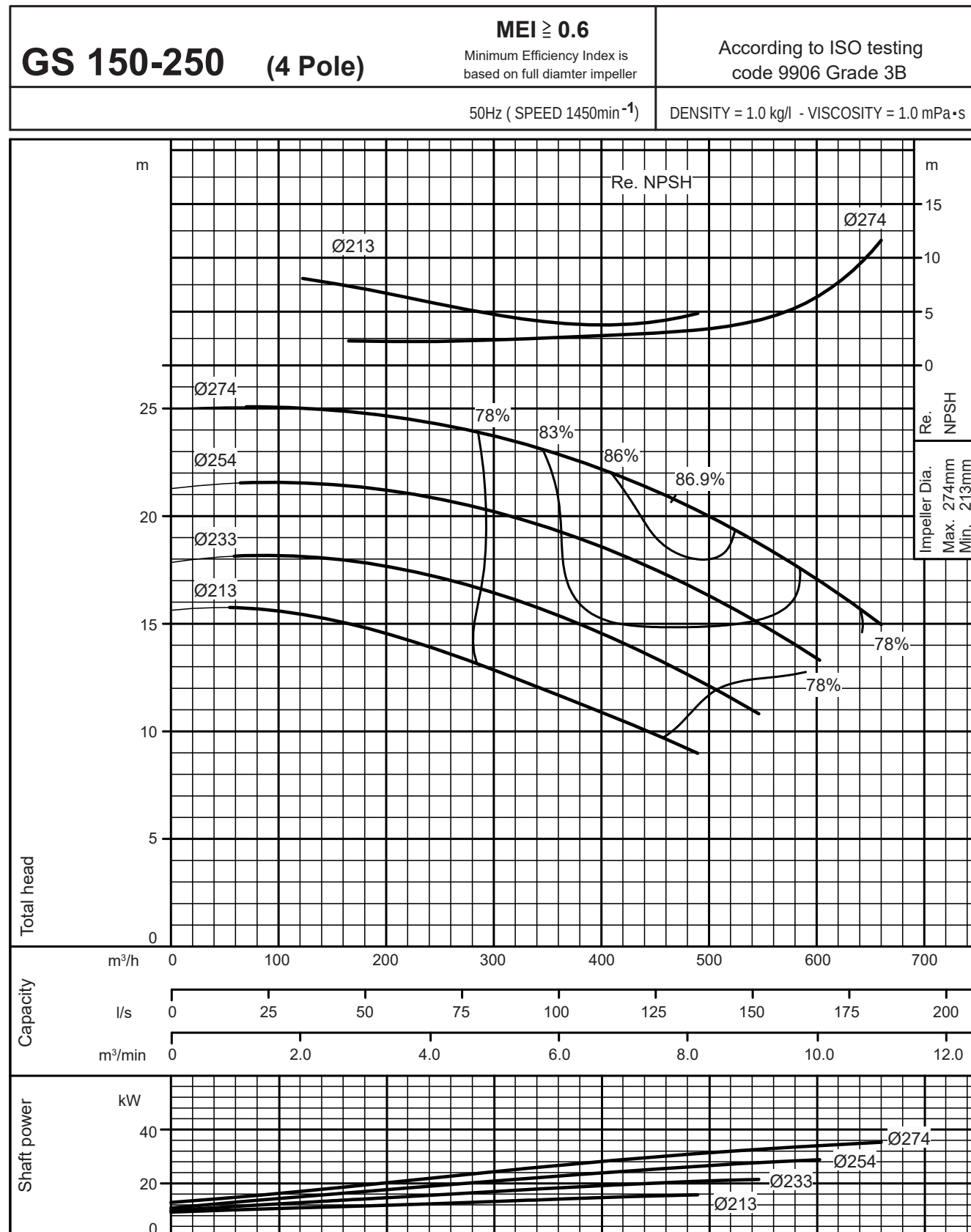
F8-1633630-01

Performance Curve



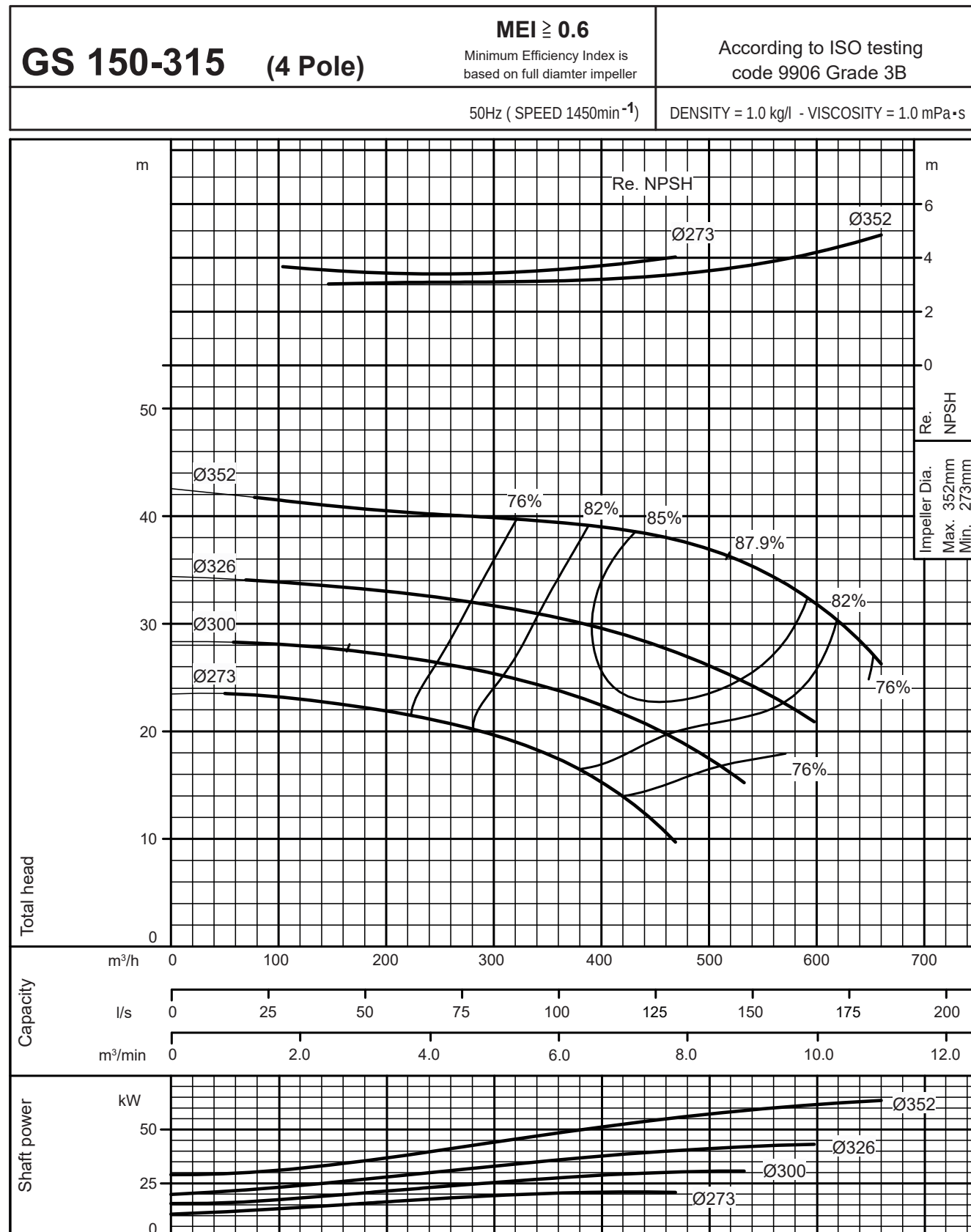
F8-1633631-01

Performance Curve



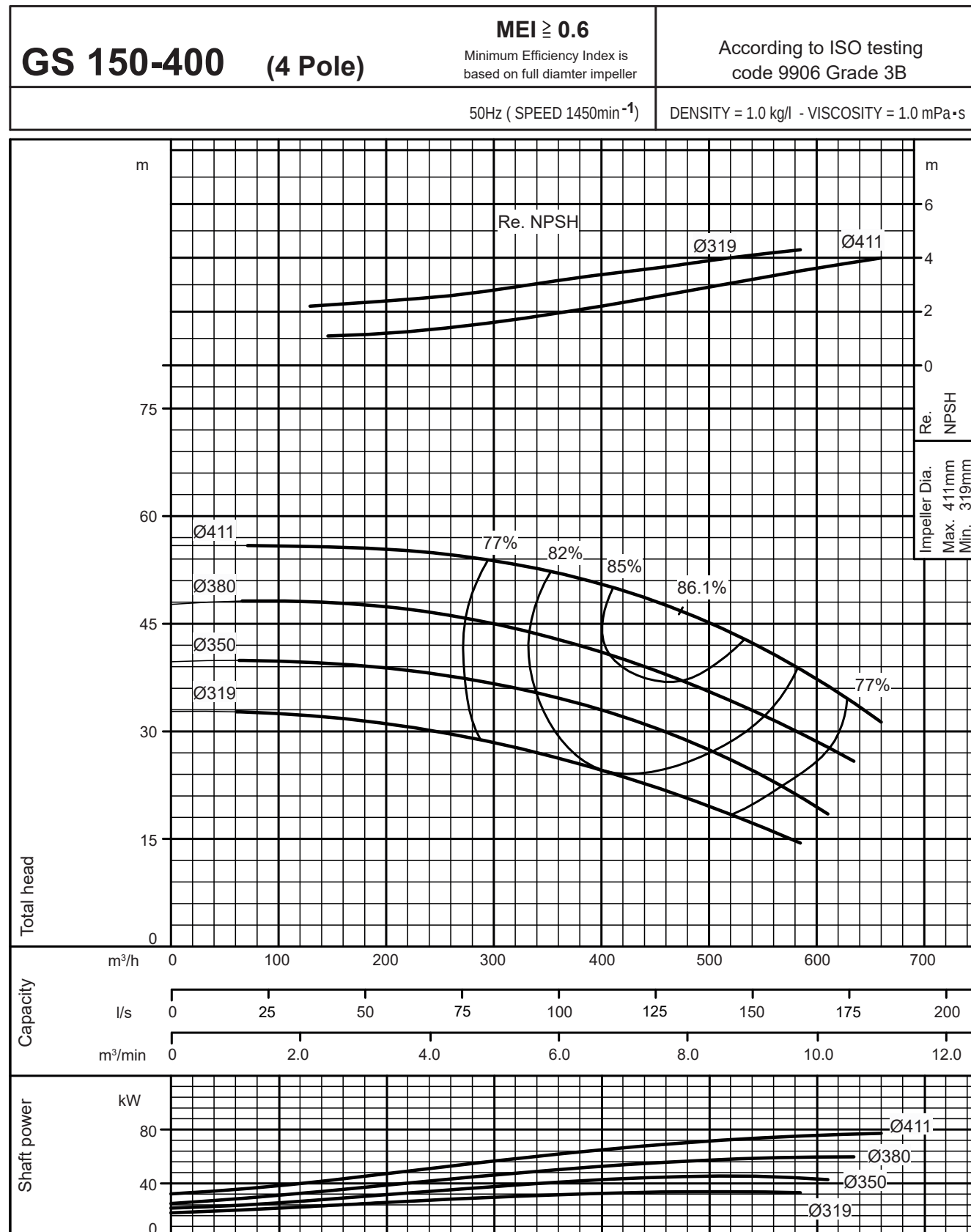
F8-1633632-01

Performance Curve



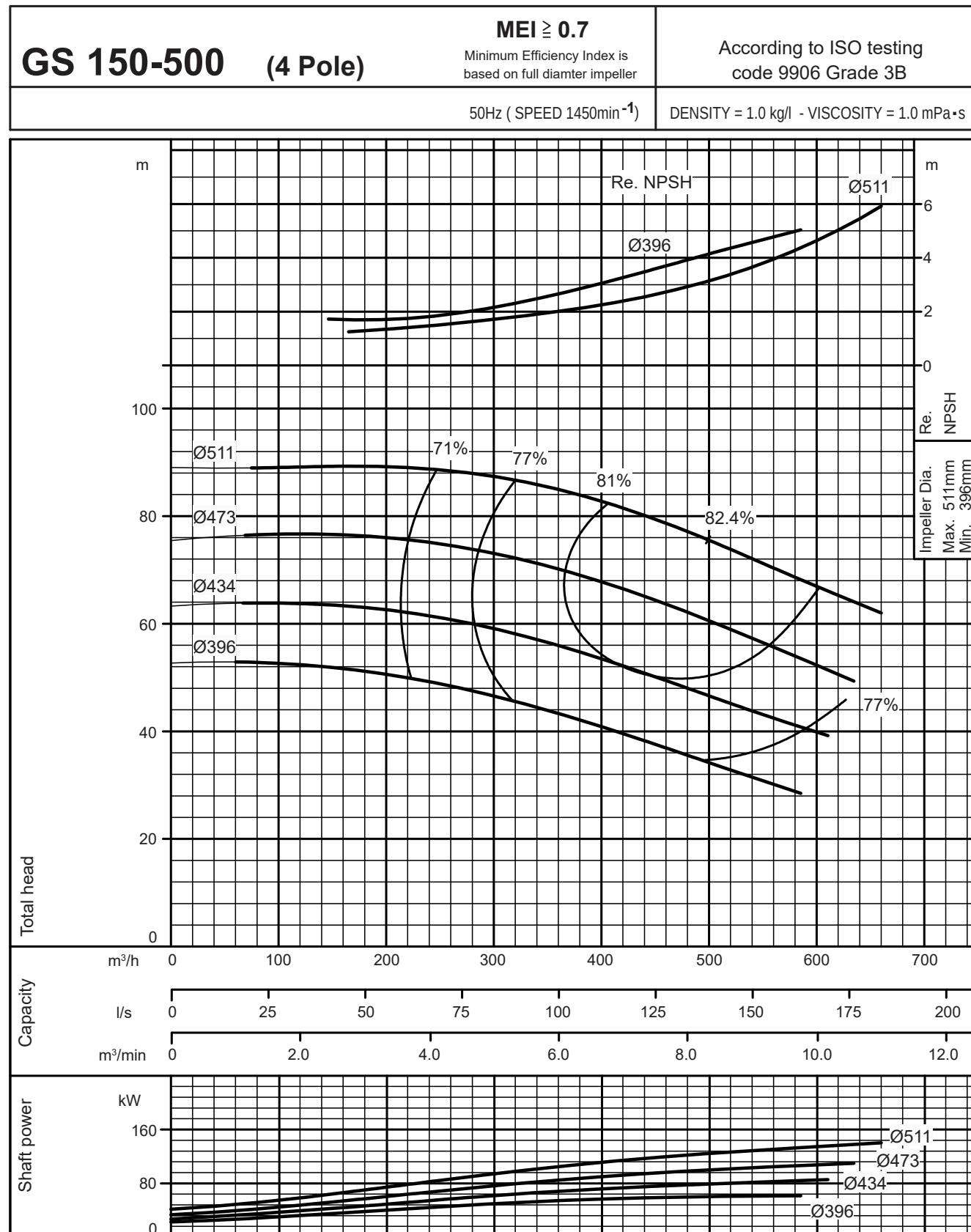
F8-1633633-01

Performance Curve



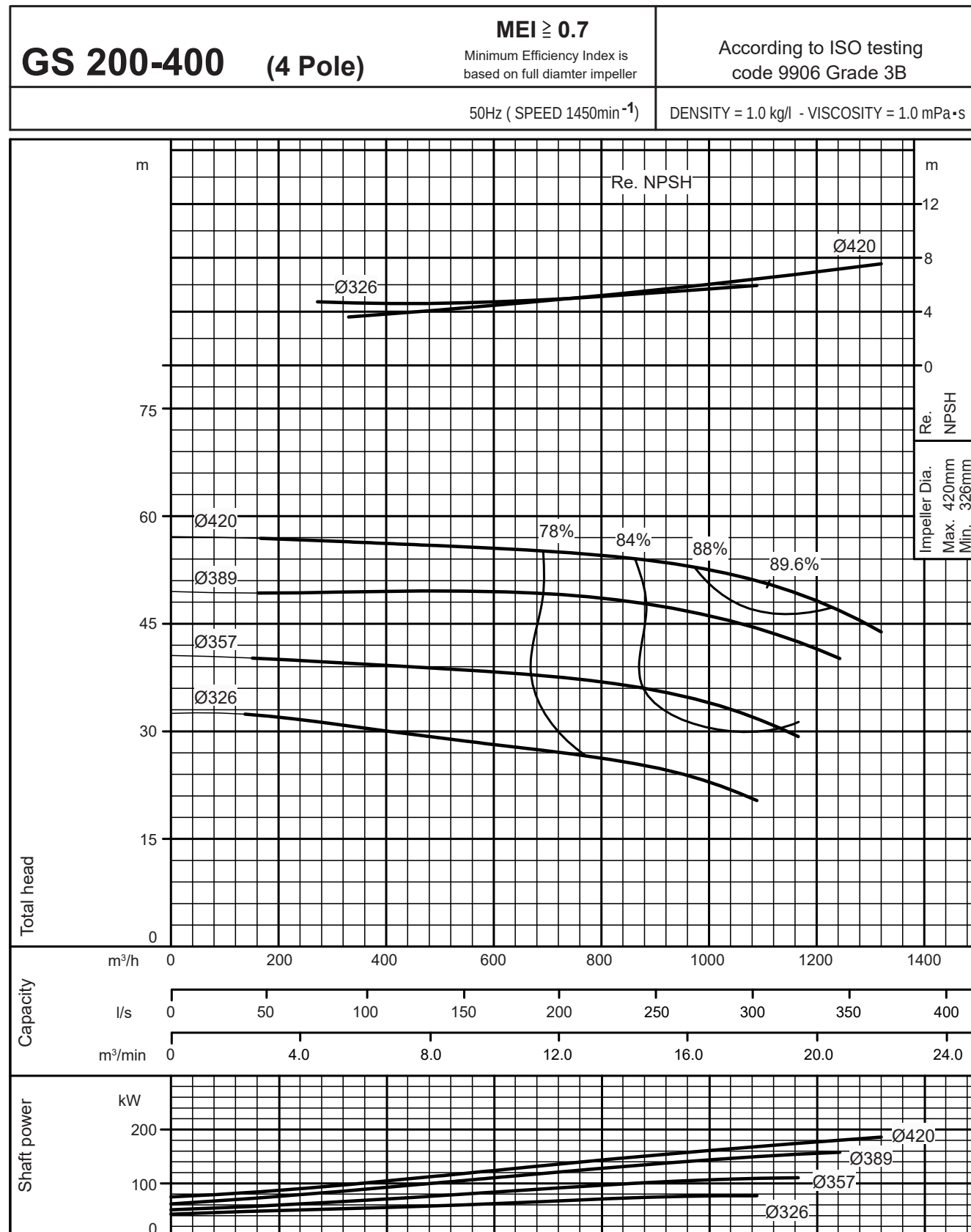
F8-1633634-01

Performance Curve



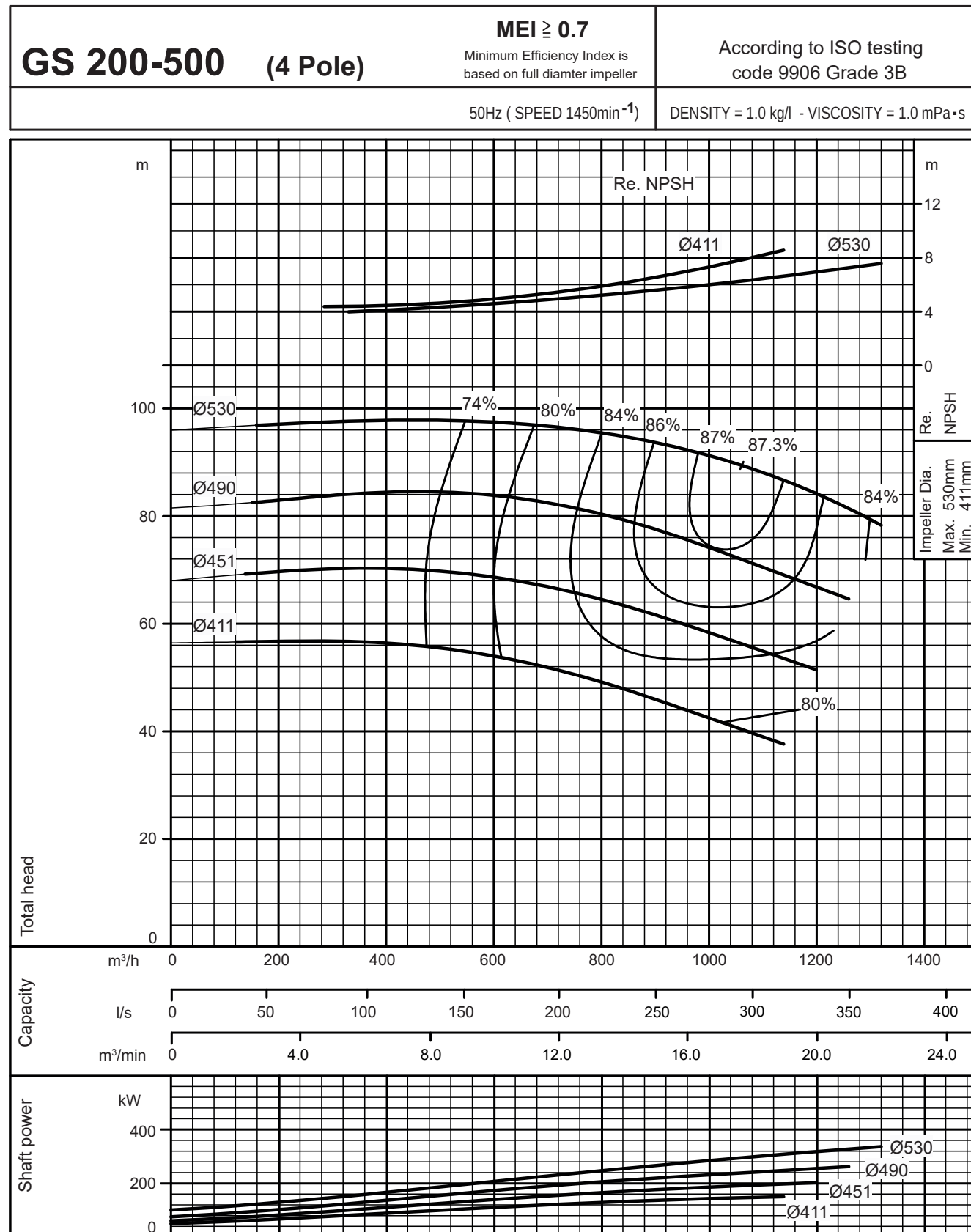
F8-1633635-01

Performance Curve



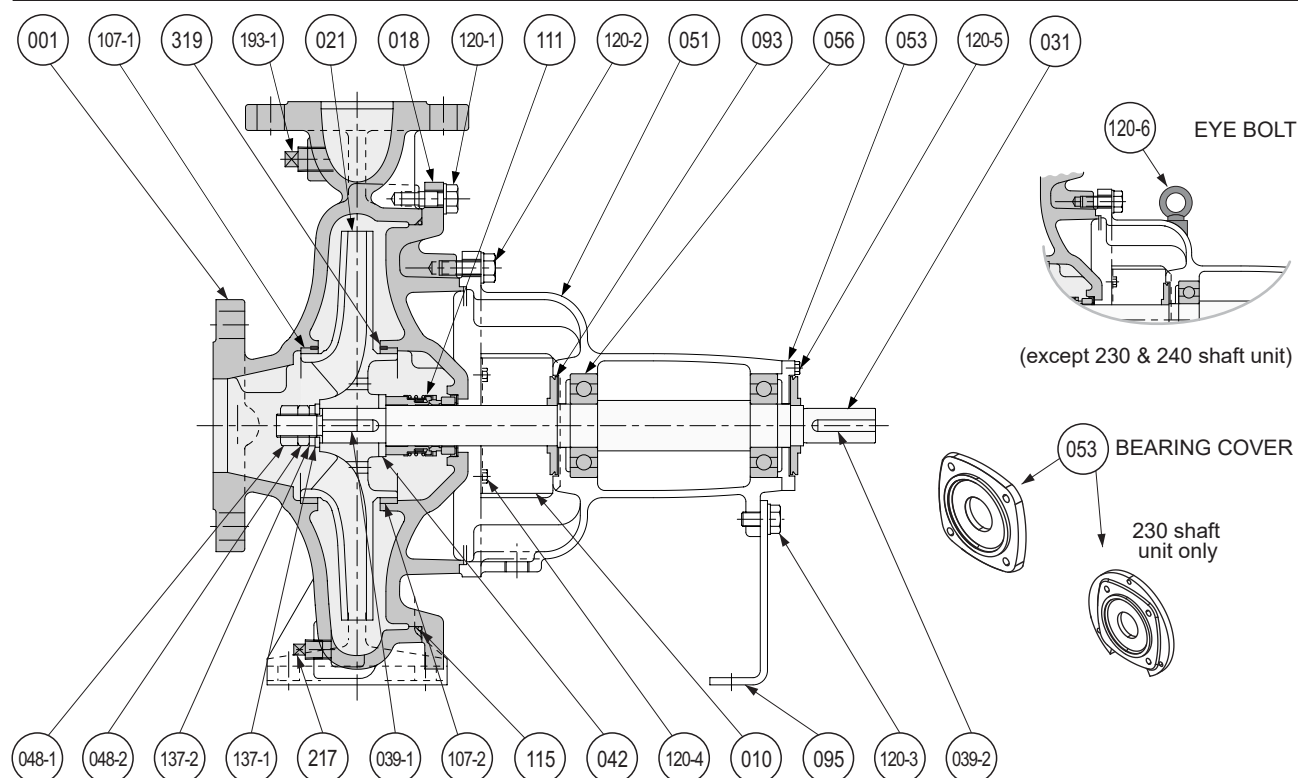
F8-1633636-01

Performance Curve



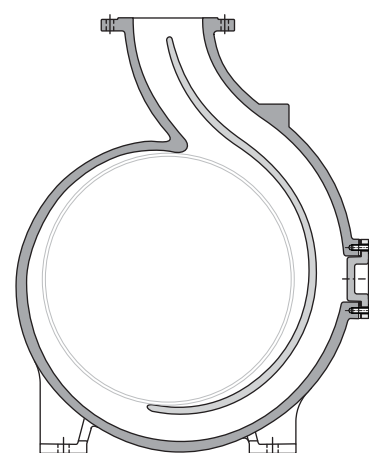
F8-1633637-01

Sectional view and construction



Item No.	Part name	
001	CASING	1
010	PROTECTOR	2
018	CASING COVER	1
021	IMPELLER	1
031	SHAFT	1
039-1	KEY	1
039-2	KEY	1
042	MECHANICAL SEAL SPACER	1
048-1	IMPELLER NUT(A)	1
048-2	IMPELLER NUT(B)	1
051	BEARING HOUSING	1
053	BEARING COVER	1
056	BALL BEARING	2
093	DEFLECTOR	2
095	STAY	1
107-1	CASING RING	1
107-2	CASING RING	1
111	MECHANICAL SEAL	1
115	O-RING	1
120-1	BOLT (with PLAIN WASHER)	X*
120-2	BOLT (with PLAIN WASHER)	6
120-3	BOLT (with PLAIN WASHER)	1
120-4	BOLT (with PLAIN WASHER)	4
120-5	BOLT	4
137-1	PLAIN WASHER	4
137-2	SPRING LOCK WASHER	4
193	PLUG	1
217	DRAIN PLUG	1
319	SPRING PIN	2

X * qty depends on model



Double volute casing
(with handhole cover)

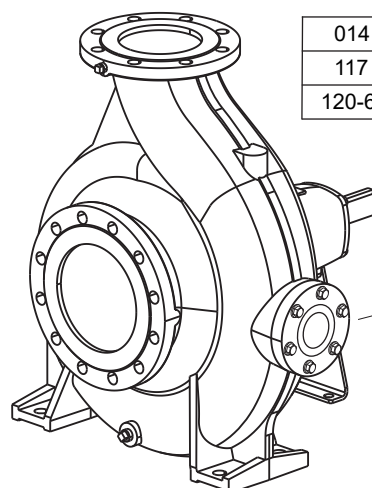
Applicable to models

150-400

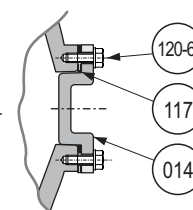
150-500

200-400

200-500



014	HANDHOLE COVER	1
117	HANDHOLE GASKET	1
120-6	BOLT (with PLAIN WASHER)	6



Materials of construction

Item No.	Part name		Materials		
001	CASING	1	Cast Iron (ED painted)	FC250	EN-GJL-250(EN-JL1040)
010	PROTECTOR	2	304 Stainless steel (or steel)#	SUS304 (SS400)#	
011	CASING COVER	1	Cast Iron (ED painted)	FC250	EN-GJL-250(EN-JL1040)
014	HANDHOLE COVER	1	Cast Iron (ED painted)	FC250	
021	IMPELLER	1	Bronze	CAC406	CuSn5Zn5Pb5(CC491K)
031	SHAFT	1	431 Stainless steel	SUS431	X17CrNi16-2(1.4057)
039-1	KEY	1	420 Stainless steel	SUS420J2	X30Cr13(1.4028)
039-2	KEY	1	Carbon steel	S50C	C50(1.0540)
042	MECHANICAL SEAL SPACER	1	304 Stainless steel	SUS304	X5CrNi18-10(1.4301)
048-1	IMPELLER NUT(A)	1	304 Stainless steel	SUS304	X5CrNi18-10(1.4301)
048-2	IMPELLER NUT(B)	1	304 Stainless steel	SUS304	X5CrNi18-10(1.4301)
051	BEARING HOUSING	1	Cast Iron (ED painted)	FC250	EN-GJL-250(EN-JL1040)
053	BEARING COVER	1	Cast Iron (ED painted)	FC250	EN-GJL-250(EN-JL1040)
056	BALL BEARING	2	-		
093	DEFLECTOR	2	Rubber	EPDM	
095	STAY	1	Steel (ED painted)	SS400	
107-1	CASING RING	1	Bronze	CAC406	CuSn5Zn5Pb5(CC491K)
107-2	CASING RING	1	Bronze	CAC406	CuSn5Zn5Pb5(CC491K)
111	MECHANICAL SEAL	1	Elastomer bellows seal	C/SiC/EPDM/316	BQ1EGG
115	O-RING	1	Rubber	EPDM	
117	HANDHOLE GASKET	1	(Joint sheet gasket)	V#6500	
120-1	BOLT (with PLAIN WASHER) (Casing cover to casing)	X*	Steel, Zn plated	SS400	
120-2	BOLT (with PLAIN WASHER) (Bearing housing to casing cover)	6	Steel, Zn plated	SS400	
120-3	BOLT (with PLAIN WASHER) (Stay to bearing housing)	1	Steel, Zn plated	SS400	
120-4	BOLT (with PLAIN WASHER) (Protectors to bearing housing)	4	Steel, Zn plated	SS400	
120-5	BOLT (Bearing cover to bearing housing)	4	Steel, Zn plated	SS400	
120-6	BOLT (with PLAIN WASHER)	6	Steel, Zn plated	SS400	
120-7	EYE BOLT	1	Steel, Zn plated	SS400	
137-1	PLAIN WASHER	4	304 Stainless steel	SUS304	X5CrNi18-10(1.4301)
137-2	SPRING LOCK WASHER	4	304 Stainless steel	SUS304	X5CrNi18-10(1.4301)
193	PLUG	1	Steel, Zn plated	SS	
217	DRAIN PLUG	1	Steel, Zn plated	SS	
319	SPRING PIN	2	420 Stainless steel	SUS420J1	X20Cr13(1.4021)

X* - 6,8,10,12,16 depending on model # Painted steel for 260,270 & 280 shaft units

Mechanical seal

Maker: Eagle Burgmann
 Standard: EN12756
 Liquid handled: Fresh water
 Liquid temperature: -10° to +120° C Note①
 Maximum speed: 3600 rpm (≤48 mm) 1800 rpm ≥55 mm
 Pressure range: -0.5 - 16 bar

Note①

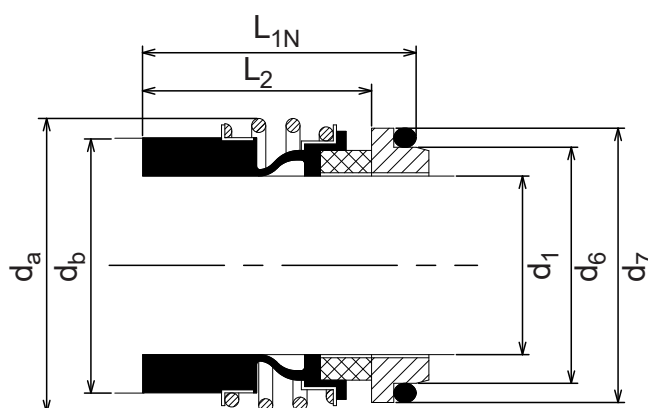
When temperature is >80° C the stuffing box pressure (P_{box}) should be less than 10 bar where

$$P_{box} = (0.05 \times TH) + P_s$$

P_{box} = stuffing box pressure

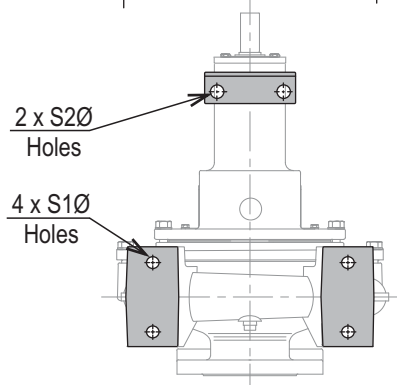
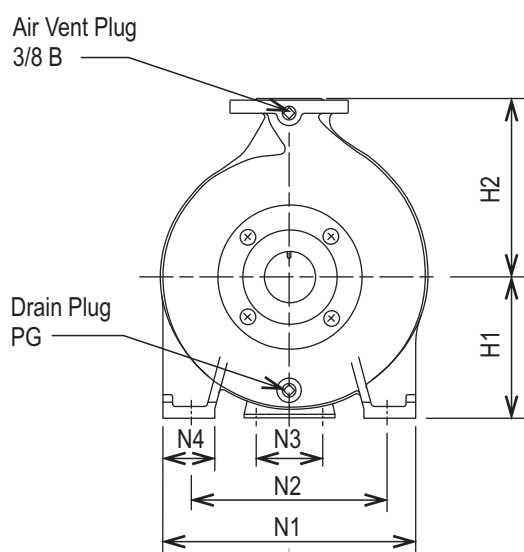
TH = Total Head (Differential pressure)

P_s = Suction Pressure



Shaft unit	Seal model	Dimensions (mm)							Materials			
		d ₁	d _a	d _b	d ₆	d ₇	L _{1N}	L ₂	Rotating Face	Stationary Face	Elastomers	Spring etc.
230#	MG13/28-G6-BQ1EGG	28	49	44	37	43	50	42.5	Carbon Graphite Resin Impregnated (B)	Silicon Carbide (Q1)	EPDM Ethylene Propylene Rubber (E)	316 Stainless Steel (GG)
240#	MG13/38-G6-BQ1EGG	38	59	53	49	56	55	46				
250#	MG13/48-G6-BQ1EGG	48	70.5	63	59	66	60	51				
260#	MG13/55-G6-BQ1EGG	55	81	72	67	75	70	59				
270#	MG13/65-G6-BQ1EGG	65	93.5	84	77	85	80	69				
280#	MG13/75-G6-BQ1EGG	75	107	95	88	97	80	68.7				

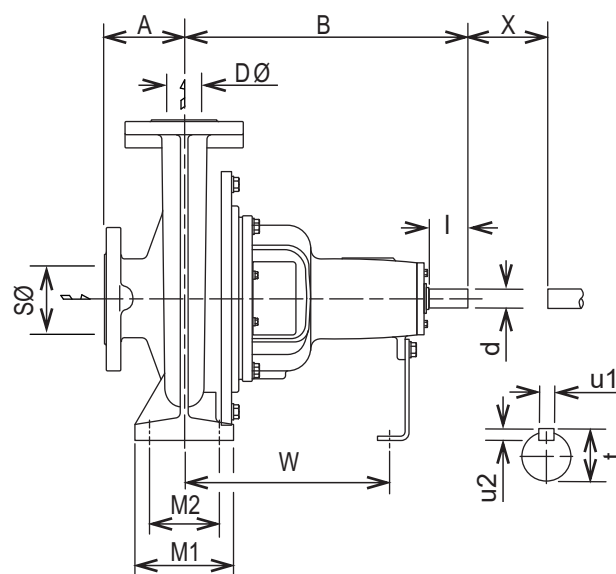
Dimensions - Bare shaft pumps



S2	Bolt
170	M12
190	M16

①

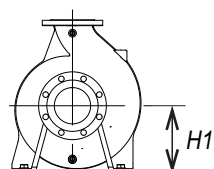
S1	Bolt
150	M12
190	M16
240	M20
270	M24



Shaft unit	② Shaft dimensions in mm				
	d	l	t	u1	u2
230#	24	50	27	8	7
240#	32	80	35	10	8
250#	42	110	45	12	8
260#	48	110	51.5	14	9
270#	60	110	64	18	11
280#	75	125	79.5	20	12

Note:
Following models are not fully compliant to EN 733

③ Dimension note
For 150-315 dimension H1 is 35mm higher than EN standard



④ "L" models

80-315L, 100-315L, 125-250L

The letter "L" following the impeller classification code indicates a larger shaft unit is fitted.
(see page 401 & 502 for more details)

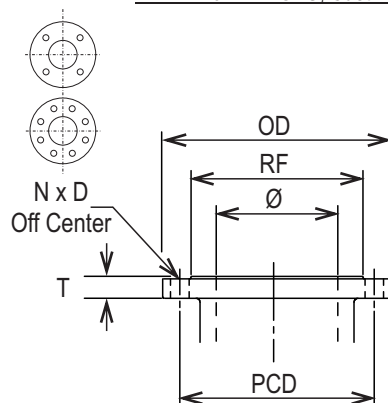
PN16 Flanges
Ø200 & Ø250 flanges vary from PN10 dimensions.

Ø200: N=12 holes (not 8)

Ø250: All dimensions differ

PN 16 Flange Dimensions

EN PN 16 FLANGES, Cast Iron



Model	Suction Flange						Discharge Flange					
	SØ	OD	PCD	RF	T	N x D	DØ	OD	PCD	RF	T	N x D
GS 32	50	165	125	99	20	4x19Ø	32	140	100	76	18	4x19Ø
GS 40	65	185	145	118	20	4x19Ø	40	150	110	84	18	4x19Ø
GS 50	65	185	145	118	20	4x19Ø	50	165	125	99	20	4x19Ø
GS 65	80	200	160	132	22	8x19Ø	65	185	145	118	20	4x19Ø
GS 80	100	220	180	156	24	8x19Ø	80	200	160	132	22	8x19Ø
GS 100	125	250	210	184	26	8x19Ø	100	220	180	156	24	8x19Ø
GS 125	150	285	240	211	26	8x23Ø	125	250	210	184	26	8x19Ø
GS 150	200	340	295	266	30	12x23Ø	150	285	240	211	26	8x23Ø
GS 200	250	405	355	319	32	12x28Ø	200	340	295	266	30	12x23Ø

Dimensions - Bare shaft pumps

Model	Dimensions in mm																	Shaft unit	Wgt kg
	SØ	DØ	A	B	H1	H2	PG	M1	M2	N1	N2	N3	N4	W	S1	S2	X		
32-125	50	32	80	360	112	140	¼"	100	70	190	140	110	50	260	15Ø	17Ø	100	230#	28
32-160			80	360	132	160	¼"	100	70	240	190	110	50	260	15Ø	17Ø	100	230#	29
32-200			80	360	160	180	¼"	100	70	240	190	110	50	260	15Ø	17Ø	100	230#	39
32-250			100	360	180	225	¼"	125	95	320	250	110	65	260	15Ø	17Ø	100	230#	46
40-125	65	40	80	360	112	140	¼"	100	70	210	160	110	50	260	15Ø	17Ø	100	230#	30
40-160			80	360	132	160	¼"	100	70	240	190	110	50	260	15Ø	17Ø	100	230#	31
40-200			100	360	160	180	¼"	100	70	265	212	110	50	260	15Ø	17Ø	100	230#	41
40-250			100	360	180	225	¼"	125	95	320	250	110	65	260	15Ø	17Ø	100	230#	48
40-315			125	470	225	250	¼"	125	95	345	280	110	65	340	15Ø	17Ø	100	240#	82
50-125	65	50	100	360	132	160	¼"	100	70	240	190	110	50	260	15Ø	17Ø	100	230#	33
50-160			100	360	160	180	¼"	100	70	265	212	110	50	260	15Ø	17Ø	100	230#	33
50-200			100	360	160	200	¼"	100	70	265	212	110	50	260	15Ø	17Ø	100	230#	44
50-250			100	360	180	225	¼"	125	95	320	250	110	65	260	15Ø	17Ø	100	230#	50
50-315			125	470	225	280	¼"	125	95	345	280	110	65	340	15Ø	17Ø	100	240#	86
65-125	80	65	100	360	160	180	¼"	125	95	280	212	110	65	260	15Ø	17Ø	100	230#	37
65-160			100	360	160	200	¼"	125	95	280	212	110	65	260	15Ø	17Ø	100	230#	41
65-200			100	360	180	225	¼"	125	95	320	250	110	65	260	15Ø	17Ø	140	230#	47
65-250			100	470	200	250	¼"	160	120	360	280	110	80	340	19Ø	17Ø	140	240#	73
65-315			125	470	225	280	¼"	160	120	400	315	110	80	340	19Ø	17Ø	140	240#	90
80-160	100	80	125	360	180	225	¼"	125	95	320	250	110	65	260	15Ø	17Ø	140	230#	46
80-200			125	470	180	250	¼"	125	95	345	280	110	65	340	15Ø	17Ø	140	240#	67
80-250			125	470	200	280	¼"	160	120	400	315	110	80	340	19Ø	17Ø	140	240#	77
80-315			125	470	250	315	¼"	160	120	400	315	110	80	340	19Ø	17Ø	140	240#	101
80-315L*			125	530	250	315	¼"	160	120	400	315	110	80	370	19Ø	17Ø	140	250#	112
80-400			125	530	280	355	¼"	160	120	435	355	110	80	370	19Ø	17Ø	140	250#	162
100-160	125	100	125	470	200	250	⅜"	160	120	360	280	110	80	340	19Ø	17Ø	140	240#	91
100-200			125	470	200	280	⅜"	160	120	360	280	110	80	340	19Ø	17Ø	140	240#	103
100-250			140	470	225	280	⅜"	160	120	400	315	110	80	340	19Ø	17Ø	140	240#	108
100-315			140	470	250	315	⅜"	160	120	400	315	110	80	340	19Ø	17Ø	140	240#	109
100-315L*			140	530	250	315	⅜"	160	120	400	315	110	80	370	19Ø	17Ø	140	250#	134
100-400			140	530	280	355	⅜"	200	150	500	400	110	100	370	24Ø	17Ø	140	250#	189
125-200	150	125	140	470	250	315	⅜"	160	120	400	315	110	80	340	19Ø	17Ø	140	240#	120
125-250			140	470	250	355	⅜"	160	120	400	315	110	80	340	19Ø	17Ø	140	240#	131
125-250L*			140	530	250	355	⅜"	160	120	400	315	110	80	370	19Ø	17Ø	140	250#	148
125-315			140	530	280	355	⅜"	200	150	500	400	110	100	370	24Ø	17Ø	140	250#	176
125-400			140	530	315	400	⅜"	200	150	500	400	110	100	370	24Ø	17Ø	140	250#	218
125-500			180	670	375	450	⅜"	200	150	550	450	140	100	500	24Ø	19Ø	140	260#	365
150-200	200	150	160	470	280	355	⅜"	200	150	500	400	110	100	340	24Ø	17Ø	140	240#	154
150-250			160	530	280	375	⅜"	200	150	500	400	110	100	370	24Ø	17Ø	140	250#	171
150-315#			160	530	315	400	⅜"	200	150	550	450	110	100	370	24Ø	17Ø	140	250#	225
150-400			160	530	315	450	½"	200	150	550	450	110	100	370	24Ø	17Ø	140	250#	339
150-500			180	670	375	560	½"	200	150	550	450	140	100	500	24Ø	19Ø	180	270#	491
200-400	250	200	180	670	385	560	½"	315	250	660	560	140	100	500	24Ø	19Ø	180	270#	508
200-500			200	820	435	630	½"	315	250	660	560	160	100	630	27Ø	19Ø	180	280#	645

(*) "L" models (#) Dimension note
Refer to page 400

① Hole details ② Shaft details
Refer to page 400

MEI - Minimum Efficiency Index

N/A = not applicable

Model	MEI	
	2 Pole	4 Pole
32-125	≥0.7	≥0.6
32-160	≥0.6	≥0.7
32-200	≥0.7	≥0.7
32-250	≥0.7	≥0.7
40-125	≥0.6	≥0.6
40-160	≥0.7	≥0.6
40-200	≥0.7	≥0.7
40-250	≥0.7	≥0.7
40-315	≥0.7	≥0.7
50-125	≥0.6	≥0.6
50-160	≥0.7	≥0.7
50-200	≥0.7	≥0.7
50-250	≥0.7	≥0.7
50-315	≥0.7	≥0.7
65-125	≥0.6	≥0.6
65-160	≥0.6	≥0.6
65-200	≥0.7	≥0.7
65-250	≥0.7	≥0.7
65-315	≥0.7	≥0.7
80-160	≥0.7	≥0.7
80-200	≥0.7	≥0.7
80-250	≥0.7	≥0.7
80-315	N/A	≥0.7
80-315L	≥0.7	N/A
80-400	N/A	≥0.7
100-160	≥0.6	≥0.6
100-200	≥0.7	≥0.6
100-250	≥0.7	≥0.6
100-315	N/A	≥0.7
100-315L	≥0.7	N/A
100-400	N/A	≥0.7
125-200	≥0.7	≥0.7
125-250	N/A	≥0.6
125-250L	≥0.7	N/A
125-315	≥0.7	≥0.7
125-400	N/A	≥0.7
125-500	N/A	≥0.6
150-200	≥0.7	≥0.7
150-250	≥0.7	≥0.6
150-315	N/A	≥0.6
150-400	N/A	≥0.6
150-500	N/A	≥0.7
200-400	N/A	≥0.7
200-500	N/A	≥0.7

Minimum/Maximum impeller diameters

Important note:

XXX^R

^R = Reduced Max.
for 2 Pole model

For the models indicated
the maximum allowable
impeller diameter at 2 pole
speed is less than the full
size diameter and must be
trimmed accordingly



N/A = not applicable

Model	2 Pole 50 Hz		4 Pole 50 Hz	
	Min. Ø	Max. Ø	Min. Ø	Max. Ø
32-125	106	142	106	142
32-160	139	177	139	177
32-200	175	219	170	219
32-250	198	262	198	262
40-125	105	142	105	142
40-160	134	177	134	177
40-200	172	219	172	219
40-250	211	260	211	260
40-315	256	326 ^R	263	334
50-125	111	144	111	144
50-160	131	177	131	177
50-200	171	219	171	219
50-250	210	270	210	270
50-315	277	324 ^R	277	344
65-125	120	147	120	147
65-160	135	177	135	177
65-200	162	219	162	219
65-250	215	273	215	273
65-315	258	320	261	320
80-160	147*	177	147*	177
80-200	170*	222	170*	222
80-250	220	270	220	270
80-315	N/A	N/A	262	334
80-315L	265	334	N/A	N/A
80-400	N/A	N/A	335	438
100-160	149	183	149	183
100-200	171	220	171	220
100-250	210	265 ^R	210	270
100-315	N/A	N/A	242	312
100-315L	242	312	N/A	N/A
100-400	N/A	N/A	320	412
125-200	174	224	174	224
125-250	N/A	N/A	213	274
125-250L	213	274	N/A	N/A
125-315	259	309 ^R	259	334
125-400	N/A	N/A	329	424
125-500	N/A	N/A	396	511
150-200	181*	224*	181*	224*
150-250	213	250 ^R	213	274
150-315	N/A	N/A	273	352
150-400	N/A	N/A	319	411
150-500	N/A	N/A	396	511
200-400	N/A	N/A	326	420
200-500	N/A	N/A	411	530

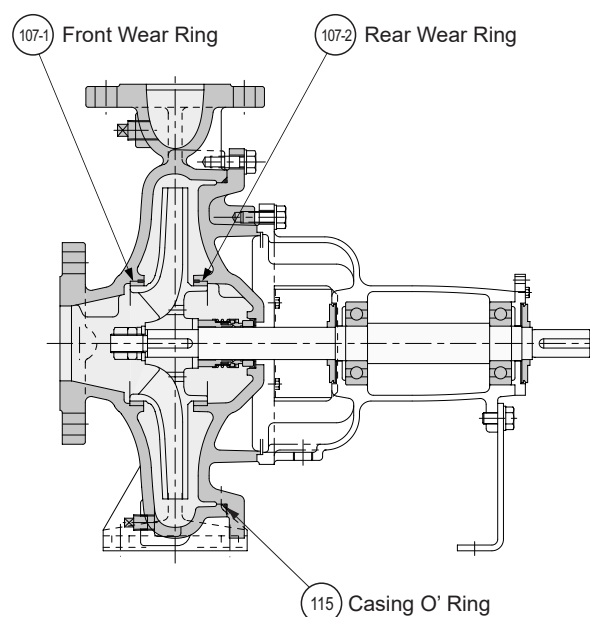
Applicable motor speeds

Model	50 Hz		60 Hz	
	2 Pole 2900 rpm	4 Pole 1450 rpm	2 Pole 3500 rpm	4 Pole 1750 rpm
32-125	■	■	■	■
32-160	■	■	■	■
32-200	■	■	■	■
32-250	■	■	■	■
40-125	■	■	■	■
40-160	■	■	■	■
40-200	■	■	■	■
40-250	■	■	■	■
40-315	■	■	N/A	■
50-125	■	■	■	■
50-160	■	■	■	■
50-200	■	■	■	■
50-250	■	■	■	■
50-315	■	■	N/A	■
65-125	■	■	■	■
65-160	■	■	■	■
65-200	■	■	■	■
65-250	■	■	■	■
65-315	■	■	N/A	■
80-160	■	■	■	■
80-200	■	■	■	■
80-250	■	■	■	■
80-315	N/A	■	N/A	■
80-315L	■	N/A	N/A	N/A
80-400	N/A	■	N/A	■
100-160	■	■	■	■
100-200	■	■	■	■
100-250	■	■	N/A	■
100-315	N/A	■	N/A	■
100-315L	■	N/A	N/A	N/A
100-400	N/A	■	N/A	■
125-200	■	■	■	■
125-250	N/A	■	N/A	■
125-250L	■	N/A	■	N/A
125-315	■	■	N/A	■
125-400	N/A	■	N/A	■
125-500	N/A	■	N/A	■
150-200	■	■	■	■
150-250	■	■	N/A	■
150-315	N/A	■	N/A	■
150-400	N/A	■	N/A	N/A
150-500	N/A	■	N/A	■
200-400	N/A	■	N/A	■
200-500	N/A	■	N/A	■

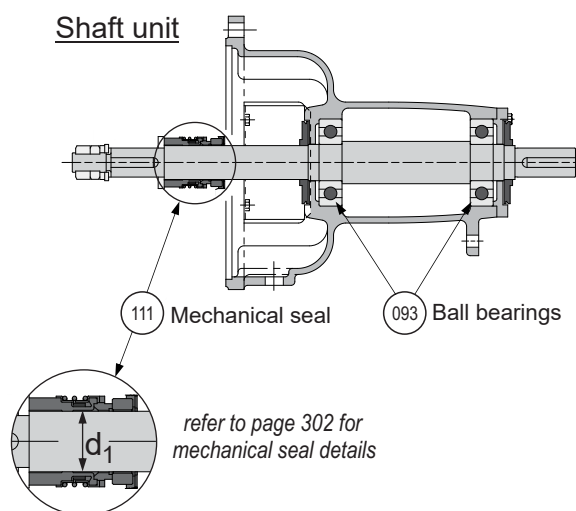
■ = applicable
N/A = not applicable

Nominal dimensions of parts

Model	Shaft unit	Casing O' Ring	Wear Ring	
			Front	Rear
32-125	230#	3.53x183.74	76	76
32-160	230#	3.53x183.74	76	76
32-200	230#	3.53x234.54	76	76
32-250	230#	3.53x278.99	76	76
40-125	230#	3.53x183.74	88	88
40-160	230#	3.53x183.74	88	88
40-200	230#	3.53x234.54	88	88
40-250	230#	3.53x278.99	88	88
40-315	240#	3.53x355.19	100	100
50-125	230#	3.53x183.74	100	100
50-160	230#	3.53x183.74	100	100
50-200	230#	3.53x234.54	100	100
50-250	230#	3.53x278.99	100	100
50-315	240#	3.53x355.19	116	116
65-125	230#	3.53x183.74	116	116
65-160	230#	3.53x183.74	116	116
65-200	230#	3.53x234.54	116	116
65-250	240#	3.53x278.99	116	116
65-315	240#	3.53x355.19	132	132
80-160	230#	3.53x183.74	132	132
80-200	240#	3.53x234.54	132	132
80-250	240#	3.53x278.99	148	148
80-315	240#	3.53x355.19	148	148
80-315L	250#	3.53x355.19	148	148
80-400	250#	3.53x456.06	148	148
100-160	240#	3.53x183.74	148	153
100-200	240#	3.53x234.54	158	158
100-250	240#	3.53x278.99	158	158
100-315	240#	3.53x355.19	158	162
100-315L	250#	3.53x355.19	158	162
100-400	250#	5.33x456.06	168	168
125-200	240#	3.53x234.54	168	158
125-250	240#	3.53x278.99	178	168
125-250L	250#	3.53x278.99	178	178
125-315	250#	3.53x355.19	188	178
125-400	250#	5.33x456.06	188	188
125-500	260#	3.53x532.26	200	200
150-200	240#	3.53x234.54	178	162
150-250	250#	3.53x278.99	212	212
150-315	250#	3.53x355.19	212	212
150-400	250#	5.33x456.06	236	236
150-500	270#	5.33x532.26	250	250
200-400	270#	5.33x456.06	278	278
200-500	280#	5.33x532.26	278	278



Shaft unit



Shaft unit	Mech. seal d_1 (mm)	Ball bearings
230#	24	6306ZZ
240#	32	6308ZZ
250#	42	6310ZZ
260#	48	6312ZZ
270#	60	6314ZZ
280#	75	6316ZZ

Noise levels - Pump only

Overall Sound Pressure Level dB(A)		
Model	2 Pole 2900 rpm	4 pole 1450 rpm
32-125	64	52
32-160	68	54
32-200	72	58
32-250	73	62
40-125	66	54
40-160	70	58
40-200	73	62
40-250	76	63
40-315	81	69
50-125	70	54
50-160	72	58
50-200	76	63
50-250	78	67
50-315	83	71
65-125	70	58
65-160	74	62
65-200	77	65
65-250	81	69
65-315	85	72
80-160	76	63
80-200	81	69
80-250	84	71
80-315	—	74
80-315L	87	—
80-400	—	78
100-160	77	65
100-200	81	69
100-250	85	72
100-315	—	74
100-315L	87	—
100-400	—	78
125-200	84	71
125-250	—	74
125-250L	87	—
125-315	89	77
125-400	—	79
125-500	—	81
150-200	84	71
150-250	89	77
150-315	—	79
150-400	—	80
150-500	—	84
200-400	—	85
200-500	—	88

Note: The overall sound pressure level is the value measured 1m away from the pump unit, and does not include driver noise.