

TECHNICAL DATA BOOK

MODEL: FSA (50 Hz)

EBARA END SUCTION VOLUTE PUMP



EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

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SPECIFICATION FEATURES AND MAIN APPLICATION

PRODUCT FEATURES

SIMPLE MAINTENANCE	• Easy removal and maintenance, BPO (Back Pull Out) system allows all rotating elements can be removed without disconnecting suction and discharge pipe work. • Top centreline discharge, foot support under casing for maximum resistance due to misalignment and distortions from pipe loads. • Shield bearings eliminate need for adding or exchanging lubricating oil.
PUMP SPECIFICATION	• Non-overload design to ensure stable performance for all applications. • Wider range application with flow capacity up to 22 m³/min. • Higher working pressure up to 16 bar. • Liquid temperature range expansion : 0°C to 80°C • Compatible with multiple flange standards (optional for DIN) • Able to meet customer specifications with many combinations of shaft seals and materials (optional request)
INTERNATIONAL STANDARD	• Pump dimensions and basic design adopt JIS B 8313

MAIN APPLICATION

- Industrial use
- Water supply
- Hot and cold-water supply
- For swimming pool
- Sprinkling
- Air conditioning
- Fire-fighting application

SPECIFICATION - GENERAL DESCRIPTION

DESCRIPTION	STANDARD	OPTIONAL
Capacities	To 6 m ³ /min (2 Pole, 50Hz & 60Hz)	
	To 22 m ³ /min (4 Pole, 50Hz & 60Hz)	
Head	To 155 m (2 Pole, 50Hz & 60Hz)	
	To 95 m (4 Pole, 50Hz & 60Hz)	
Liquid temperatures	0°C to 80°C	
Max. working pressures	10 bars for standard flange JIS 10K RF	
	16 bars for standard flange JIS 16K RF	
Materials	Casing: Cast Iron	Ductile Cast Iron
	Impeller: Bronze	Cast Iron, Cast Stainless
Standards	JIS B 8313	
Rotation	Clockwise viewed from coupling end	

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SPECIFICATION – DESIGN DETAILS

FEATURES

- Horizontal foot mounting
- Back pull-out design
- Single stage
- Radially split volute casing

SHAFT SEAL

- Gland Packing
- Single Mechanical seal

BEARING AND LUBRICANT

- Shield ball bearing (Grease lubrication/Free maintenance ball bearing)
- Optional: Open ball bearing (Oil-lubricated/Oil-Bath).
- This option is limited for below models:
- 65x50 FSHA, 80x65 FSJA, 100x80 FSJA, 150x125 FSLA, 125x100 FSKA, 150x100 FSNA, 150x125 FSJA, 150x125 FSKA, 150x125 FSLA, 200x150 FSJA, 200x150 FSKA, 200x150 FSNA, 250x200 FSNA

IMPELLER

- Closed
- Single suction type and balancing holes to reduce axial thrust

APPLICABLE FLANGE STANDARD

JIS 10K	(Suction < $\varnothing$ 150 mm, except 100x65 FSKA)
	(Suction = $\varnothing$ 150 mm, except 150x100 FSKA, 150x100 FSNA)
	(Suction = $\varnothing$ 200 mm, except 200x150 FSLA, 200x150 FSNA)
JIS 16K	(Suction = $\varnothing$ 250 mm and above mention exception JIS 10K)
	(100x65 FSKA, 150x100 FSKA, 150x100 FSNA, 200x150 FSLA, 200x150 FSNA)
	(Optional for Suction $\leq \varnothing$ 150 mm)
DIN PN16	(Optional)

PAINTING

INNER SURFACE (STANDARD)

Primer coating	Zinc chromate primer
Final coating	Non painting
Finish color	Grey

OUTER SURFACE (STANDARD)

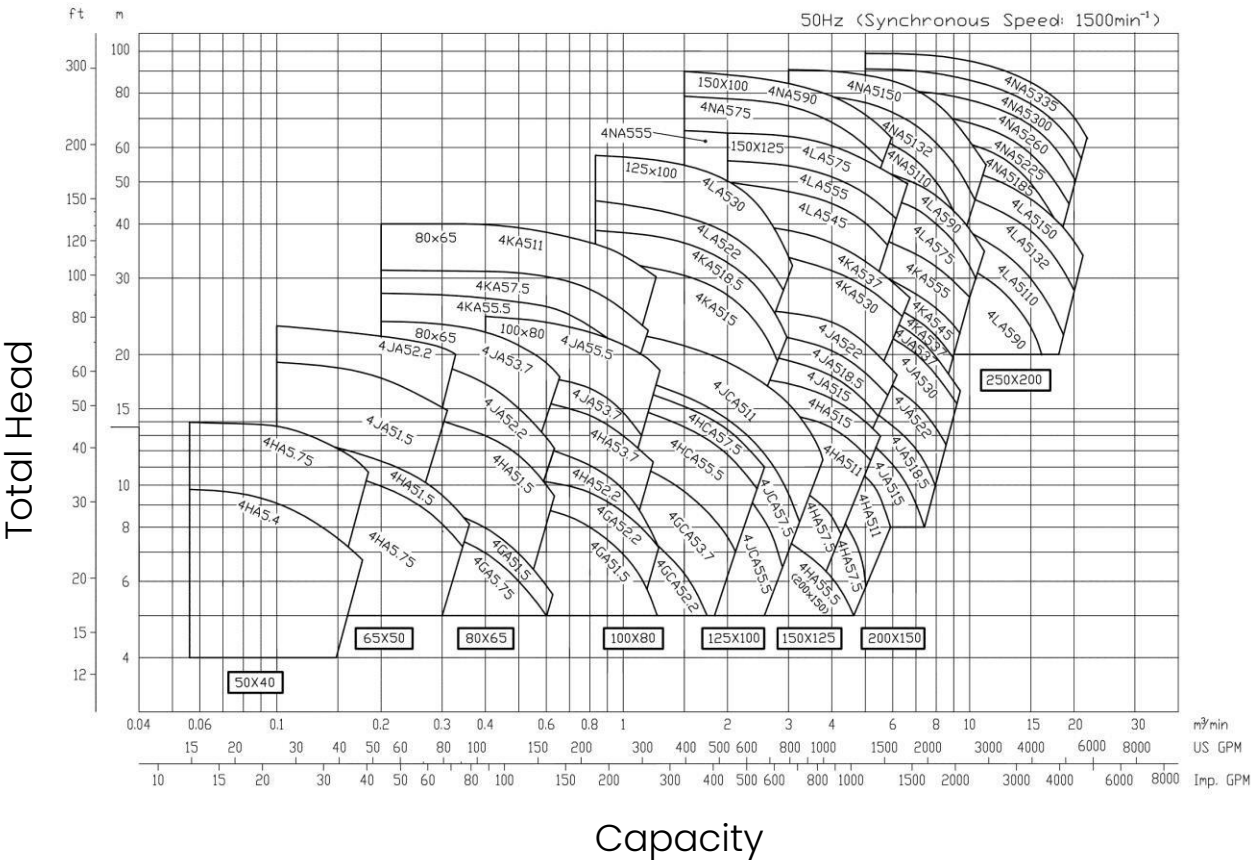
Primer coating	Zinc chromate primer
Final coating	Phthalic resin enamel
Finish color	Grey

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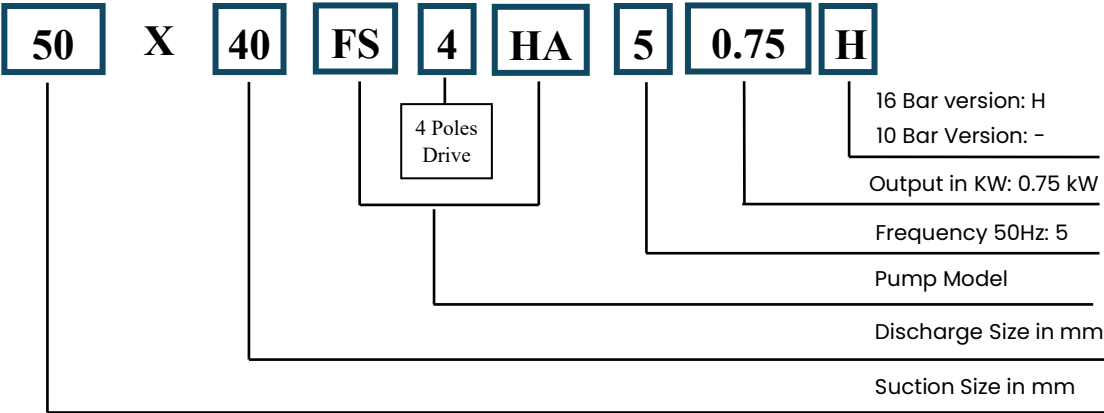
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PERFORMANCE CHART – MODEL CODE (1/2)

Performance Chart – 4 Pole – 50 Hz



Model Code – 4 Pole – 50 Hz

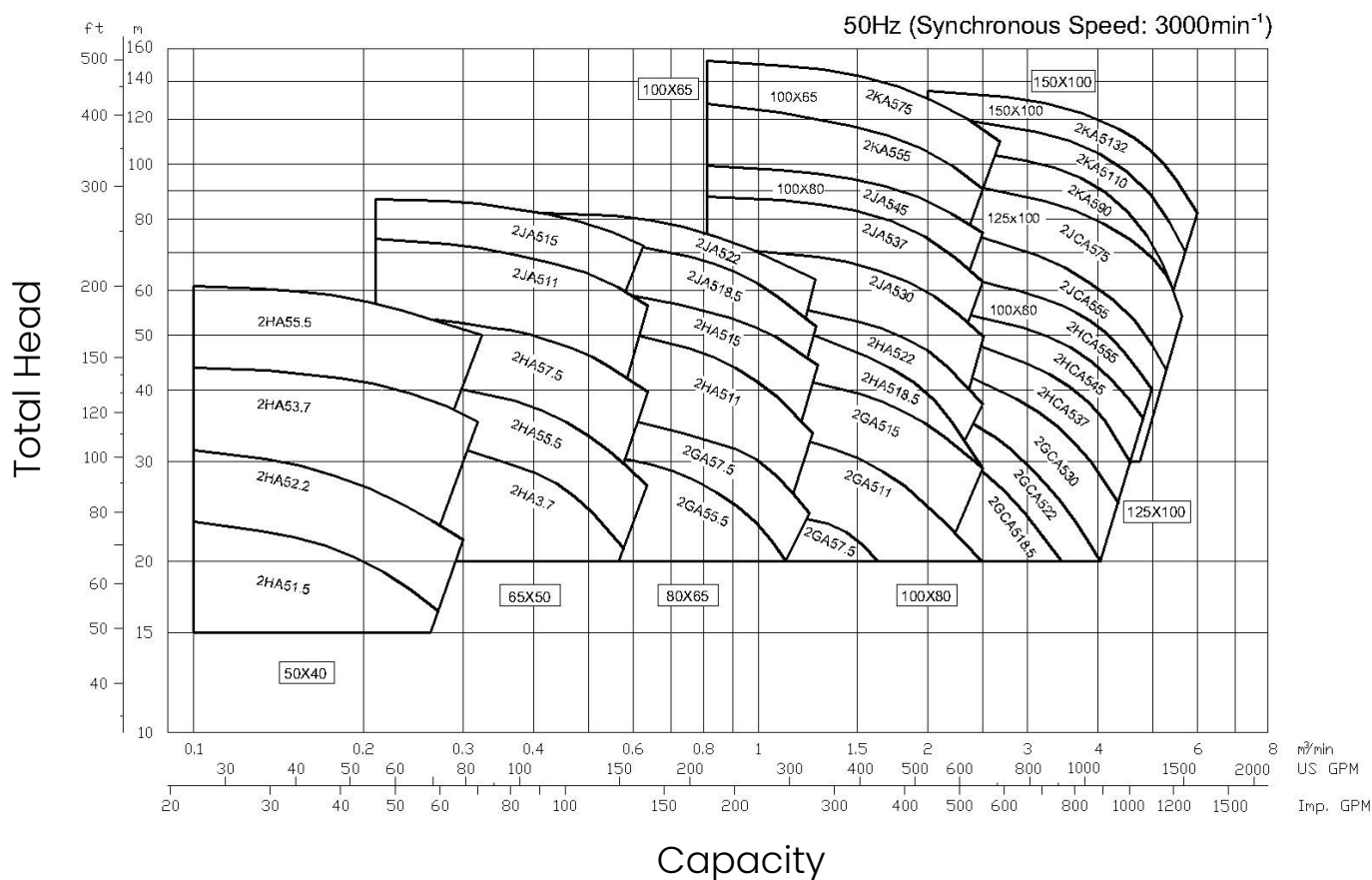


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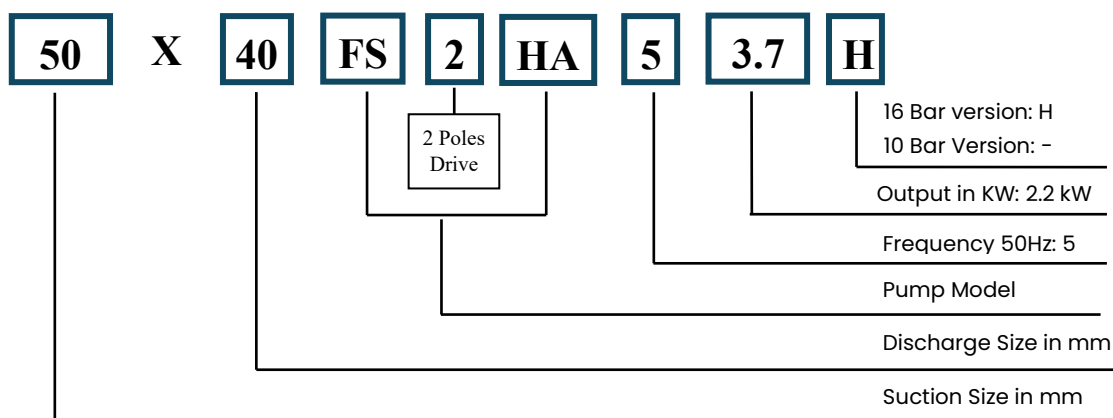
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PERFORMANCE CHART – MODEL CODE (2/2)

Performance Chart – 2 Pole – 50 Hz



Model Code – 2 Pole – 50 Hz



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PUMP MODEL FSA 50 Hz

SPECIFICATIONS

Pump

Description		Standard		Optional	
		2 pole model	4 pole model	2 pole model	4 pole model
Liquid	Name	Clean water			
	Temperature	0 to 80 °C (32 to 176 °F)			
Max. Working Pressure		10 bar for standard flange JIS 10K RF		16 bar (16.3 kgf/cm²)	
		16 bar for standard flange JIS 16K RF		20 bar (20.4 kgf/cm²)	
Synchronous Speed		3000 min ⁻¹	1500 min ⁻¹		
Installation		Indoor/Outdoor			
Construction	Impeller	Enclosed			
	Shaf seal	Mechanical seal		Gland Packing	
	Sealing	Self-flushing		External flushing	
	Bearing	Sealed ball bearing		Oil bath (some models only)	
Flange	Suction & Discharge	Suction < ϕ 150 mm, except bellow model	: JIS 10K RF	JIS 16K, JIS 20K, DIN PN16	
		100x65 FSKA	: JIS 16K RF		
		Suction = ϕ 150 mm, except below models	: JIS 10K RF		
		150x100 FSKA; 150x100 FSNA	: JIS 16K RF		
		Suction = ϕ 200 mm, except below models	: JIS 10K RF		
		200x150 FSLA; 200x150 FSNA	: JIS 16K RF		
		Suction = ϕ 250	: JIS 16K RF		
Material	Casing	Cast Iron		Ductile Cast Iron (FCD)	
	Impeller	Bronze Casting (CAC406/BC6)		Cast iron; Ductile Cast Iron (FCD) some model only	
	Shaft	Stainless Steel (SUS403), Several Models SUS316		SCS13, SCS14	
	Seal	Mechanical Seal: Ceramic/Carbon/NBR		Gland Packing: Carbonized fiber, Teflon (PTFE) impregnated	
				Mechanical Seal: SiC/Car/EPDM, Sic/Car/FKM, SiC/SiC/FKM	
Accessories	Bare shaft			Priming funnel, Companion Flange, Pressure gauge compound gauge.	
	With motor	Common base, Coupling, Coupling guard			

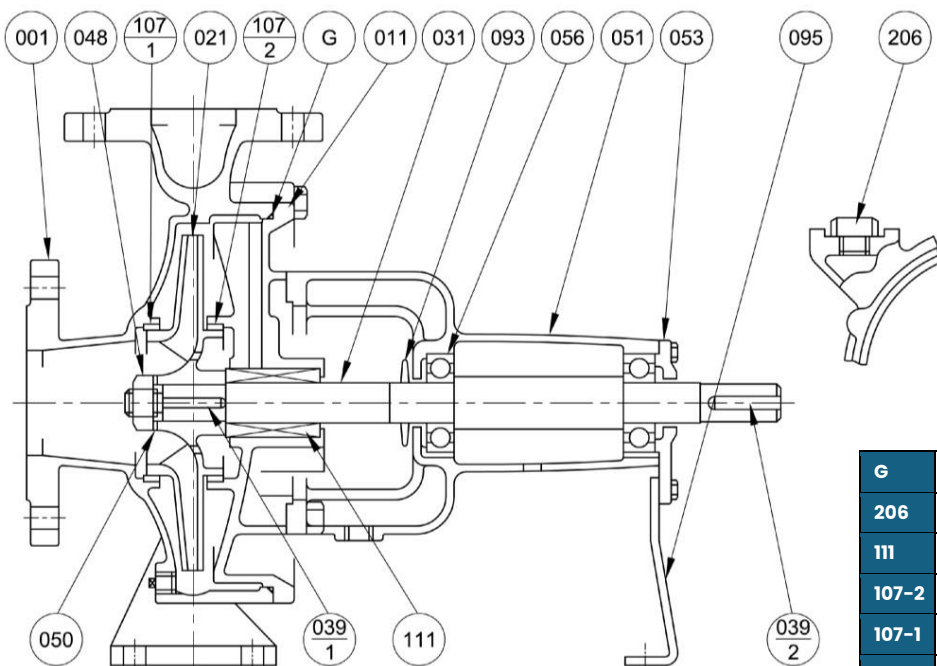
Model Code – 2 Pole – 50 Hz

Part Name	Material (JIS Code)	Standard		Optional Inner Surface
		Inner Surface	Outer Surface	
Casing	Cast Iron (FC)	1 coat of Alkyd primer	Under Coat: -1 coat of Alkyd primer	Glass Flake Coating, Epoxy Coating
Bearing Housing Bearing Cover	Cast Iron (FC)		Finish coat: -1 coat of Alkyd resin base enamel	
Common Base	Cast Iron (FC)	Under Coat: -1 coat of Alkyd primer		
	Steel	Finish coat: -1 coat of Alkyd resin base enamel		

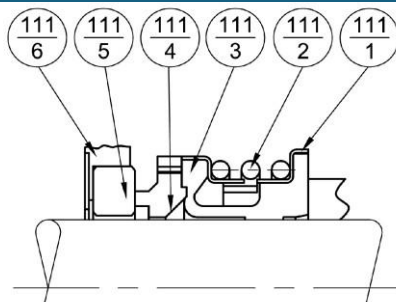
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SECTIONAL – MECHANICAL SEAL TYPE (STANDARD)



Mechanical Seal Type (Standard)
Model EA



111-6	Cup Gasket	NBR	1
111-5	Matting Ring	Ceramic	
111-4	Seal Ring	Carbon	
111-3	Bellows	NBR	
111-2	Coil Spring	Stainless Steel	
111-1	Spring Holder		
No.	Part Name	Material	Qty

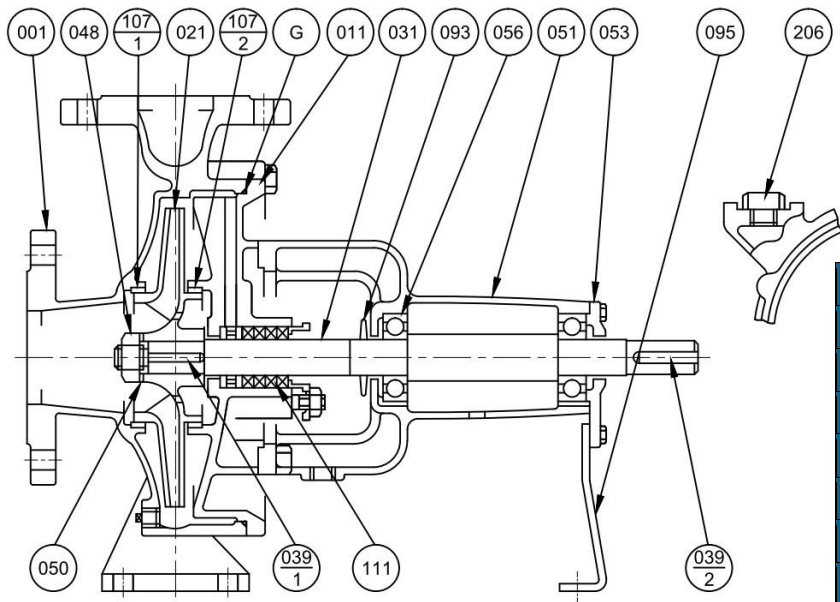
G	O-Ring	Rubber	1
206	Plug	Steel	
111	Mechanical Seal	-	
107-2	Casing Ring	Bronze	
107-1	Casing Ring		
095	Bearing Support	Steel	
093	Deflector	Rubber	
056	Ball Bearing	-	2
053	Bearing Cover	Cast Iron	1
051	Bearing Housing		
050	Impeller Nut Washer	Brass	
048	Impeller Nut		
039-2	Coupling Key	Steel	
039-1	Impeller Key	Stainless steel	
031	Shaft		
021	Impeller	Bronze	
011	Casing Cover	Cast Iron	
001	Casing		
No.	Part Name	Material	Qty

Recommended Spare Part			
No.	Part Name	Expected Life (Year)	Qty/ Unit
056	Ball Bearing	3	2
107	Casing Ring	2	2
111	Mechanical Seal	1	1
-	Coupling Rubber	2	1 Set

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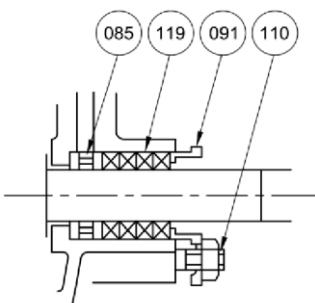
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SECTIONAL – MECHANICAL SEAL TYPE (OPTIONAL)



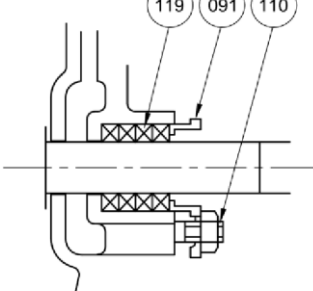
G	O-Ring	Rubber	1
206	Plug	Steel	
111	Gland Packing	Carbonized fiber	
107-2	Casing Ring	Bronze	
107-1	Casing Ring		
095	Bearing Support	Steel	
093	Deflector	Rubber	
056	Ball Bearing	-	2
053	Bearing Cover	Cast Iron	1
051	Bearing Housing		
050	Impeller Nut Washer	Brass	
048	Impeller Nut		
039-2	Coupling Key	Steel	
039-1	Impeller Key	Stainlesssteel	
031	Shaft		
021	Impeller	Bronze	
011	Casing Cover	Cast Iron	
001	Casing		
No.	Part Name	Material	Qty

Gland Packing with Lantern



119	Gland Packing	Carbonized fiber	4 or 5
110	Gland Bolt	Brass	2
091	Gland	Brass	1
085	Lantern Ring	Bronze	
No.	Part Name	Material	Qty

Gland Packing without Lantern Ring



119	Gland Packing	Carbonized fiber	4 or 5
110	Gland Bolt	Brass	2
091	Gland	Brass	1
No.	Part Name	Material	Qty

Pump Model:

50x40 FSHA; 65x50 FSHA, FSJA;
80x65 FSGA, FSHA;
100x80 FSGA; 125x100 FSJA;
150x100 FSKA, FSNA;

Pump Model:

80x65 FSJA, FSKA;
100x65 FSKA;
100x80 FSHA, FSJA, FSGCA, FSHCA;
125x100 FSJCA, FSKA; 150x125 FSHA,
FSJA; 200x150 FSHA, FSKA.

Recommended Spare Part

No.	Part Name	Expected Life (Year)	Qty/ Unit
056	Ball Bearing	3	2
107	Casing Ring	2	2
111	Gland Packing	1	1 Set
-	Coupling Rubber	2	1 Set

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SPARE PARTS – SHAFT SEAL, GASKET AND BEARING

Model	Mechanical Seal	O-Ring/ Gasket	Gland Packing Size mm	Qty of Gland Packing	Ball Bearing
50x40 FSHA	25	Gs-225	41x25x8	4	6305 ZZ
65x50 FSHA	25	Gs-225	41x25x8	4	6305 ZZ
80x65 FSGA	25	Gs-185	41x25x8	4	6305 ZZ
80x65 FSHA		Gs-225			
80x65 FSJA	35	Gs-275	51x35x8		6307 ZZ
80x65 FSKA		Gs-335			
100x65 FSKA	40	Gs-335	56x40x8	4	6208 ZZ
100x80 FSGA	25	Gs-185	41X25X8	4	6305 ZZ
100x80 FSHA	35	Gs-225	51X35X8		6307 ZZ
100x80 FSJA		Gs-275			
100x80 FSGCA	35	Gs-195			
100x80 FSHCA		Gs-225			
125x100 FSJCA	40	Gs-275	56x40x8	4	6208 ZZ
125x100 FSKA	35	Gs-335	51x35x8		6307 ZZ
125x100 FSLA	45	Gs-415	65x45x10	5	6309 ZZ
150x100 FSKA	50	370x320x0.8T	70x50x10	4	6310 ZZ
150x100 FSNA	55	560x515x0.8T	75x55x10	5	6312 ZZ
150x125 FSHA	35	Gs-225	51x35x8	4	6307 ZZ
150x125 FSJA		Gs-275			
150x125 FSKA	45	Gs-335	65x45x10	5	6309 ZZ
150x125 FSLA		Gs-425			
200x150 FSHA	35	Gs-225	51x35x8	4	6307 ZZ
200x150 FSJA	45	Gs-275	65x45x10	5	6309 ZZ
200x150 FSKA	55	Gs-335	75x55x10		6312 ZZ
200x150 FSLA		450x415x0.8T			
200x150 FSNA	65	560x515x0.8T	90x65x12.5		
250x200 FSLA	65	493x440x0.8T	90x65x12.5	5	6313 ZZ
250x200 FSNA	75	615x550x0.8T	104x75x14.5		

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MOTOR AND COUPLING (1/3)

4 Pole – 1500 rpm

MODEL	MOTOR		COUPLING CLA	SHAFT DIAMETER	
	POWER	FRAME		PUMP	MOTOR
	kW	No.		φ P (mm)	φ M (mm)
50x40 FSHA	0,4	71	112	24	14
	0,75	80			19
65x50 FSHA	0,75	80	112	24	19
	1,5	90L	112	24	24
65x50 FSJA	1,5	90L	112	24	24
	2,2	100L	125		28
80x65 FSGA	0,75	80	112	24	19
	1,5	90L	112	24	24
80x65 FSHA	1,5	90L	112	24	24
80x65 FSJA	2,2	100L	140	32	28
	3,7	112M			
80x65 FSKA	5,5	132S	160	32	38
	7,5	132M			
	11	160M			42
100x80 FSGA	1,5	90L	112	24	24
	2,2	100L	125		28
100x80 FSHA	2,2	100L	140	32	28
	3,7	112M			
100x80 FSJA	3,7	112M	140	32	28
	5,5	132S	160		38
100x80 FSGCA	2,2	100L	140	32	28
	3,7	112M			
100x80 FSHCA	5,5	132S	160	32	38
	7,5	132M			
125x100 FSJCA	5,5	132S	160	38	38
	7,5	132M			
	11	160M			42
125x100 FSKA	15	160L	160	32	42
	18,5	180MC	180		48
125x100 FSLA	22	180LC	180	42	48
	30	200LC	200		55
150x125 FSHA	7,5	132M	160	32	38
	11	160M			
	15	160L			42
150x125 FSJA	15	160L	160	32	42
	18,5	180MC	180		
	22	180LC			48

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PUMP MODEL FSA 50 Hz

MOTOR AND COUPLING (2/3)

4 Pole – 1500 rpm (Continued)

150x125 FSKA	30	200LC	200	42	55
	37	225SC	224		60
150x125 FSLA	45	225MC	224	42	60
	55	250SC	250		70
	75	250MC			
150x100 FSNA	55	250SC	250	48	70
	75	250MC			280
	90	280SC			
200x150 FSHA	5,5	132S	160	32	38
	7,5	132M			42
	11	160M			
200x150 FSJA	15	160L	160	42	42
	18,5	180MC	180		48
	22	180LC			200
	30	200LC			
200x150 FSKA	37	225SC	224	48	60
	45	225MC			250
	55	250SC			
200x150 FSLA	75	250MC	250	48	70
	90	280SC	280		80
200x150 FSNA	110	280MC	280	60	80
	132	315SC	315		85
	150	315MC			
250x200 FSLA	90	280SC	280	60	80
	110	280MC			
	132	315SC			
	150	315MC			
250x200 FSNA	185	315MB	315	74	85
	225	315AB	355		95
	260	315CB			
	300				
	335				

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PUMP MODEL FSA 50 Hz

MOTOR AND COUPLING (3/3)

2 Pole – 3000 rpm

MODEL	MOTOR		COUPLING CLA	SHAFT DIAMETER	
	POWER kW	FRAME		PUMP	MOTOR
		No.			
50x40 FSHA	1,5	90S	112	24	24
	2,2	90L			
	3,7	112M	125		28
	5,5	132S	160		38
65x50 FSHA	3,7	112M	125	24	28
	5,5	132S	160		38
	7,5				
	65X50 FSJA	11	160M	160	24
15					
80x65 FSGA	5,5	132S	160	24	38
	7,5				
80X65 FSHA	11	160M	160	24	42
	15				
80X65 FSJA	18,5	160L	160	32	42
	22	180MA	180		48
100X80 FSGA	7,5	132S	160	24	38
	11	160M			42
	15				
100X80 FSHA	18,5	160L	160	32	42
	22	180MA	180		48
100X80 FSJA	30	200LA	200	32	55
	37	200LA			
	45	225MA			
100x65 FSKA	55	250SA	224	38	60
	75	250MA			
100X80 FSGCA	18,5	160L	160	32	42
	22	180MA	180		48
	30	200LA	200		55
100X80 FSHCA	37	200LA	200	32	55
	45	225MA			
	55	250SA	224		60
125X100 FSJCA	55	250SA	224	38	60
	75	250MA			
150x100 FSKA	90	280SA	250	42	65
	110	280MA			
	132	315SA			

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PUMP MODEL FSA 50 Hz

SPECIFICATION – APPLICABLE MODEL

- Applicable

MODEL		50Hz		60Hz		REMARKS
		2900 min-1	1450 min-1	3500 min-1	1750 min-1	
50x40 FSHA		•	•	•	•	
65x50 FSHA		•	•	•	•	
65x50 FSJA		•	•	•	•	
80x65 FSGA		•	•	•	•	
80x65 FSHA		•	•	•	•	
80x65 FSJA		•	•	•	•	
80x65 FSKA		-	•	-	•	
100x80 FSGA		•	•	•	•	
100x80 FSHA		•	•	•	•	
100x80 FSJA		•	•	•	•	
100x80 FSGCA		•	•	•	•	
100x80 FSHCA		•	•	•	•	
100x65 FSKA		•		•		
125x100 FSJCA		•	•	•	•	
125x100 FSKA		-	•	-	•	
125x100 FSLA		-	•	-	•	
150x100 FSKA		•		•		
150x125 FSHA		-	•	-	•	
150x125 FSJA		-	•	-	•	
150x125 FSKA		-	•	-	•	For 60Hz, Pump length is shorter than 50Hz
150x125 FSLA		-	•	-	•	For 60Hz, Pump length is shorter than 50Hz
150x100 FSNA		-	•	-	•	
200x150 FSHA		-	•	-	•	
200x150 FSJA		-	•	-	•	For 60Hz, Pump length is shorter than 50Hz
200x150 FSKA		-	•	-	•	For 60Hz, Pump length is shorter than 50Hz
200x150 FSLA		-	•	-	•	
200x150 FSNA		-	•	-	•	
250x200 FSLA		-	•	-	•	
250x200 FSNA		-	•	-	•	

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SPECIFICATION – APPLICABLE MODEL

MODEL	50Hz				60Hz				REMARKS
	2P		4P		2P		4P		
	Max	Min	Max	Min	Max	Min	Max	Min	
50X40 FSHA	209	143	209	165	209	164	209	155	
65x50 FSHA	209	166	209	165	209	166	209	163	
65X50 FSJA	250	184	261	210	225	180	261	210	
80X65 FSGA	176	147	176	140	176	147	176	140	
80X65 FSHA	215	180	215	215	197	180	215	175	
80X65 FSJA	261	182	261	210	222	180	261	210	
80X65 FSKA	-	-	333	277	-	-	333	277	
100X65 FSKA	333	277	-	-	281	265	-	-	
100X80 FSGA	180	150	180	145	166	150	180	145	
100X80 FSHA	223	187	223	180	222	180	223	180	
100X80 FSJA	269	216	269	215	233	216	269	215	
100x80 FSGCA	193	166	193	166	193	166	193	166	
100X80 FSHCA	223	187	223	187	205	187	223	187	
125X100 FSJCA	273	216	273	216	243	216	273	216	
125X100 FSKA	-	-	333	275	-	-	333	275	
125X100 FSLA	-	-	413	340	-	-	413	340	
150X100 FSKA	333	266	-	-	288	266	-	-	
150X125 FSHA	-	-	224	180	-	-	224	180	
150X125 FSJA	-	-	274	222	-	-	261	222	
150X125 FSKA	-	-	334	270	-	-	334	270	
150X125 FSLA	-	-	424	332	-	-	378	332	
150X100 FSNA	-	-	511	409	-	-	448	382	
200X150 FSHA	-	-	224	191	-	-	224	191	
200X150 FSJA	-	-	274	222	-	-	274	222	
200X150 FSKA	-	-	334	286	-	-	334	286	
200X150 FSLA	-	-	411	329	-	-	370	329	
200X150 FSNA	-	-	511	409	-	-	460	409	
250X200 FSLA	-	-	436	349	-	-	399	349	
250X200 FSNA	-	-	542	434	-	-	461	407	

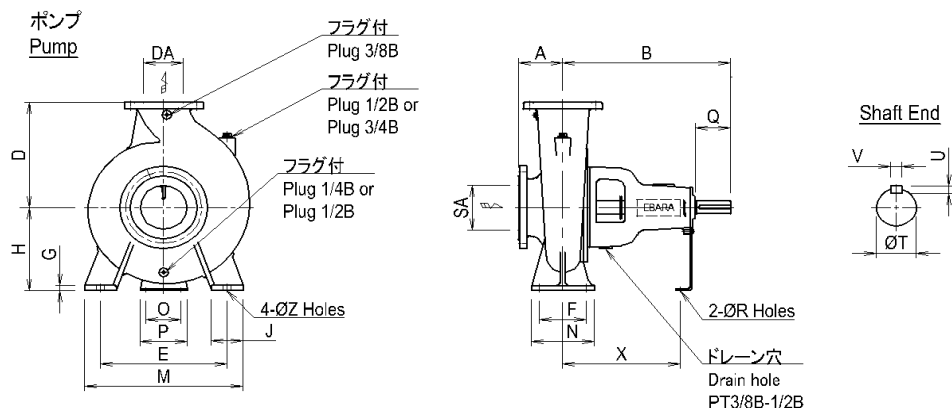
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TECHNICAL DATA – SHAFT NO. AND SHAFT DIAMETER

DIMENSION – BARE SHAFT PUMP (10 BAR MODEL) ½

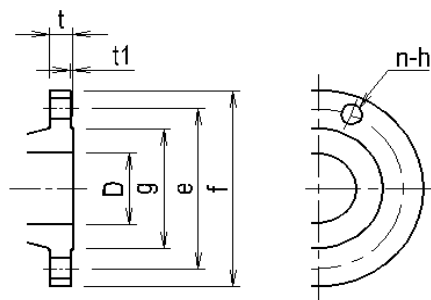
PUMP



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	tl mm	t mm	n	h mm
40	140	105	81	2	20	4	19
50	155	120	96	2	20	4	19
65	175	140	116	2	22	4	19
80	185	150	126	2	22	8	19
100	210	175	151	2	24	8	19
125	250	210	182	2	24	8	23
150	280	240	212	2	26	8	23
200	330	290	262	2	26	12	23

フランジ
Flange



DIMENSION PUMP

Model	Size		Pump															Shaft				wt kg
	SA	DA	A	B	H	D	E	F	G	J	M	N	O	P	R	X	Z	T	Q	U	V	
50x40 FSHA	50	40	80	360	160	180	190	70	12	50	240	100	110	150	17	285	15	24	50	7	8	37
65x50 FSHA	65	50	100	360	160	180	212	70	12	50	265	100	110	150	17	285	15	24	50	7	8	42
65x50 FSJA					180	225	250	95	14	65	320	125										49
80x65 FSGA	80	65	100	360	160	180	212	70	12	50	265	100	110	150	17	285	15	24	50	7	8	39
80x65 FSHA					200	225	250	95	14	65	320	125										48
80x65 FSJA					180	225	250	95	14	65	320	125										60
80x65 FSKA					125	280	315	120	16	80	400	160				370	19	32	80	8	10	108
100x80 FSGA	100	80	100	360	160	200	212	95	14	65	280	125	110	150	17	285	15	24	50	7	8	49
100x80 FSHA					180	225	250	15	80	320	62											
100x80 FSJA					200	250	280	120	15	80	360	160					70					
100x80 FSGCA					225	250	95	14	65	320	62											
100x80 FSHCA			125	280	315	120	16	80	400	160	370	19	32	80	8	10	65					
125x100 FSJCA	125	100	140	360	225	280	315	120	16	80	400	160	110	150	17	285	19	38	80	8	10	108
125x100 FSKA				470	250	315	315	120	16	80	400	160				32	80	8	10	128		
125x100 FSLA				530	280	355	400	150	20	100	500	200				24	42	110	8	12	168	
150x125 FSHA	150	125	140	470	250	315	315	120	16	80	400	160	110	150	17	370	19	32	80	8	10	120
150x125 FSJA					355	355	355	120	16	80	400	160					32	80	8	10	128	
200x150 FSHA	200	150	160	470	280	355	400	150	18	100	500	200	110	150	17	370	24	32	80	8	10	137

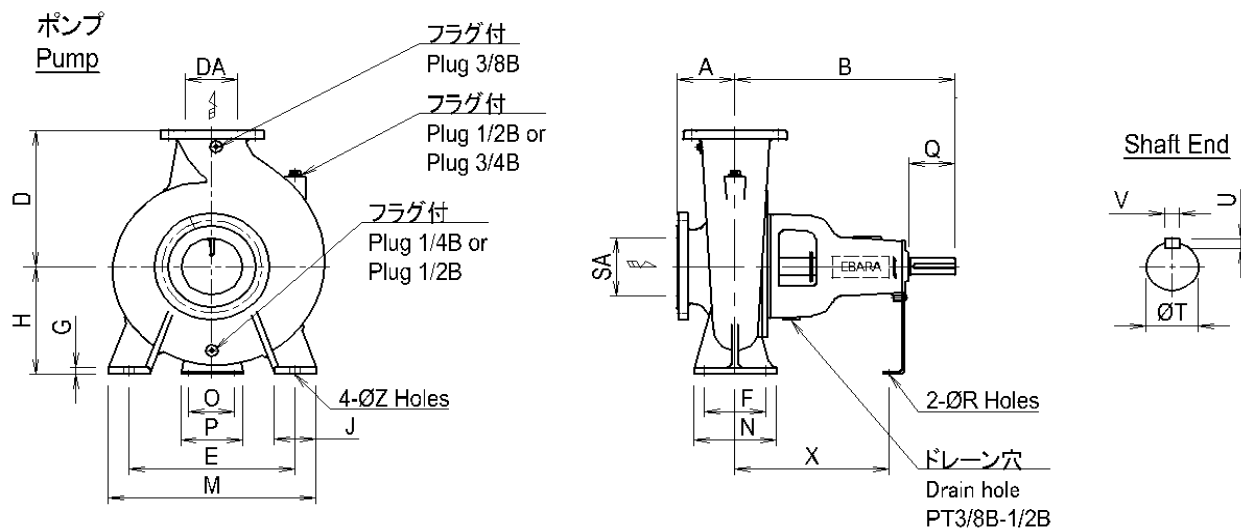
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

TECHNICAL DATA – SHAFT NO. AND SHAFT DIAMETER

DIMENSION – BARE SHAFT PUMP (10 BAR MODEL) 2/2

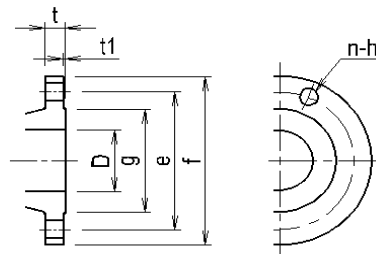
PUMP



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
125	250	210	182	2	24	8	23
150	280	240	212	2	26	8	23
200	330	290	262	2	26	12	23

フランジ Flange



DIMENSION PUMP

Model	Size		Pump															Shaft				wt
	SA	DA	A	B	H	D	E	F	G	J	M	N	O	P	R	X	Z	T	Q	U	V	kg
150x125 FSKA	150	125	140	530	280	355	400	150	18	100	500	200	110	150	17	370	24	42	110	8	12	170
150x125 FSLA					315	400			20													205
200x150 FSJA	200	150	160	530	280	375	400	150	18	100	500 550	200	110	150	17	370	24	42	110	8	12	183
200x150 FSKA				670	315	400			450				18	140	180	19		500				48

Unit:mm, unless otherwise stated

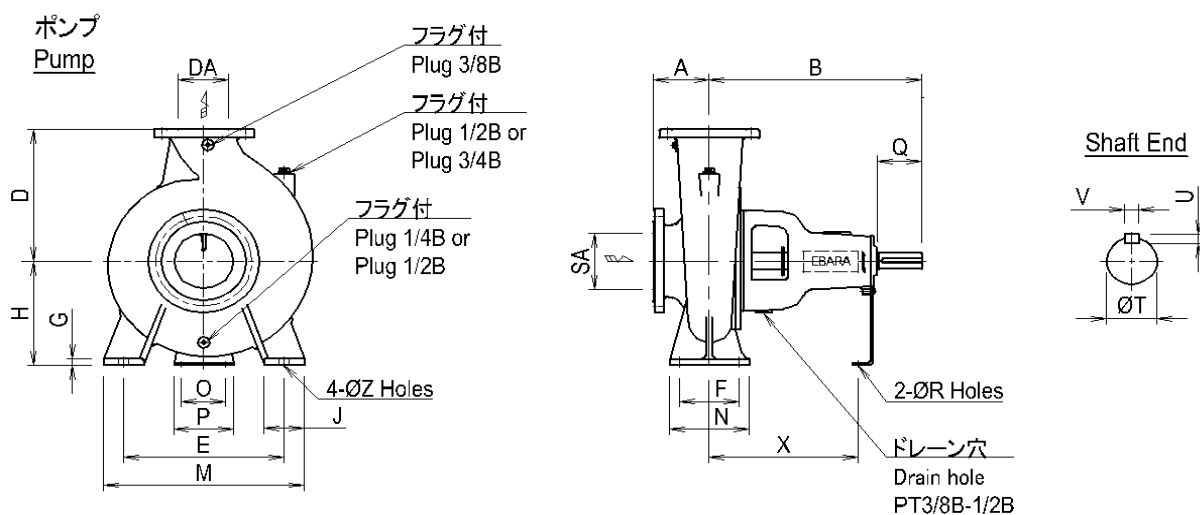
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

TECHNICAL DATA – SHAFT NO. AND SHAFT DIAMETER

DIMENSION – BARE SHAFT PUMP (16 BAR MODEL)

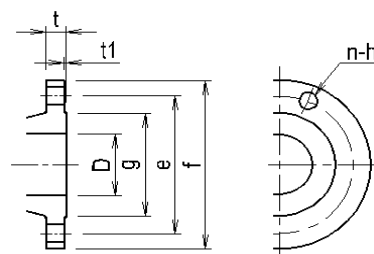
PUMP



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
65	175	140	116	2	22	8	19
100	225	185	160	2	26	8	23
150	305	260	230	2	28	12	25
200	350	305	275	2	30	12	25
250	430	380	345	2	34	12	27

フランジ
Flange



DIMENSION PUMP

Model	Size		Pump																Shaft				wt
	SA	DA	A	B	H	D	E	F	G	J	M	N	O	P	R	X	Z	T	Q	U	V	kg	
100x65 FSKA	100	65	125	360	225	280	315	120	16	80	400	160	110	150	17	285	20	38	80	8	10	106	
150x100 FSKA	150	100	140	530	250	315	315	120	16	80	400	160	90	120	15	370	19	42	95	8	12	146	
150x100 FSNA			182	670	375	450	450	150	20	100	550	200	140	180	19	499	24	48	110	9	14	365	
200x150 FSLA	200	150	164	670	315	452	450	150	20	100	550	200	140	180	19	499	24	48	110	9	14	336	
200x150 FSNA			184		375	562											60	11		18	488		
250x200 FSLA	250	200	180	670	385	560	560	250	25	100	660	315	140	180	19	499	27	60	110	11	18	505	
250x200 FSNA			200	820	435	630							160	200		629		74	125	12	20	642	

Unit:mm, unless otherwise stated

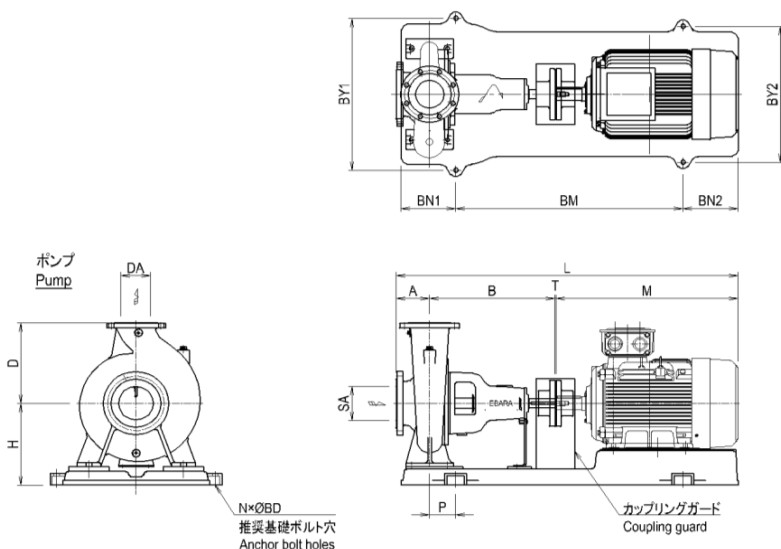
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

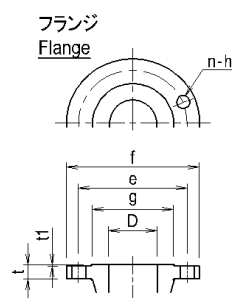
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

4 POLES DRIVE – 50 Hz (1/3)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
40	140	105	85	2	20	4	19
50	155	120	100	2	20	4	19
65	175	140	120	2	22	4	19
80	185	150	130	2	22	8	19
100	210	175	155	2	24	8	19

DIMENSION PUMP

Model	Moto r	Size		Pump				Motor		Common Base										Total		
	kW	SA	D A	A	B	D	wt kg	Fram e	M mm	wt kg	H	P	BM	BN1	BN2	BY1	BY2	NxØBD	wt kg	T	L	wt kg
50x40 FS4HA	0,75	50	40	80	360	180	37	80M	292	17	215	45	420	105	115	320	230	4-Ø15	20	3	735	74
65x50 FS4HA	0,75	65	50	100	360	180	42	80M	292	17	215	45	420	105	115	320	230	4-Ø15	27	3	755	86
65x50 FS4JA	1,5	65	50	100	360	225	49	90L	354	23	230	40	480	115	145	400	260	4-Ø15	32	3	817	104
	2,2							100L	391	32									34		854	115
80x65 FS4GA	0,75	80	65	100	360	180	39	80M	292	17	215	45	420	105	115	320	230	4-Ø15	22	3	755	78
	1,5	80	65	100	360	180	39	90L	354	23	230	40	550	115	75	360	290	4-Ø15	31	3	817	93
80x65 FS4HA	1,5	80	65	100	360	200	48	90L	354	23	230	40	550	115	75	360	290	4-Ø15	31	3	817	102
80x65 FS4JA	2,2	80	65	100	360	225	60	100L	391	32	230	40	480	115	145	400	260	4-Ø15	35	3	854	127
	3,7							112M	412,5	43							36		876		79	
80x65 FS4KA	5,5	80	65	125	470	280	108	132S	456	64	295	80	660	180	120	490	400	4-Ø19	61	3	1054	233
	7,5							132M	494	77									63		1092	248
	11							160M	608	115			100	740	200				150		68	1206
100x80 FS4GA	1,5	100	80	100	360	200	49	90L	354	23	230	40	550	115	75	360	290	4-Ø15	27	3	817	99
	2,2							100L	391	32									32		854	113
100x80 FS4HA	2,2	100	80	100	360	225	62	100L	391	32	230	40	480	115	145	400	260	4-Ø15	34	3	854	128
	3,7							112M	412,5	43							34		876		139	
100x80 FS4JA	3,7	100	80	100	360	250	70	112M	412,5	43	265	55	540	155	70	440	320	4-Ø19	41	3	876	154
	5,5							132S	456	64							270		630		350	49

Unit:mm, unless otherwise stated

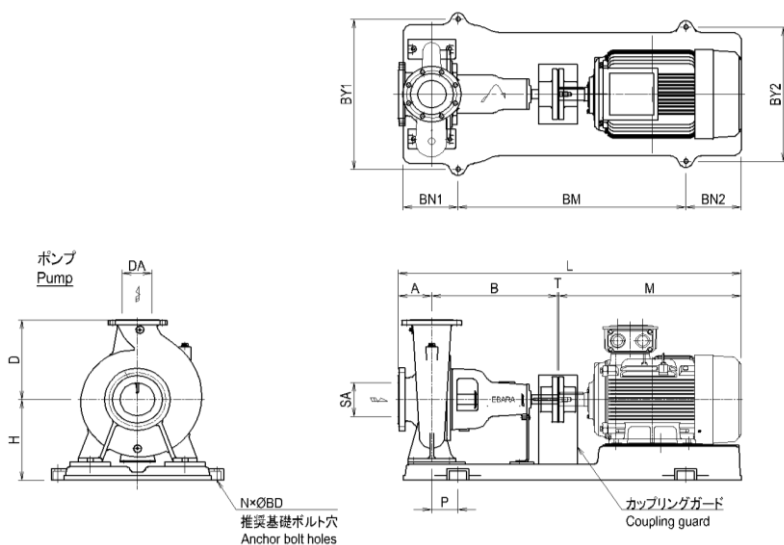
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

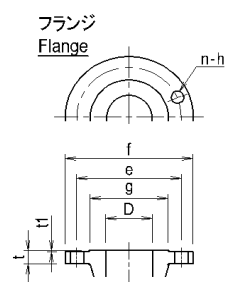
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

4 POLES DRIVE – 50 Hz (2/3)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	tl mm	t mm	n	h mm
80	185	150	130	2	22	8	19
100	210	175	155	2	24	8	19
125	250	210	185	2	24	8	23
150	280	240	215	2	26	8	23
200	330	290	265	2	26	12	23

DIMENSION PUMP

Model	Moto r	Size		Pump				Motor			Common Base										Total				
	kW	SA	DA	A	B	D	wt kg	Fram e	M mm	wt kg	H	P	BM	BN1	BN2	BY1	BY2	NxØBD	wt kg	T	L	wt kg			
100x80 FS4GCA	2,2	100	80	125	360	225	62	100L	391	32	230	40	480	115	145	400	260	4-Ø15	33	3	879	127			
	3,7							112M	412,5	43							290		34		900,5	139			
100x80 FS4HCA	5,5	100	80	125	360	250	65	132S	456	64	270	55	630	155	70	440	350	4-Ø19	49	3	944	178			
	7,5							132M	494	77							270	49	982		191				
125x100 FS4JCA	5,5	125	100	140	360	280	108	132S	456	64	295	0	660	180	120	490	400	4-Ø19	49	3	959	221			
	7,5							132M	494	77								295	0		180	120	490	400	4-Ø19
	11							160M	608	115	295	10	740	200	150	490	400	4-Ø19	72		1111	295			
125x100 FS4KA	15	125	100	140	470	315	128	160L	652	132	330	100	740	190	145	490	400	4-Ø19	79	3	1265	339			
	18,5							180M	672	172									96		1285	396			
125x100 FS4LA	22	125	100	140	530	355	168	180L	710	205	390	95	840	205	185	600	440	4-Ø24	104	3	1383	477			
	30							200L	770	278		120	940	230	110		490		152	4	1444	598			
150x125 FS4HA	7,5	150	125	140	470	315	120	132M	494	77	320	80	660	180	120	490	400	4-Ø19	69	3	1107	266			
	11							160M	608	115									330		100	740	190	145	490
	15							160L	652	132	320	200	150	81	1265				333						
150x125 FS4JA	15	150	125	140	470	355	128	160L	652	132	320	100	740	200	150	490	400	4-Ø19	85	3	1265	345			
	18,5							180M	672	172									330		190	145	100	1285	400
	22							180L	710	205	370	50	940	230	110	600	490	4-Ø24	102		1323	435			
150x125 FS4KA	30	150	125	140	530	355	170	200L	770	278	390	120	940	230	110	600	490	4-Ø24	107	4	1444	555			
	37							225S	816	327									385		110	960	235	670	600
150x125 FS4LA	45	150	125	140	530	400	205	225M	841	351	395	110	960	230	235	670	600	4-Ø24	134	4	1515	690			
	55							250M	921	475									410		145	1595	825		
	75							280S	1037,5	550	410								145		1711,5	900			

Unit:mm, unless otherwise stated

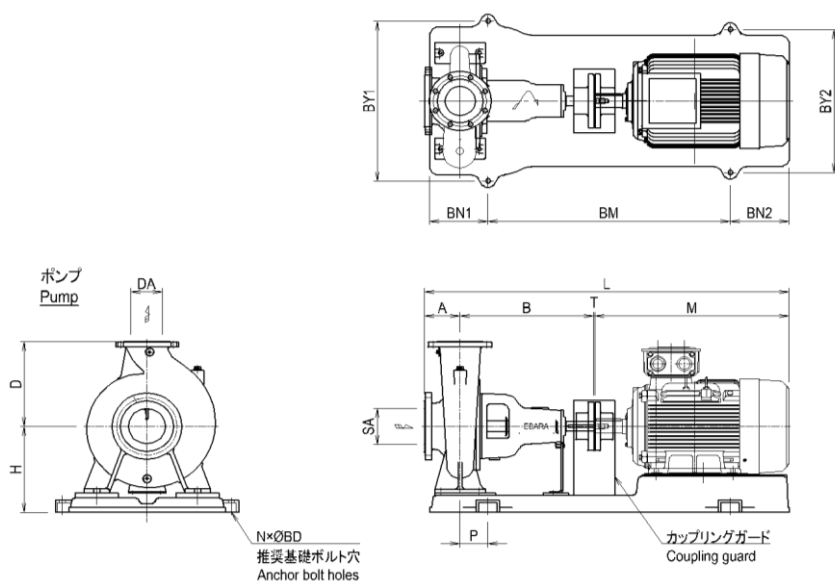
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

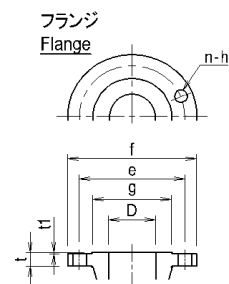
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

4 POLES DRIVE – 50 Hz (3/3)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
150	280	240	215	2	26	8	23
200	330	290	265	2	26	12	23

DIMENSION PUMP

Model	Motor	Size		Pump				Motor			Common Base									Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN2	BY1	BY2	NxØBD	wt kg	T	L	wt kg
200x150 FS4HA	5,5	200	150	160	470	355	137	132S	456	64	390	80	660	200	120	600	400	4-Ø19	105	3	1089	306
	7,5							132M	494	77									105		1127	319
	11							160M	608	115	360	840	150	115	1241	367						
200x150 FS4JA	15	200	150	160	530	375	183	160L	652	132	390	95	840	205	185	600	440	4-Ø19	117	3	1345	432
	18,5							180M	672	172		117		1365	472							
	22							180L	710	205		117		1403	505							
	30							200L	770	278		120		940	230	110	600	490	120	4	1464	581
	37							225S	816	327	385		110						960		230	235
200x150 FS4KA	37	200	150	160	670	400	222	225S	816	327	425	110	1000	230	230	670	550	4-Ø24	162	4	1650	711
	45							225M	841	351									162		1675	735
	55							250M	921	475	430	125	1040	245	235	600	171		1755		868	

Unit:mm, unless otherwise stated

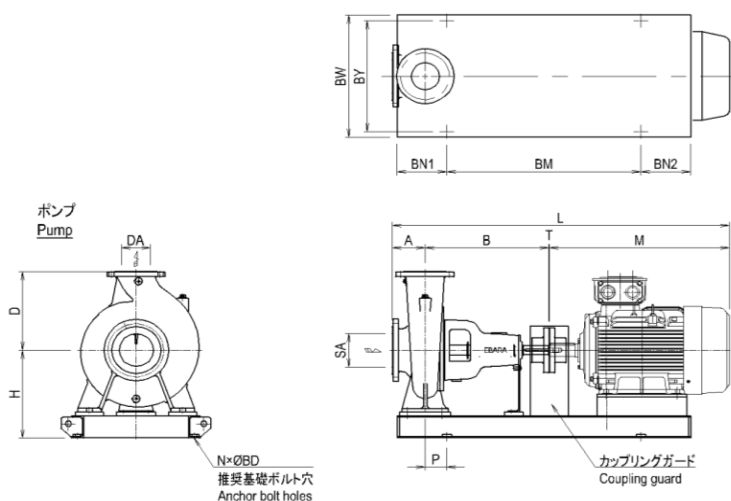
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

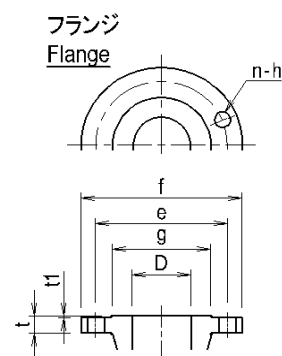
DIMENSION – PUMP WITH MOTOR (16 BAR MODEL)

4 POLES DRIVE – 50 Hz

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
100	225	185	160	2	26	8	23
150	305	260	230	2	28	12	25
200	350	305	275	2	30	12	25
250	430	380	345	2	34	12	27

DIMENSION – PUMP (Steel Baseplate)

Model	Motor	Size		Pump				Motor			Common Base										Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN2	BY	BW	NxØBD	wt kg	T	L	wt kg	
150x100 FSNA	55	150	100	182	670	450	365	250M	921	475	545	85	2x560	215	215	580	640	6-Ø26	156	4	1777	996	
	75							280S	1037,5	550	545		2x625						170		1893,5	1085	
	90							280M	1087,5	660	545		2x605			620	680		175		1943,5	1200	
200x150 FSLA	75	200	150	164	670	452	336	280S	1037,5	550	490	85	2x590	215	215	610	680	6-Ø26	150	4	1875,5	1036	
	90							280M	1087,5	660	490		2x605						145		1925,5	1141	
200x150 FSNA	110	200	150	184	670	562	488	315S	1192	720	545	85	2x665	215	215	650	720	6-Ø26	176	4	2050	1384	
	132							315M	1273	920	545		2x675						200		2131	1608	
	150							315M	1273	920	545		2x755						220		2131	1628	
250x200 FSLA	90	250	200	180	670	560	505	280M	1087,5	660	555	30	2x635	215	215	680	750	6-Ø26	250	4	1942	1415	
	110							315S	1192	720	555		2x690						255		2046	1480	
	132							315M	1273	920	555		2x705						235		2127	1660	
	150							315M	1273	920	555		2x780						240		2127	1665	
250x200 FSNA	185	250	200	200	820	630	642	315L	1376	1070	610	25	3x560	215	215	650	720	8-Ø28	342	5	2400	2054	
	220							355M	1645	1450	660		3x630						374		2670	2466	
	250							355M	1757	1800			3x630			411	2782		2853				
	300							355L	1757	1800			3x630			411	2782		2853				
	335							355C	1835	1900			3x700			452	2860		2994				

Unit:mm, unless otherwise stated

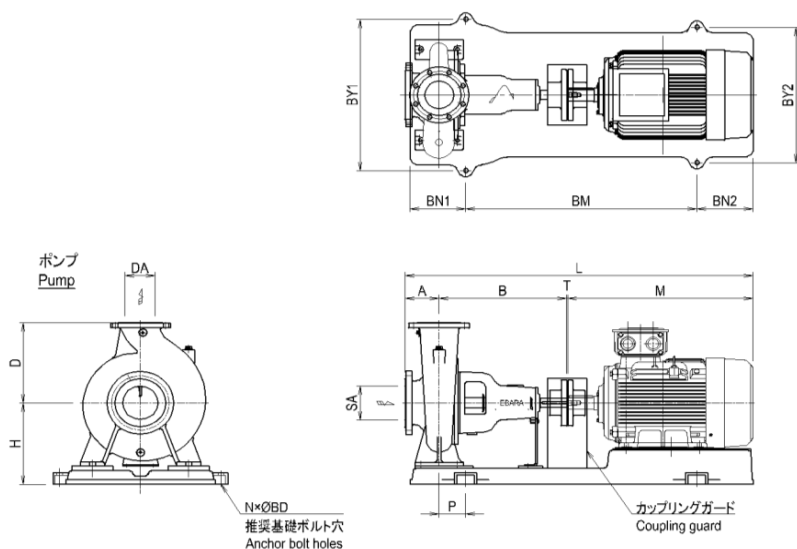
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

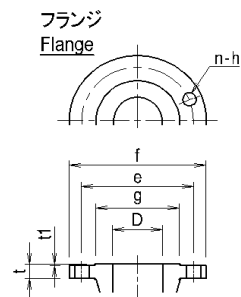
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

2 POLES DRIVE – 50 Hz (1/2)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
40	140	105	85	2	20	4	19
50	155	120	100	2	20	4	19
65	175	140	120	2	22	4	19
80	185	150	130	2	22	8	19

DIMENSION PUMP (Steel baseplate)

Model	Motor	Size		Pump				Motor			Common Base										Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN2	BY1	BY2	NxØBD	wt kg	t	L	wt kg	
50X40 FS2HA	1,5	50	40	80	360	180	37	90L	354	23	220	40	550	115	75	360	290	4-Ø15	32	3	797	92	
	2,2							100L	391	32									834		101		
	3,7							112M	412,5	43	215	55	540	130	70	350	290		33		855,5	113	
	5,5							132S	456	64	230			130	150	350	350		41		899	142	
65X50 FS2HA	3,7	65	50	100	360	180	42	112M	412,5	43	215	55	540	130	70	350	290	4-Ø15	27	3	875,5	112	
	5,5							132S	456	64	230			130	150	350	350		32		919	138	
	7,5							132S	494	77									32		957	151	
65X50 FS2JA	11	65	50	100	360	225	49	160M	608	115	270	98	600	180	180	400	400	4-Ø19	69	3	1071	233	
	15							160M	652	132											1115	250	
80X65 FS2GA	5,5	80	65	100	360	180	39	132S	456	64	230	55	540	130	150	350	350	4-Ø15	33	3	919	136	
	7,5							132S	494	77											957	149	
80X65 FS2HA	11	80	65	100	360	200	48	160M	608	115	250	98	600	180	180	400	400	4-Ø19	69	3	1071	232	
	15							160M	652	132											1115	249	
80X65 FS2JA	18,5	80	65	100	360	225	60	160L	672	172	270	98	600	180	180	400	400	4-Ø19	69	3	1135	301	
	22							180M	710	205											1173	334	

Unit:mm, unless otherwise stated

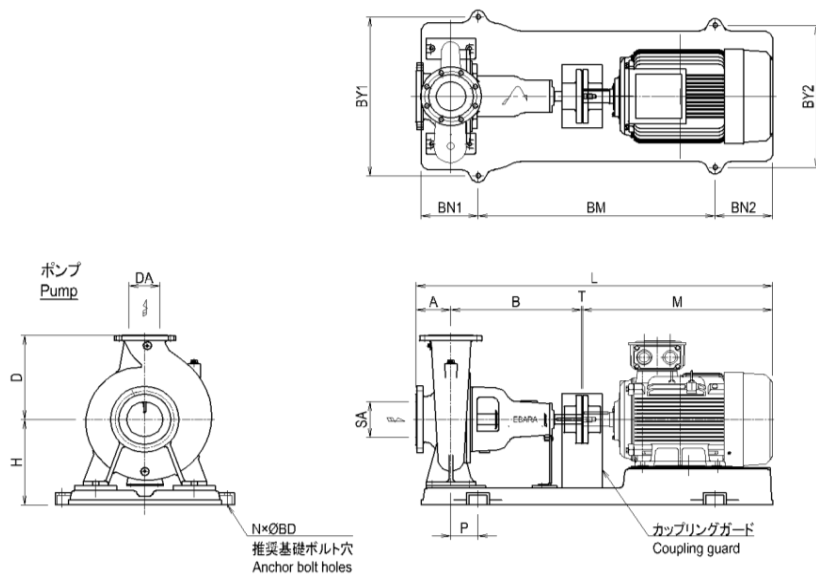
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

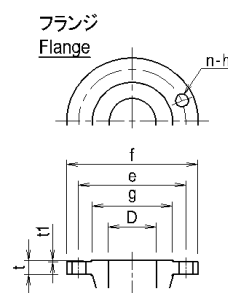
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

2 POLES DRIVE – 50 Hz (2/2)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
80	185	150	130	2	22	8	19
100	210	175	155	2	24	8	19
125	250	210	185	2	24	8	23

DIMENSION PUMP (Steel baseplate)

Model	Motor	Size		Pump				Motor			Common Base										Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN 2	BY1	BY2	NxØBD	wt kg	T	L	wt kg	
100X80 FS2GA	7,5	100	80	100	360	200	49	132S	494	77	230	55	540	130	150	350	350	4-Ø15	30	3	957	156	
	160M							608	115	1071											216		
	160M							652	132	1115											233		
100X80 FS2HA	18,5	100	80	100	360	225	62	160L	672	172	270	98	600	180	180	400	400	4-Ø19	52	3	1135	286	
	180M							710	205	52									1173		319		
100X80 FS2JA	30	100	80	100	360	250	70	200L	770	278	275	95	660	185	195	440	440	4-Ø19	65	4	1234	413	
	200L							816	327	1280											462		
	225M							841	351	1305											486		
100X80 FS2GCA	18,5	100	80	125	360	225	62	160L	672	172	270	98	600	180	180	400	400	4-Ø19	52	4	1161	286	
	180M							710	205	52									1199		319		
	200L							770	278	65									1259		405		
100X80 FS2HCA	37	100	80	125	360	250	65	200L	816	327	275	95	660	185	195	440	440	4-Ø19	65	4	1305	457	
	225M							841	351	1330											481		

(*) only available for Steel material of Baseplate

Unit:mm, unless otherwise stated

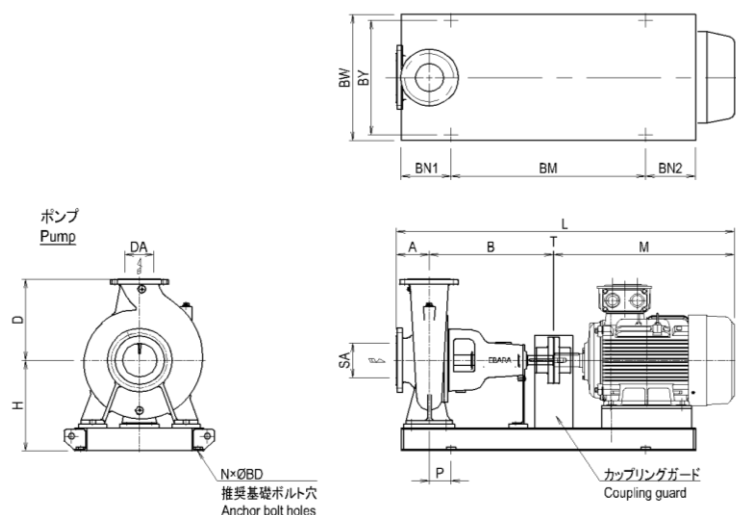
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

DIMENSION – PUMP WITH MOTOR (16 BAR MODEL)

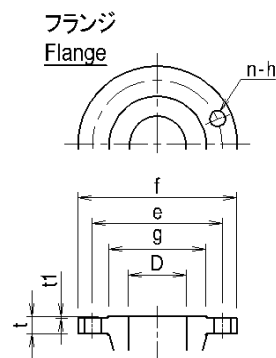
2 POLES DRIVE – 50 Hz

PUMP



DIMENSION – PUMP

FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
65	175	140	12	2	22	8	19
100	225	185	160	2	26	8	23
150	305	260	230	2	28	12	25

Model	Motor	Size		Pump				Motor			Common Base										Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN2	BY	BW	NxØBD	wt kg	T	L	wt	kg
100X65 FS2KA	55	100	65	125	360	280	106	250M	921	475	425	95	810	215	215	560	630	4-ø26	138	4	1410	719	
	75							280S	1037,5	550	455		850			610	680		145		1526,5	801	
150x100 FS2KA	90	150	100	140	530	315	146	280M	1087,5	660	455	95	1070	215	215	600	670	4-ø26	186	4	1761,5	992	
	110							315S	1192	720	490		575			650	720	6-Ø26	191		1866	1057	
	132							315M	1273	920			610			670	740		195		1947	1261	

Unit:mm, unless otherwise stated

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

TECHNICAL DATA – MAXIMUM ALLOWABLE PRESSURE

MAXIMUM ALLOWABLE WORKING PRESSURE (MAWP)

PRESSURE CASING MATERIAL	LIQUID TEMPERATURE	MAX. ALLOWABLE WORKING PRESSURES
Cast Iron	0°C to 80°C	10 bar (1.0 MPa) & 16 bar* (1.6MPa)
Ductile Cast Iron	0°C to 80°C	16 – 20 bar (1.6~2.0MPa)

(*): Only for several models.

MAXIMUM ALLOWABLE SUCTION PRESSURE (MASP)

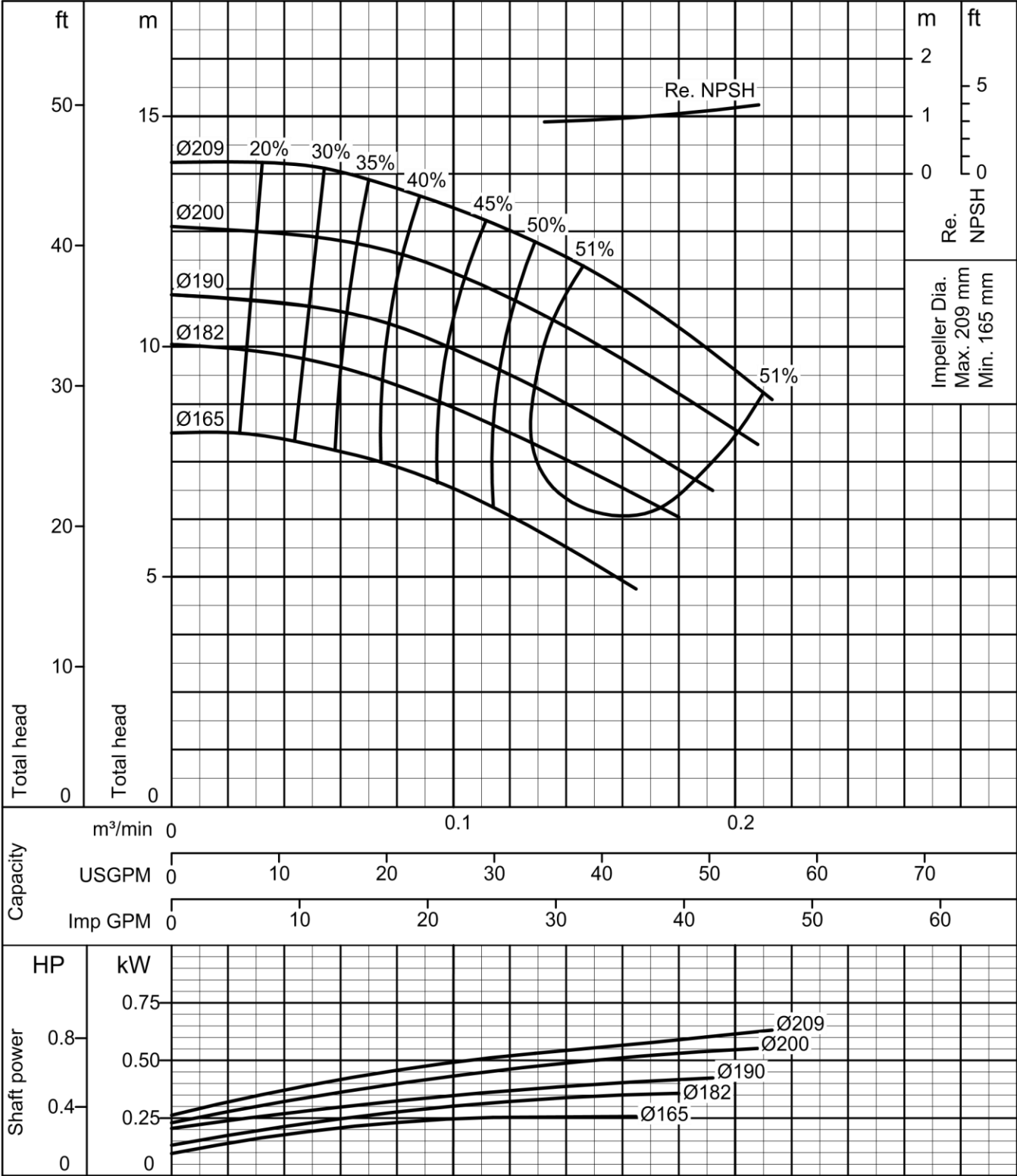
MECHANICAL SEAL APPLICATION	GLAND PACKING APPLICATION
Maximum Allowable Suction Pressure (MASP) must be smaller than the difference between the Maximum Allowable Working Pressure (MAWP) and Pump Shut off Pressure (PSP), as follows. However, MASP shall not exceed 16 bars. $MASP < MAWP - PSP$ [$PSP \text{ (in bar)} = 0.098 \times \text{Pump Shut-off Head (in m)} \times \text{Liquid Density (in kg/l)}$]	Maximum Allowable Suction Pressure (MASP) of Gland Packing application is 6 bar as standard.

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (1/27)

50X40 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



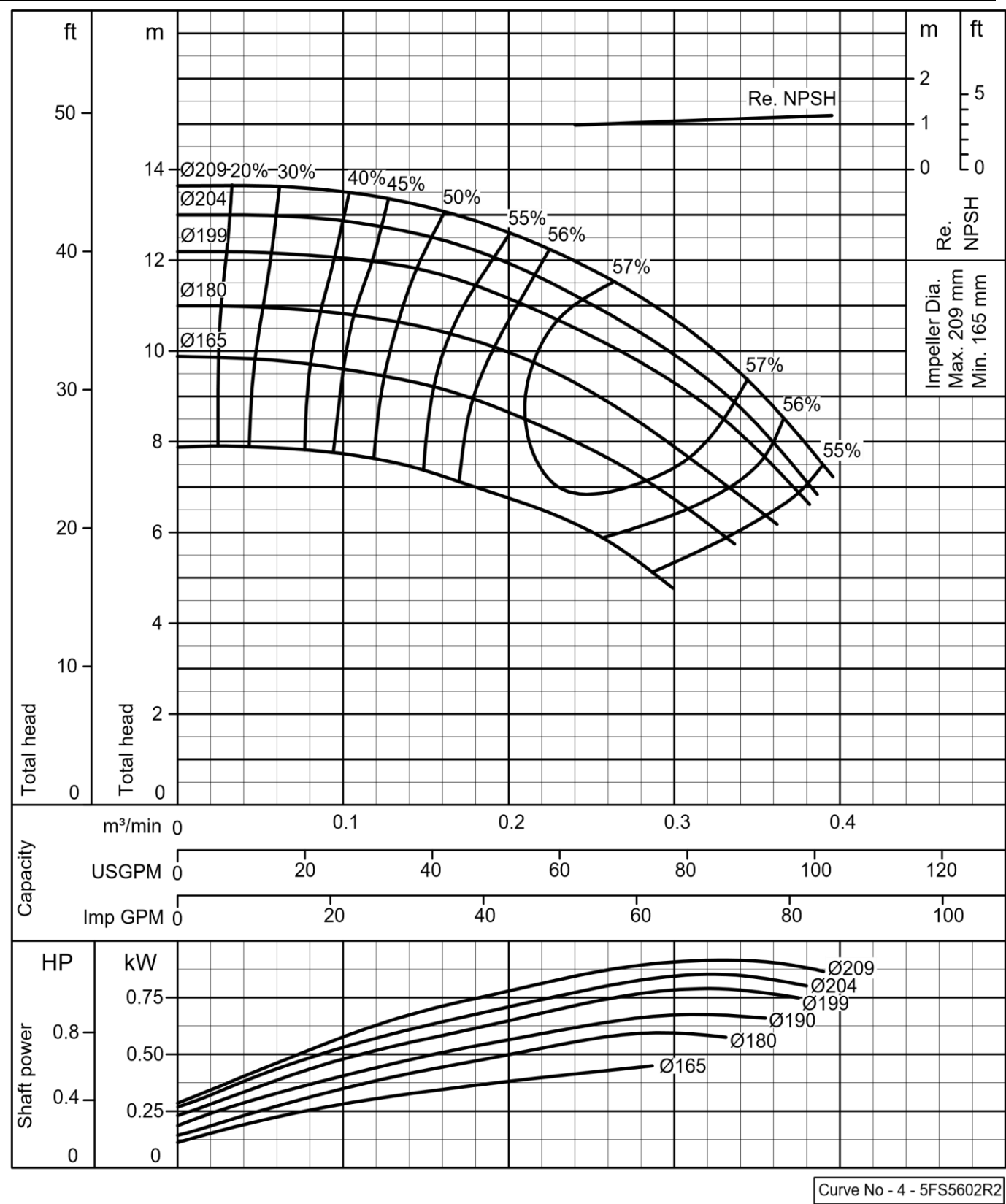
Curve No - 4 - 5FS5601R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (2/27)

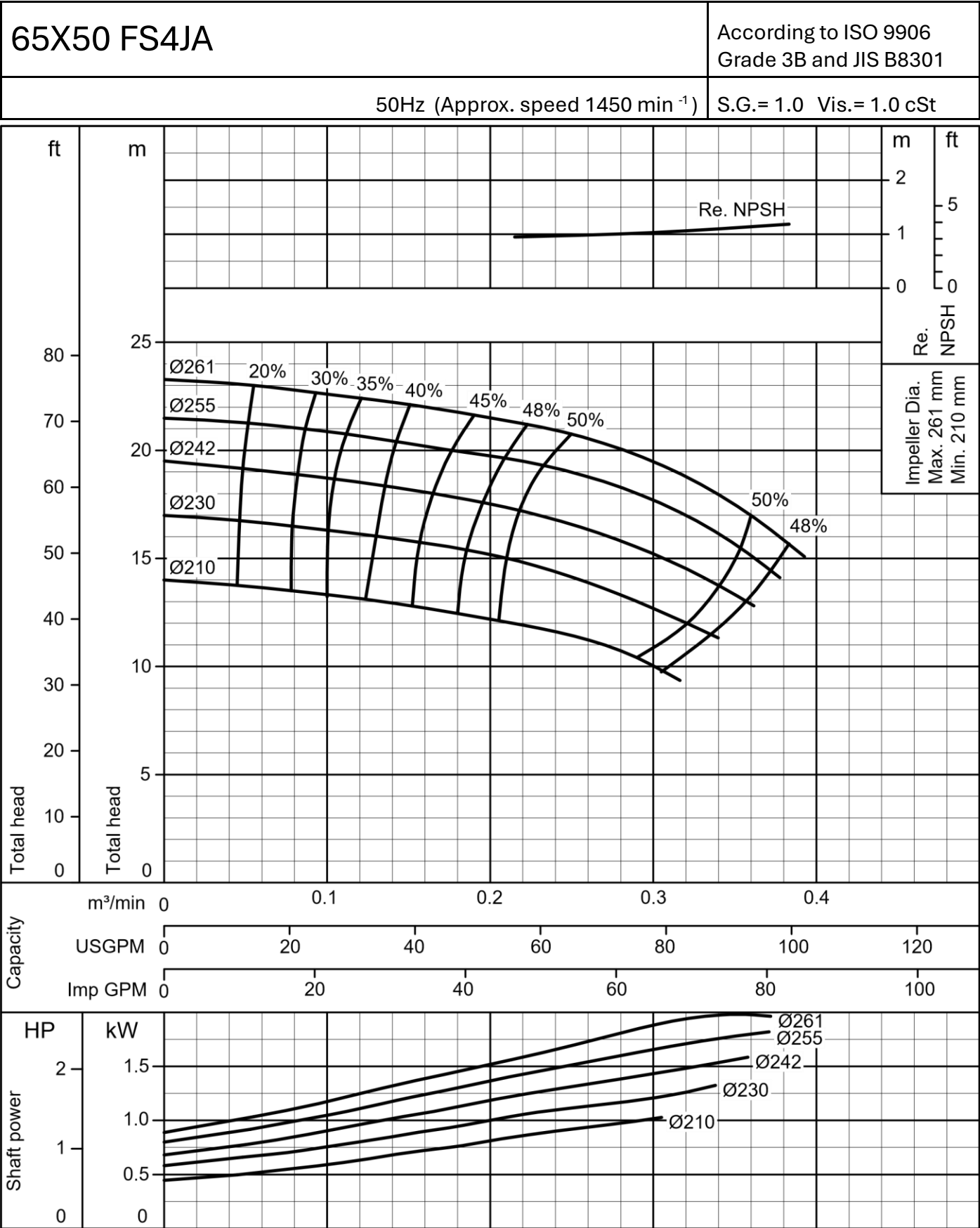
65X50 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹) S.G.= 1.0 Vis.= 1.0 cSt	



EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (3/27)

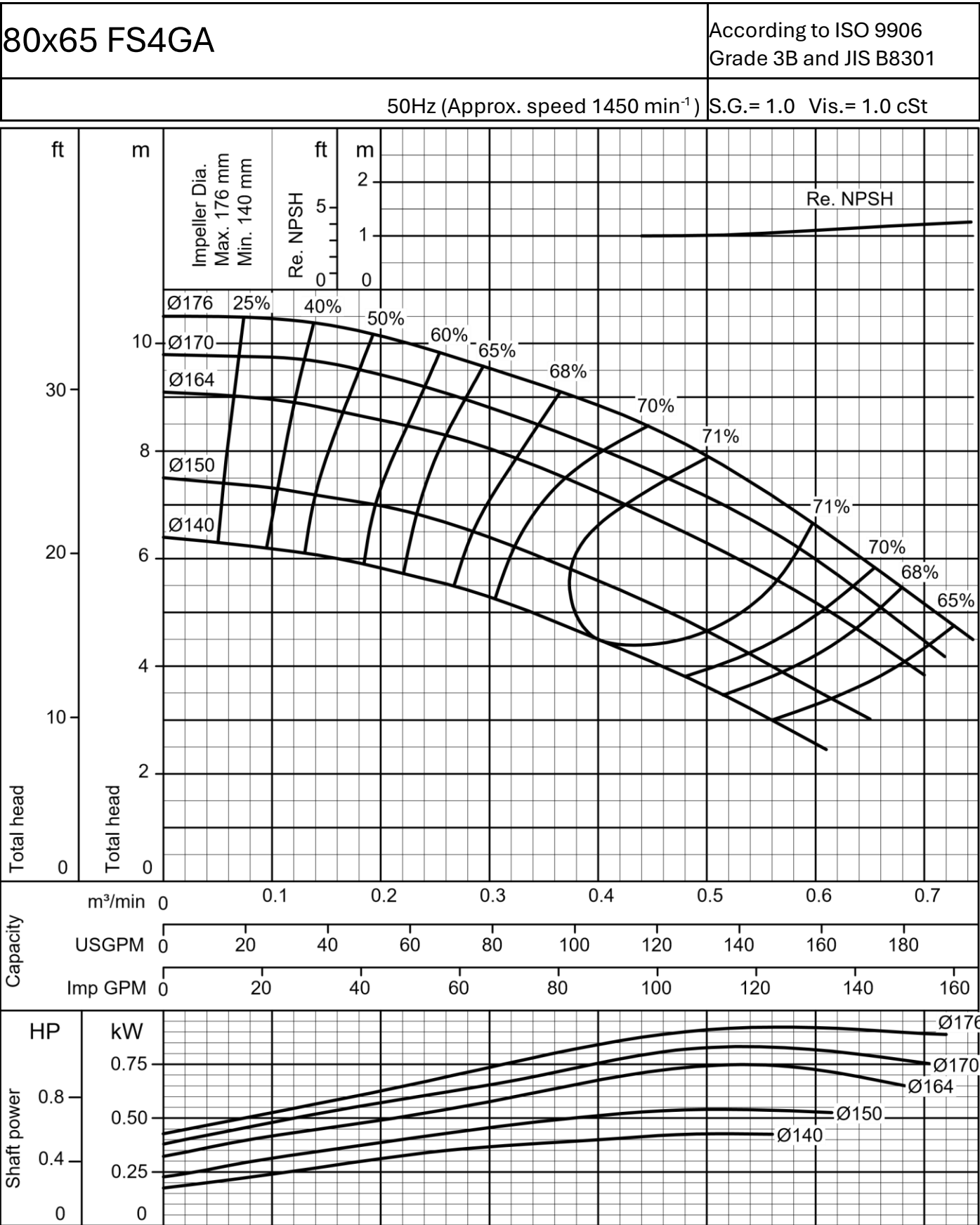


Curve No - 4 - 5FS5603R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (4/27)

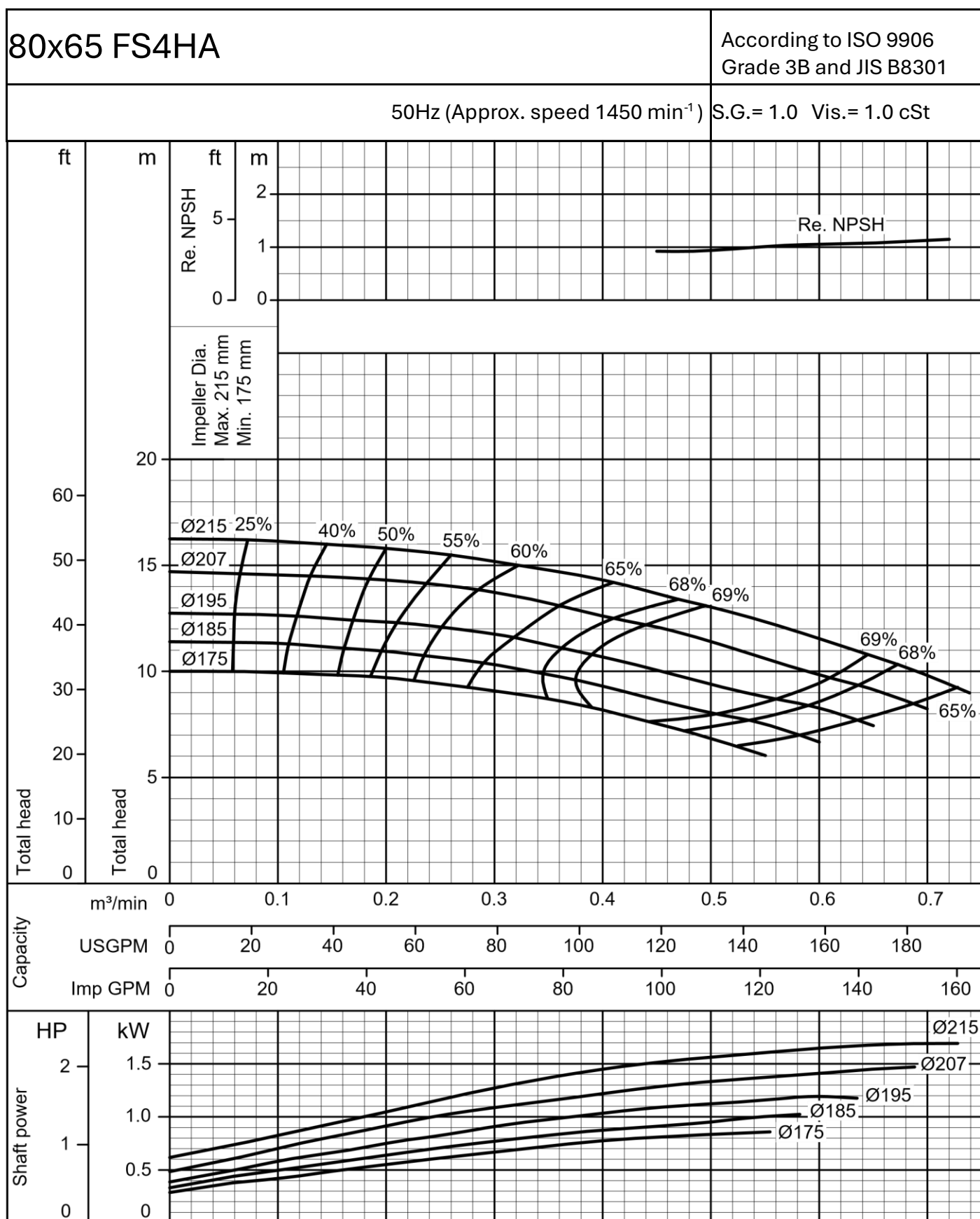


Curve No - 4 - 5FS5604R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (5/27)



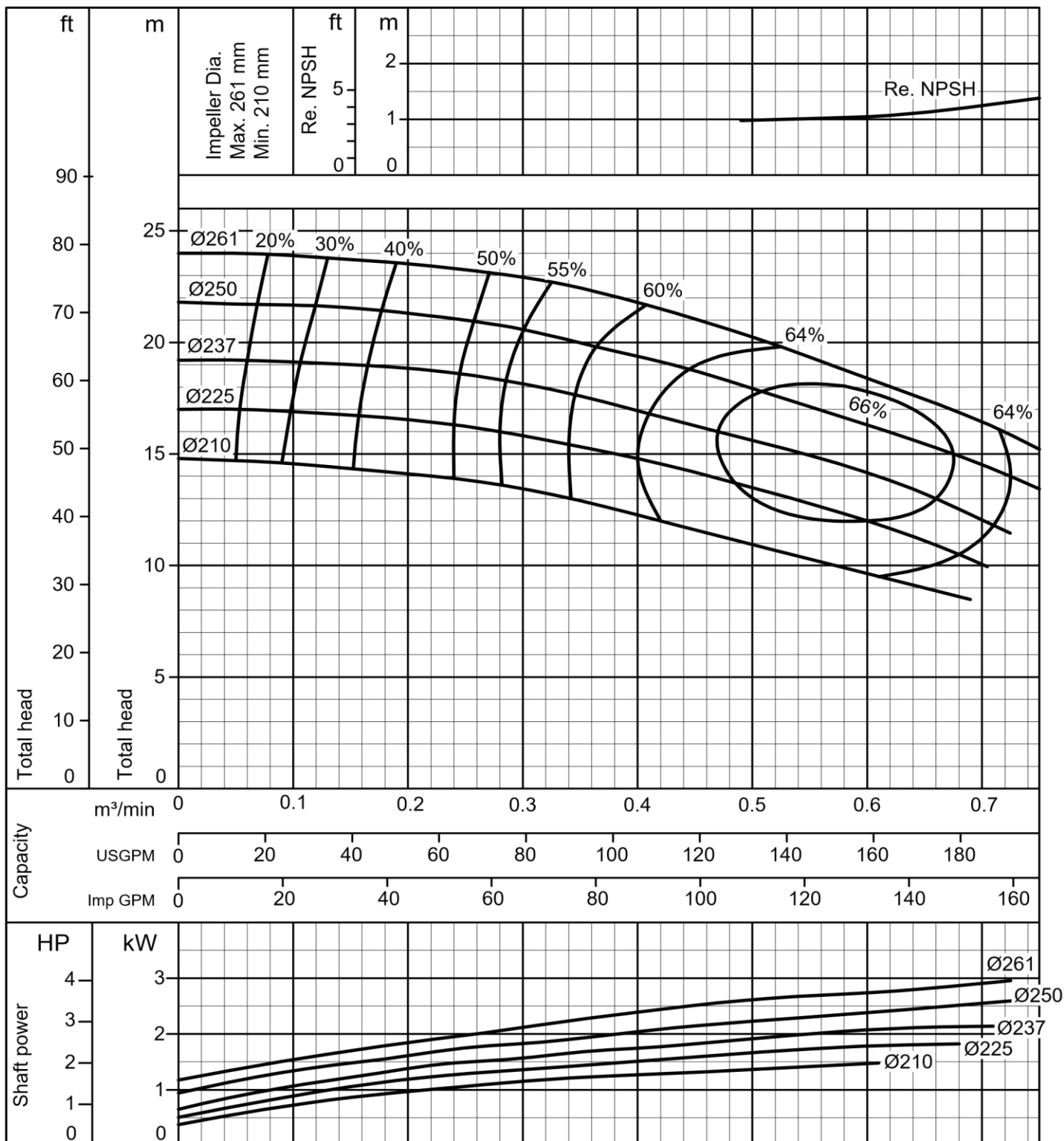
Curve No - 4 - 5FS5605R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (6/27)

80x65 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



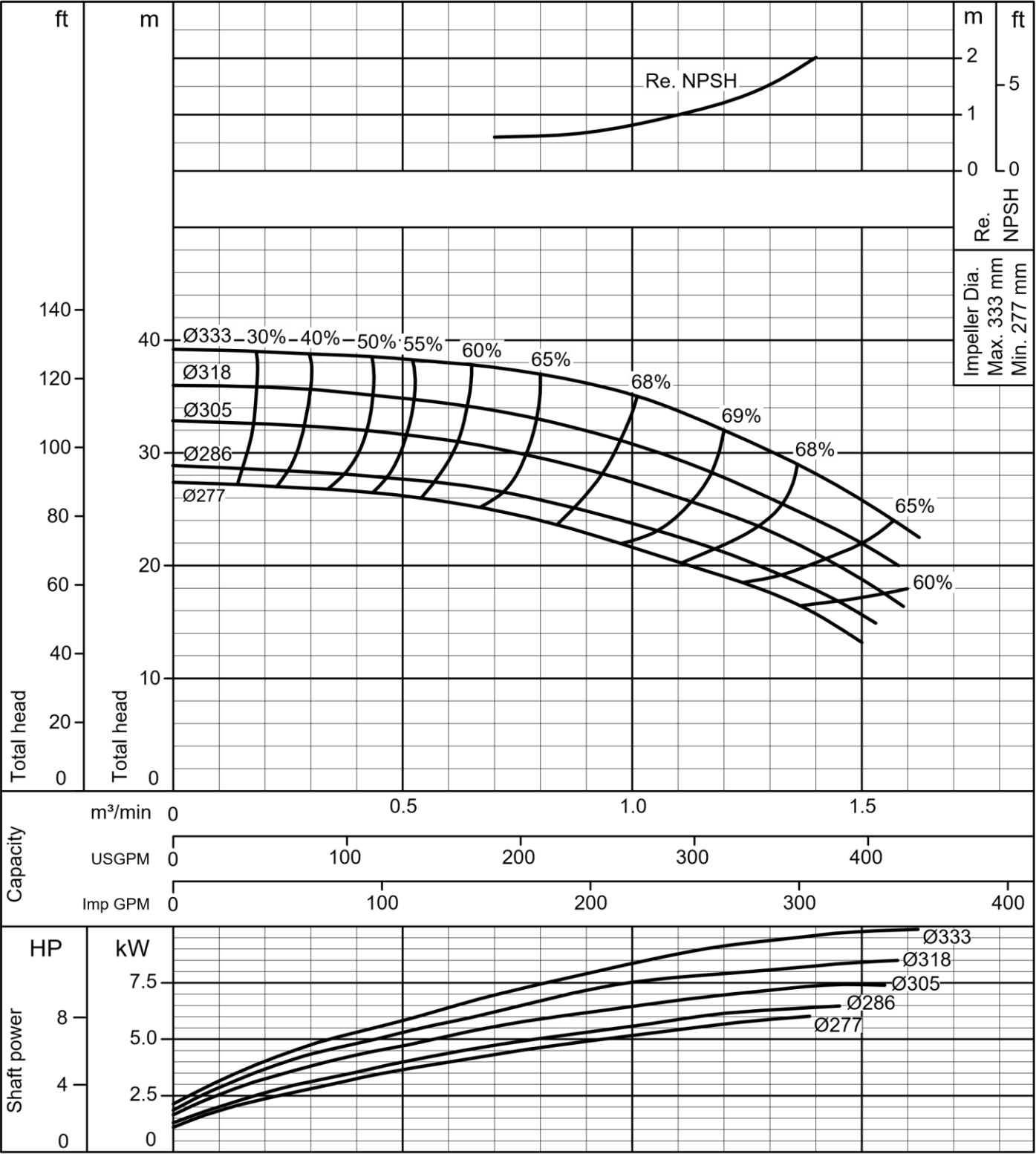
Curve No - 4 - 5FS5606R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (7/27)

80x65 FS4KA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



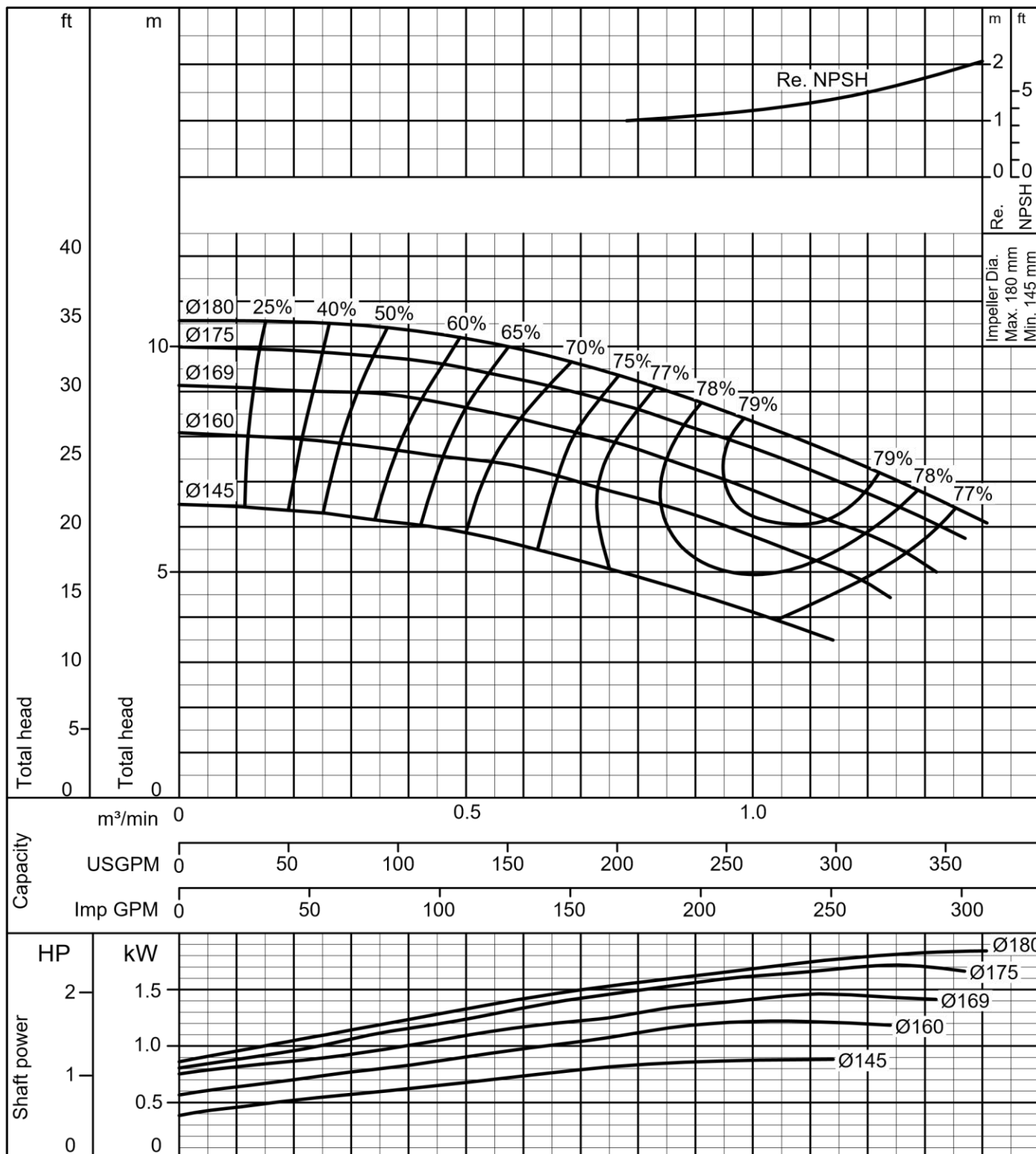
Curve No - 4 - 5FS5607R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (8/27)

100x80 FS4GA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



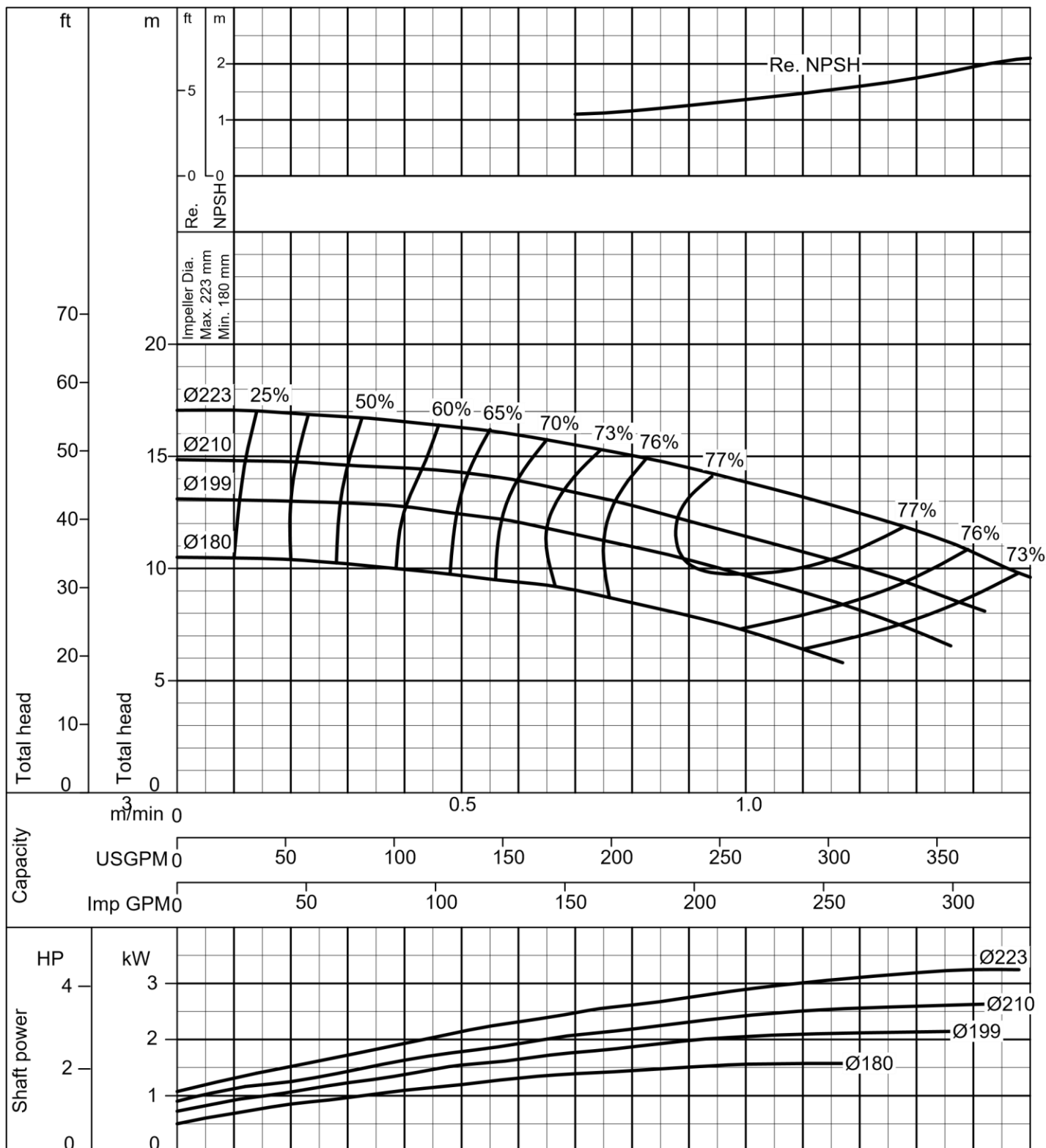
Curve No - 4 - 5FS5608R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (9/27)

100x80 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



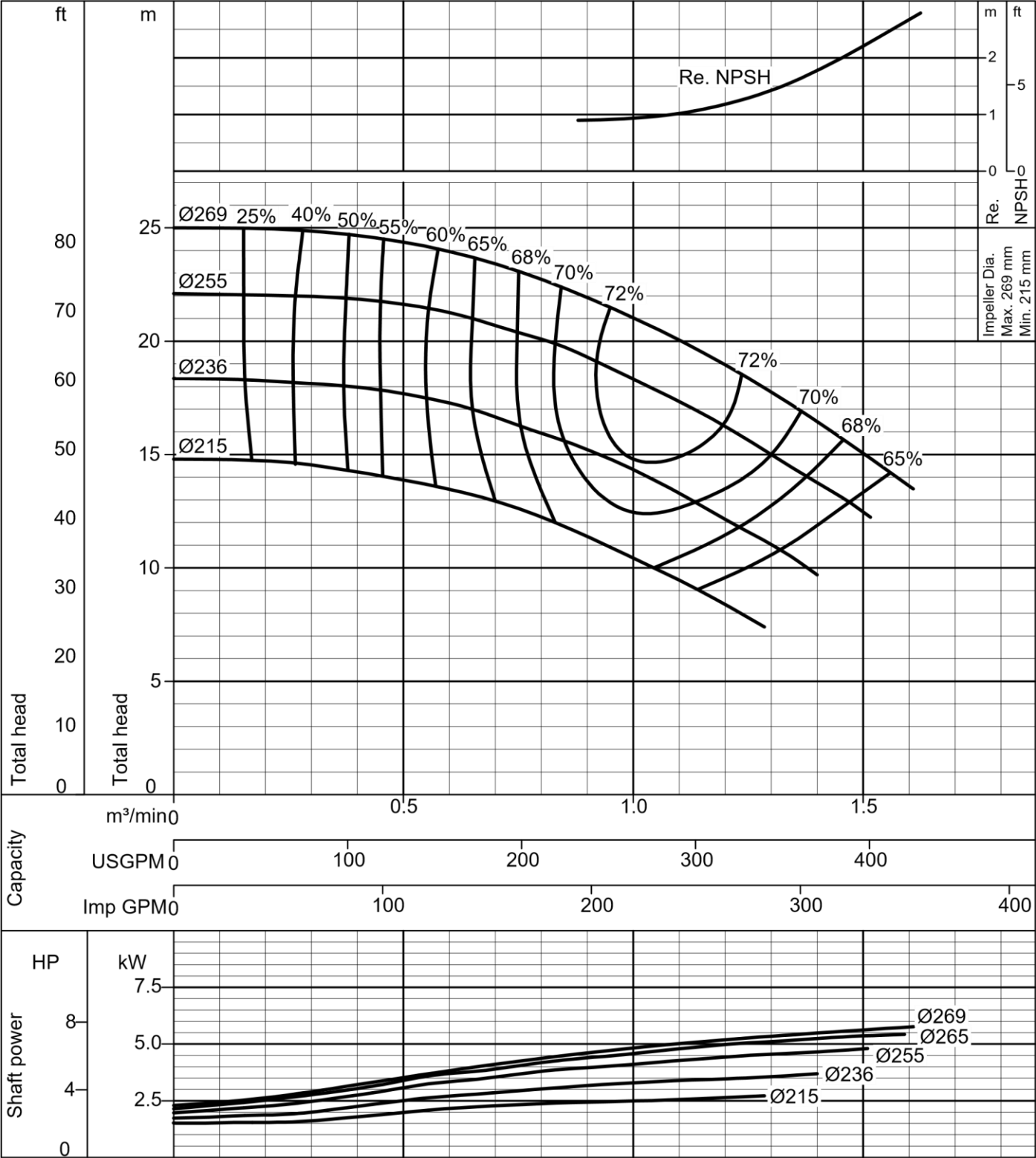
Curve No - 4 - 5FS5609R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (10/27)

100x80 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt

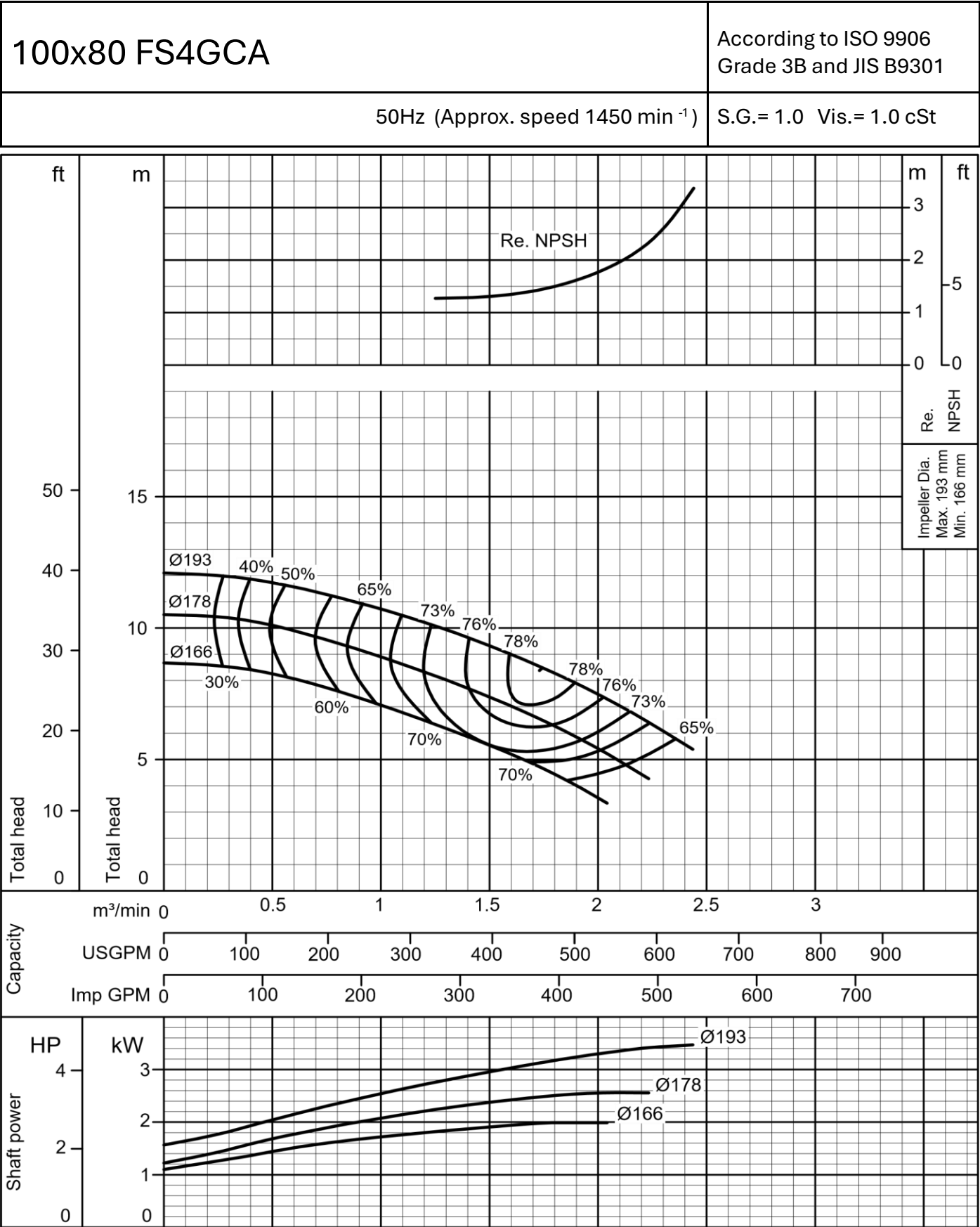


Curve No - 4 - 5FS5610R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

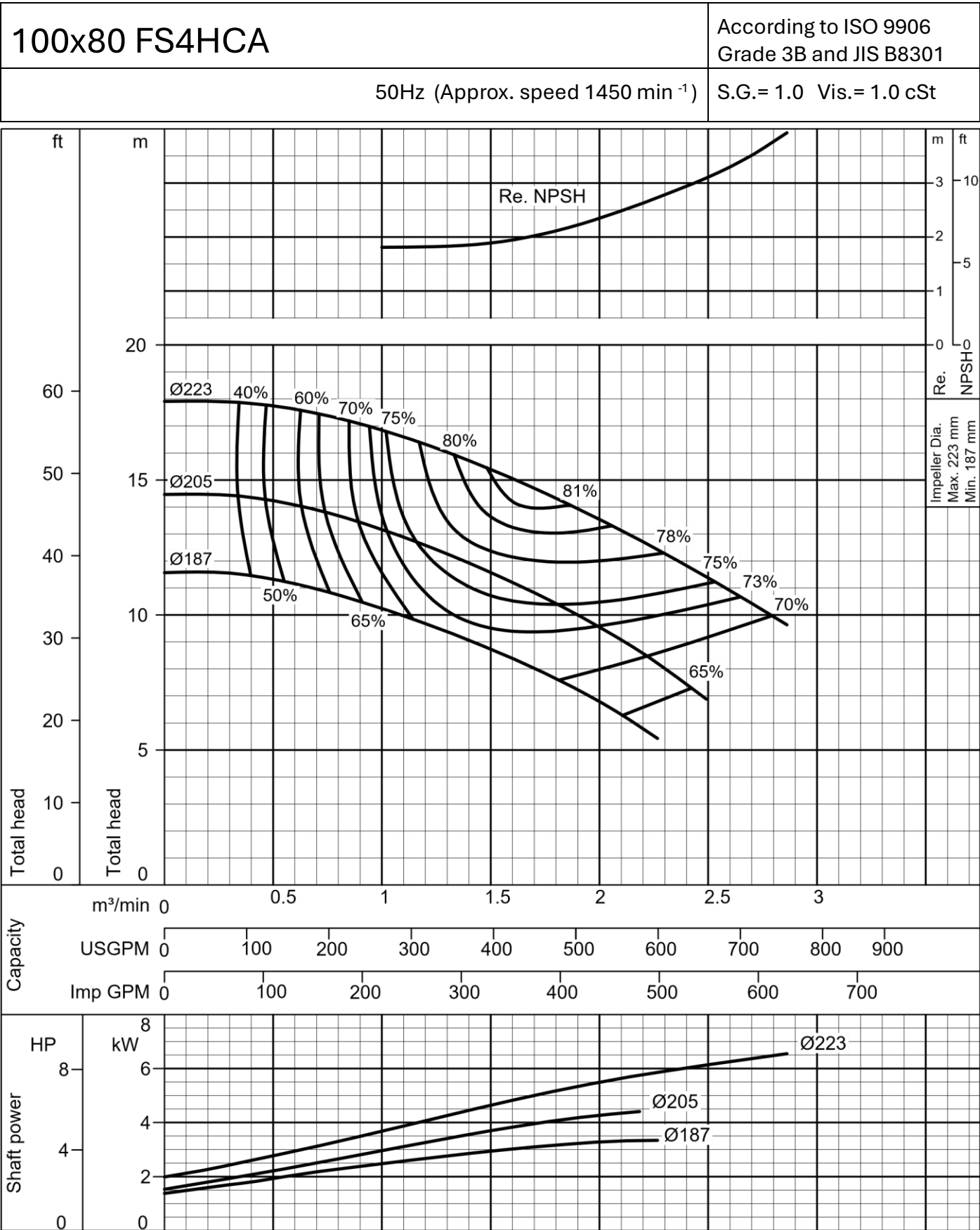
PERFORMANCE CURVE – 4 POLE (11/27)



EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (12/27)



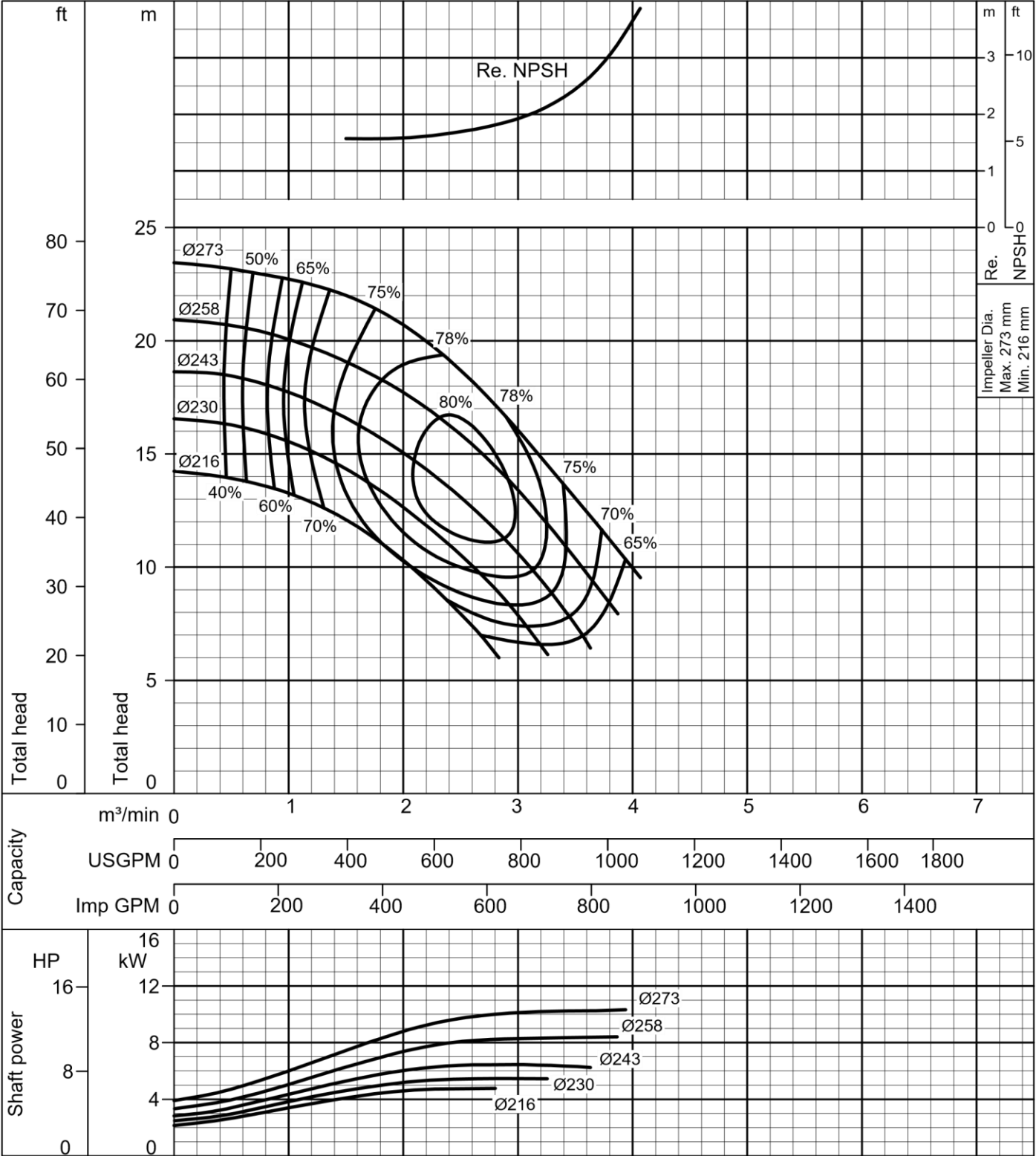
Curve No - 4 - 5FS5621R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (13/27)

125x100 FS4JCA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt

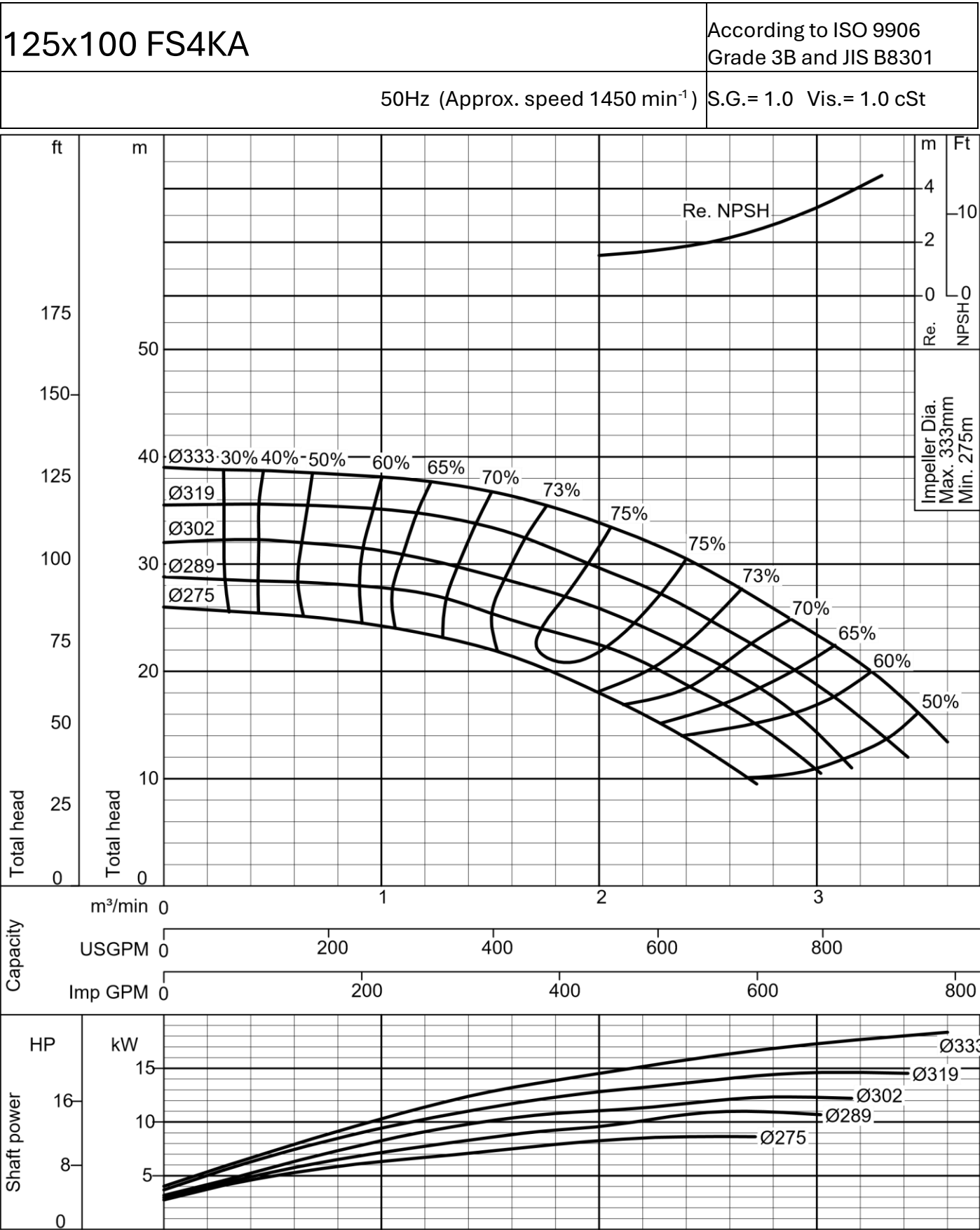


Curve No - 4 - 5FS5622R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (14/27)

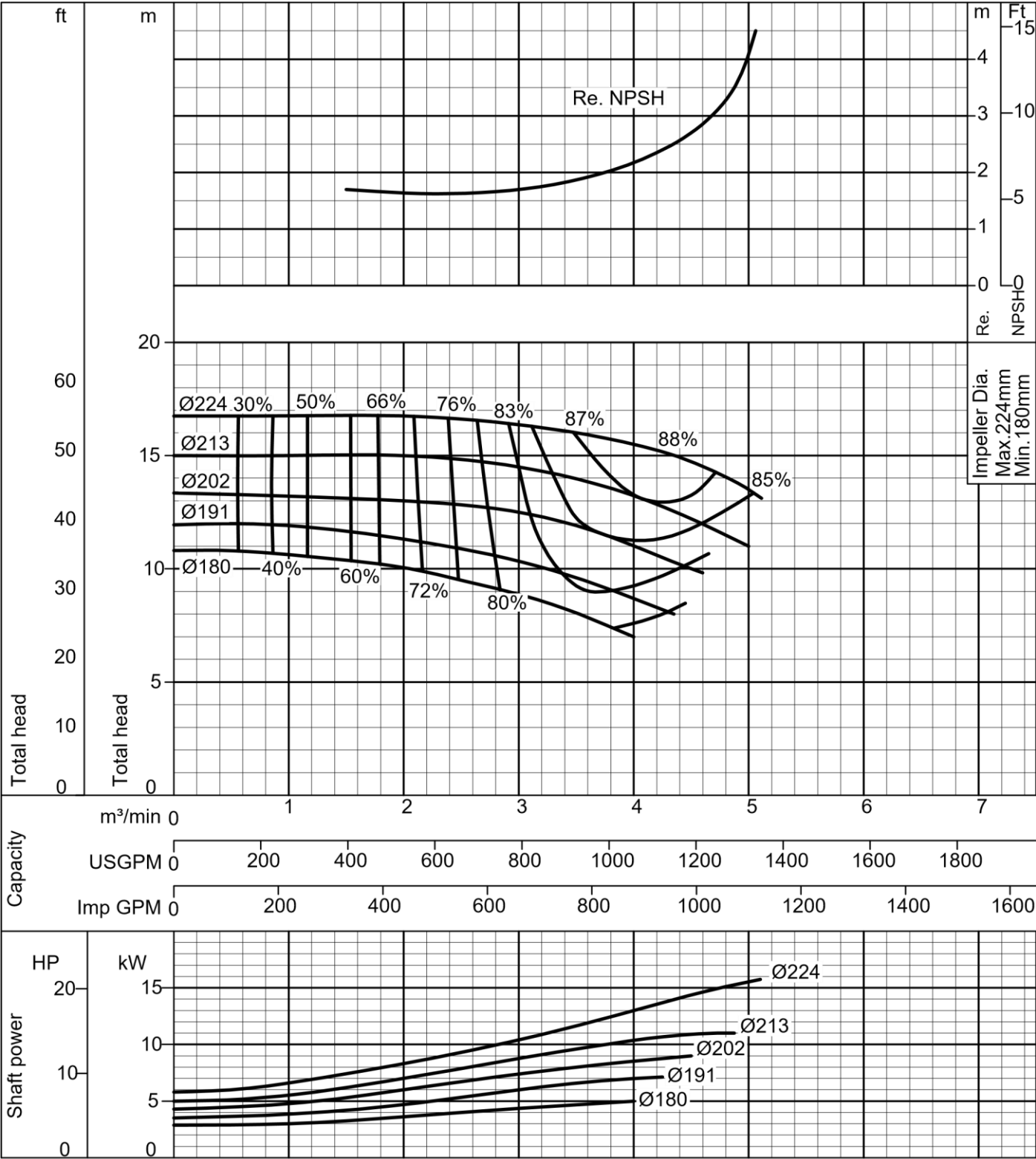


EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (15/27)

150x125 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



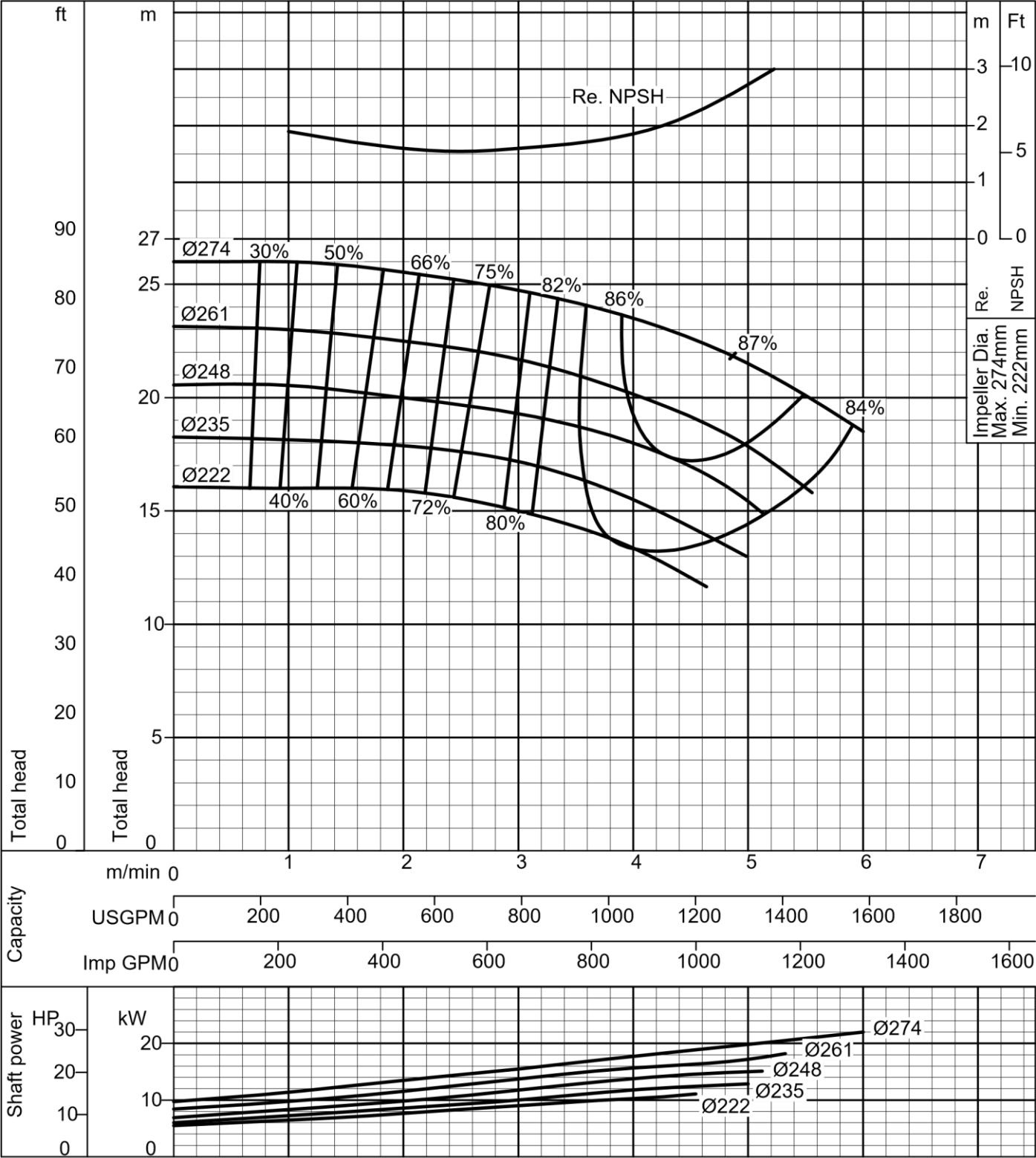
Curve No - 4 - 5FS5613R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (16/27)

150x125 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



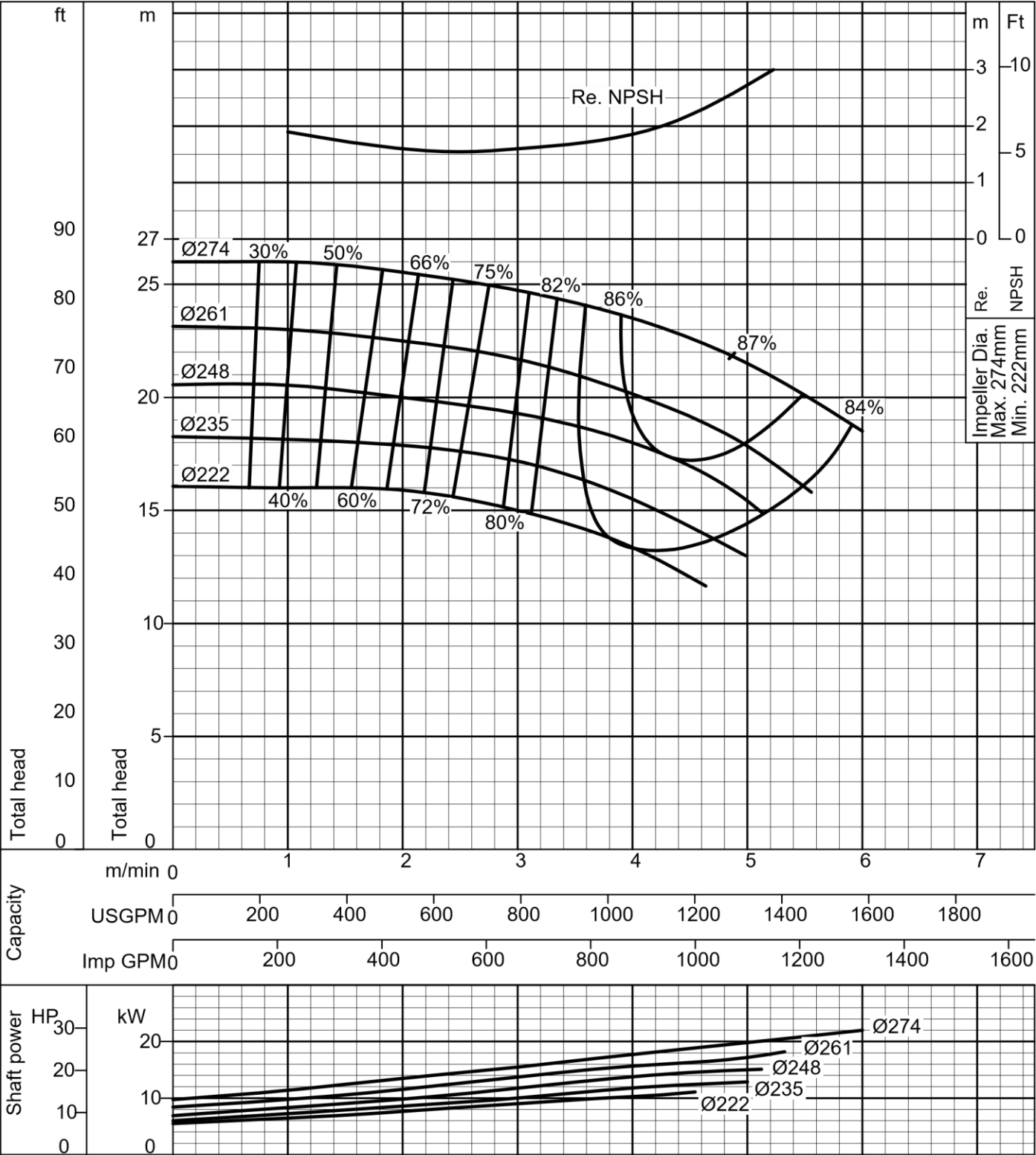
Curve No - 4 - 5FS5614R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (17/27)

150x125 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



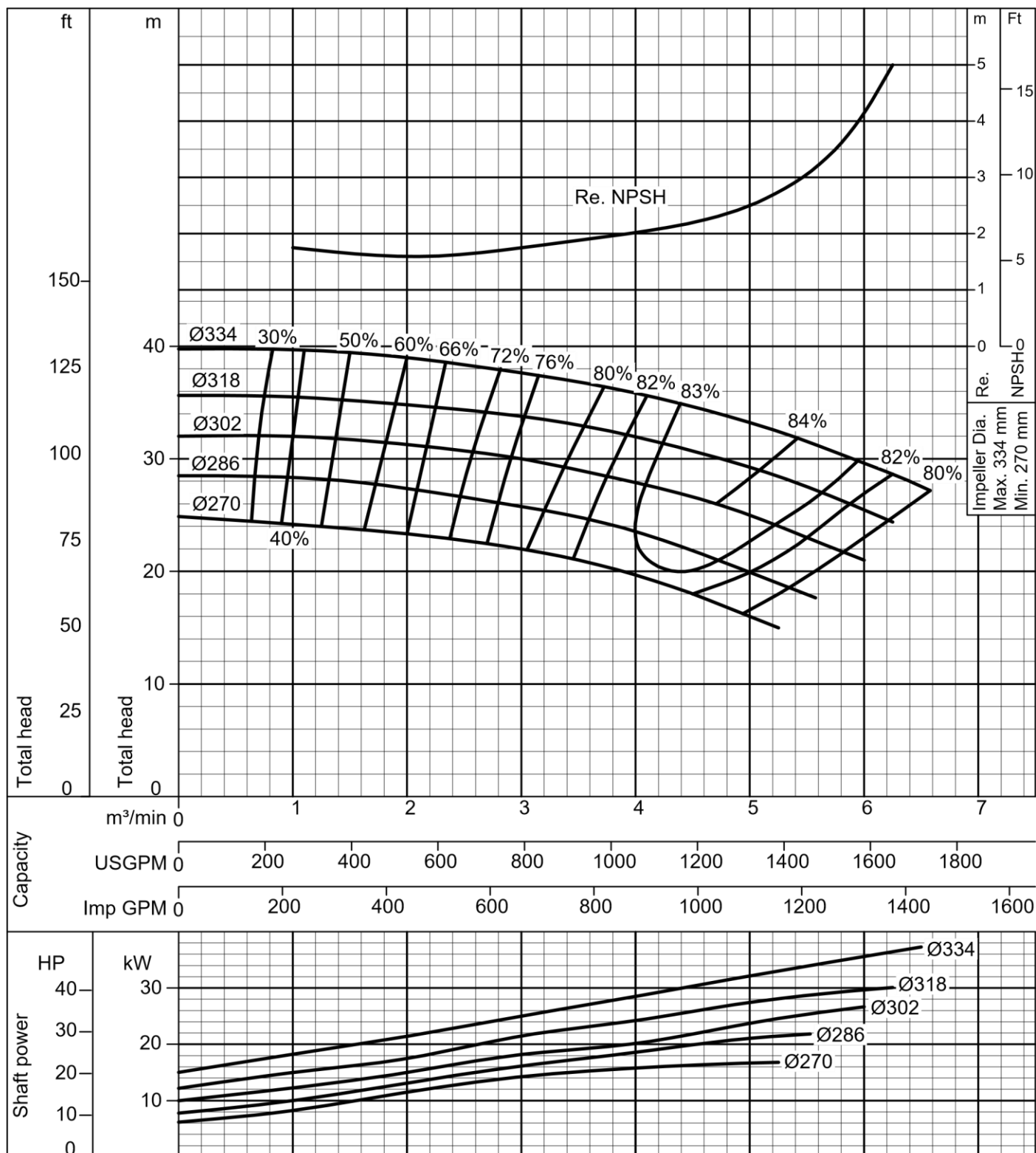
Curve No - 4 - 5FS5614R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (18/27)

150x125 FS4KA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



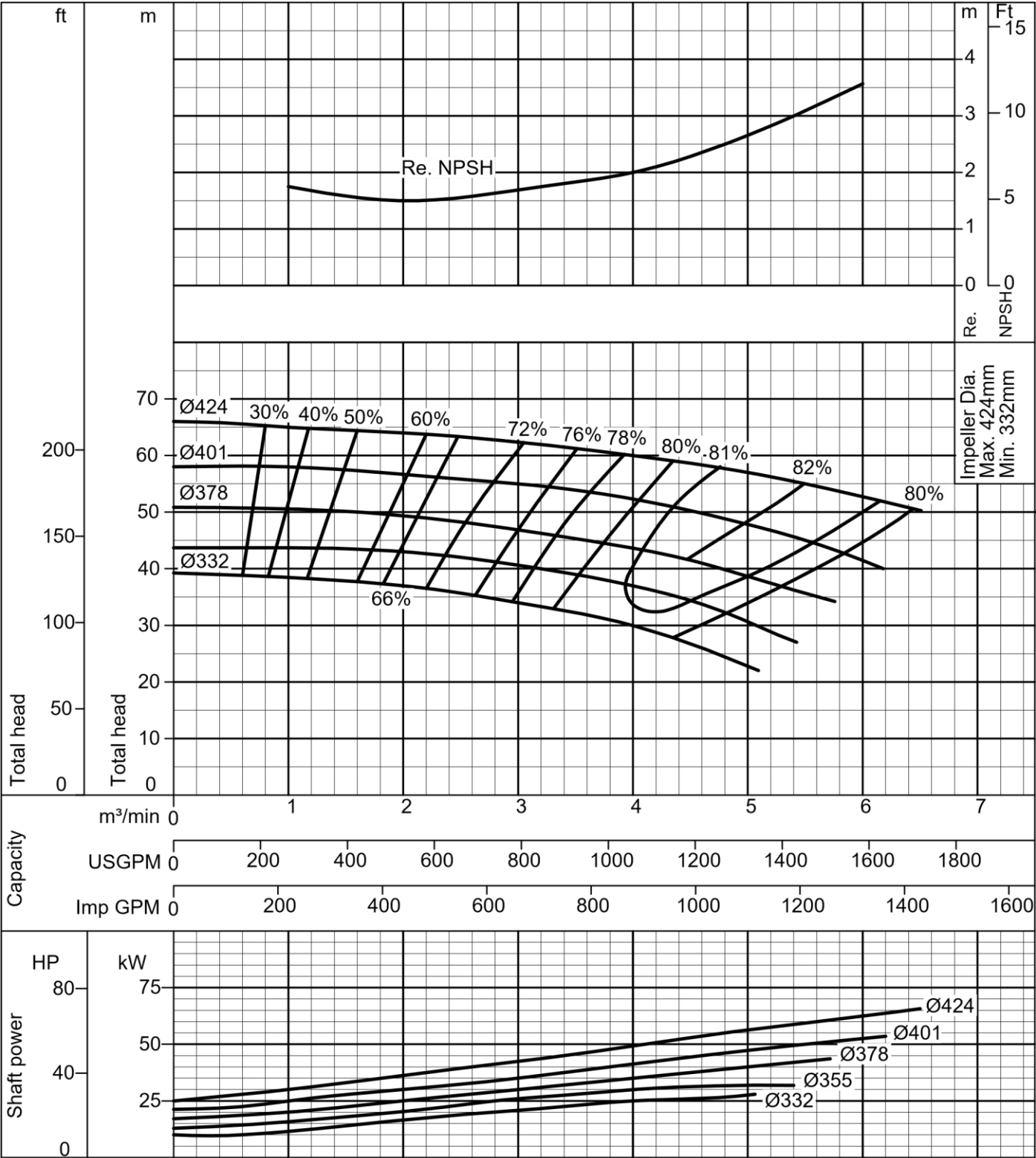
Curve No - 4 - 5FS5615R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (19/27)

150x125 FS4LA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



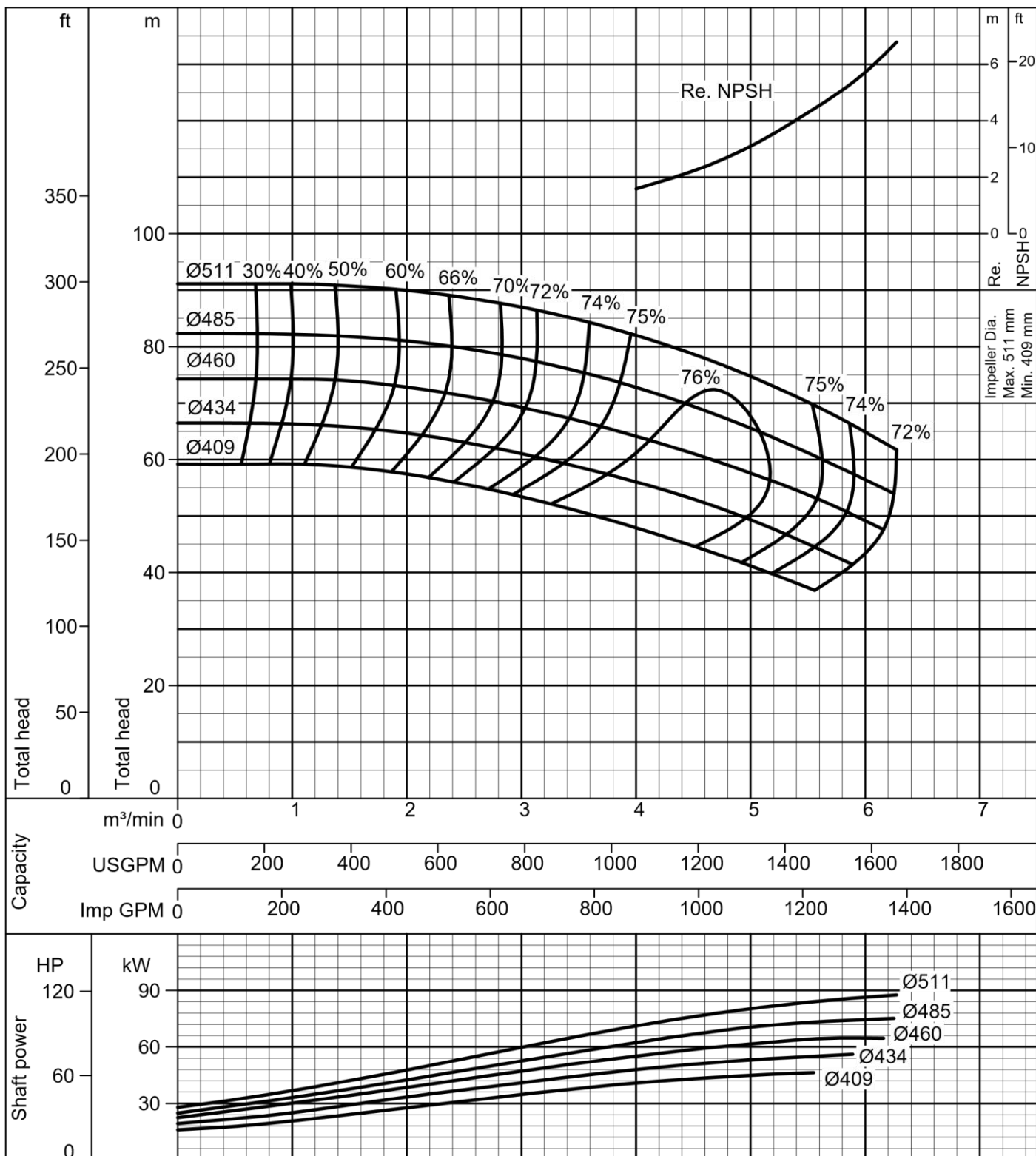
Curve No - 4 - 5FS5616R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (20/27)

150x100 FS4NA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



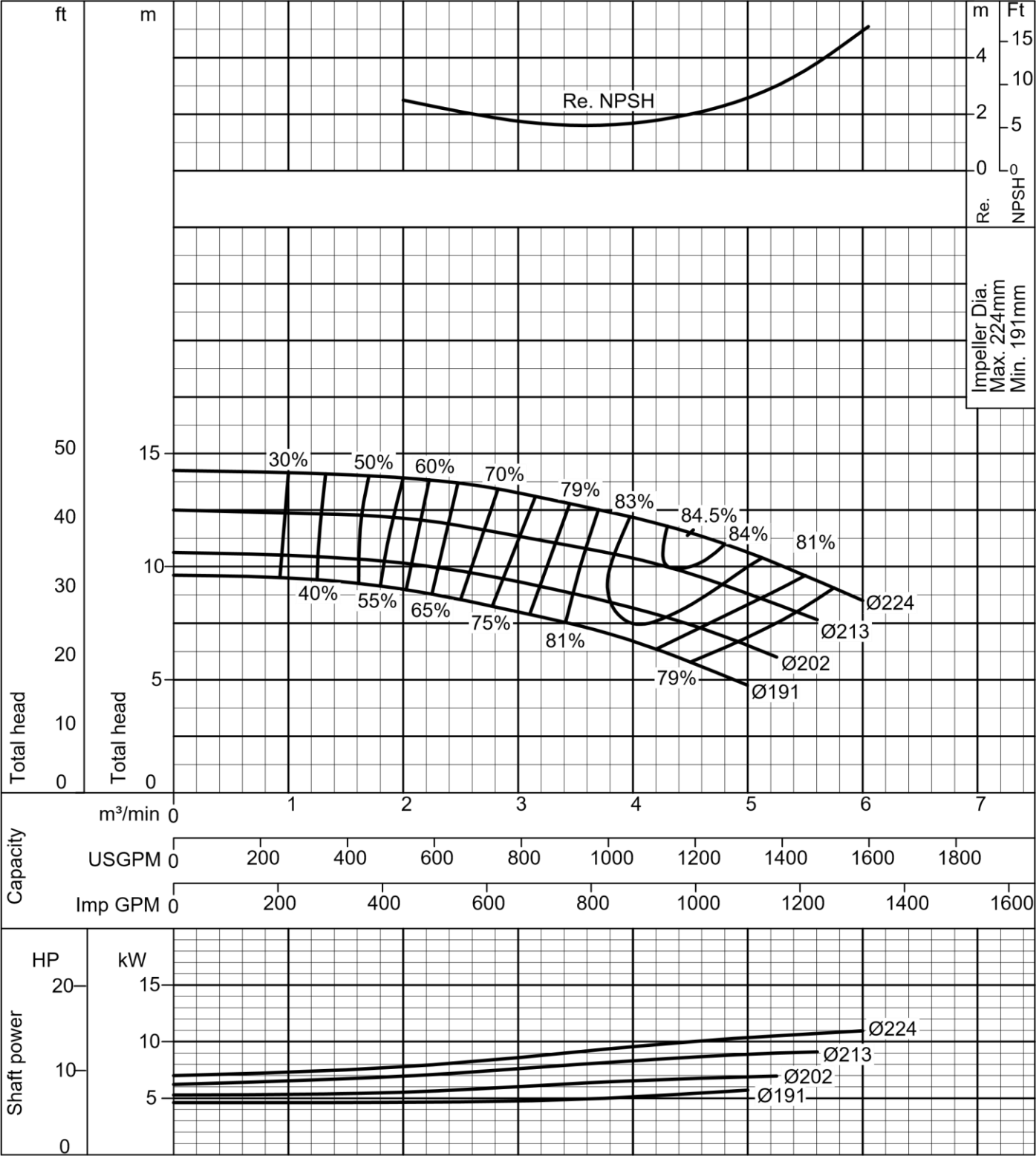
Curve No - 4 - 5FS5624R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (21/27)

200x150 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



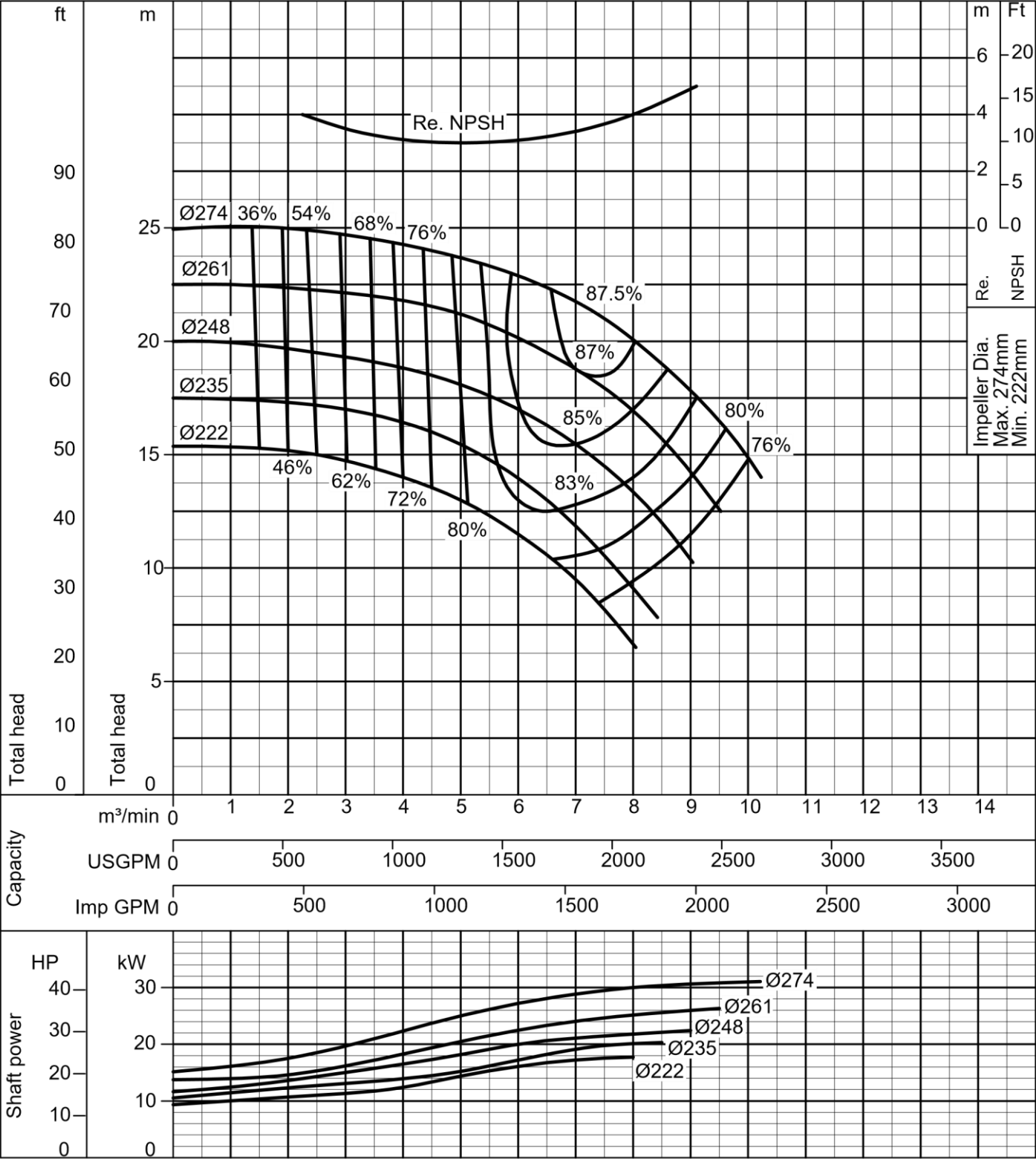
Curve No - 4 - 5FS5617R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (22/27)

200x150 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt

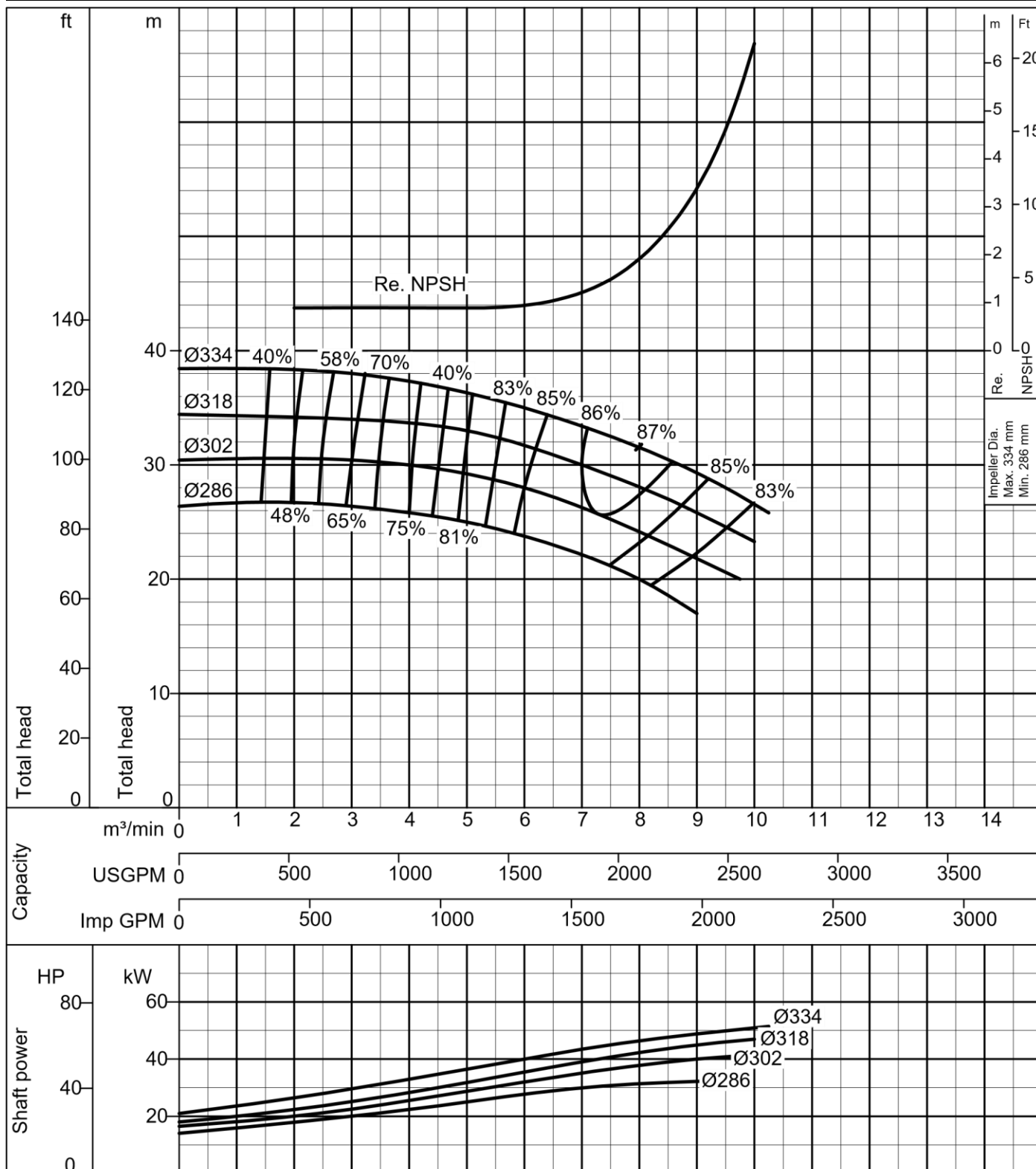


EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (23/27)

200x150 FS4KA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



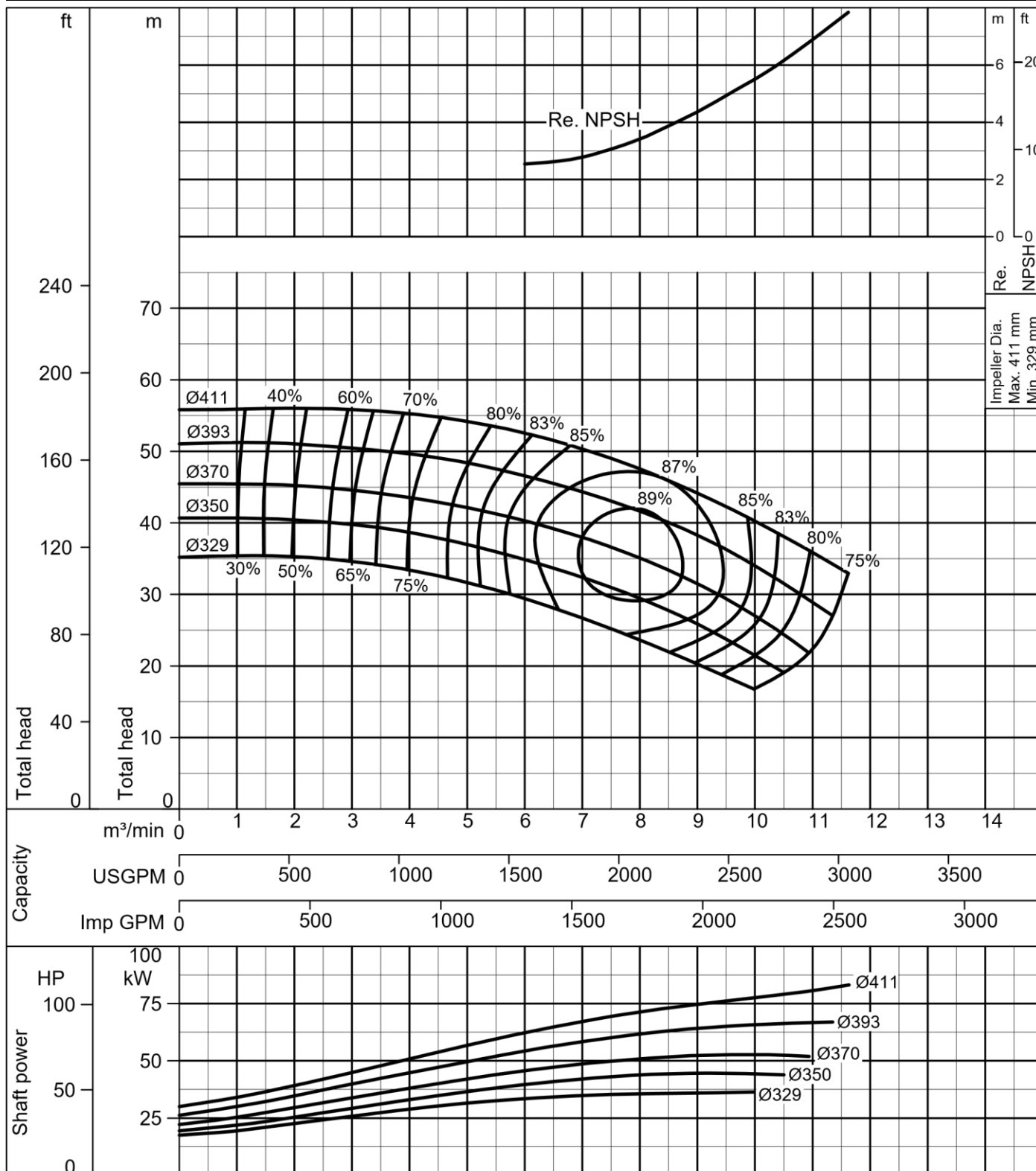
Curve No - 4 - 5FS5619R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (24/27)

200x150 FS4LA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



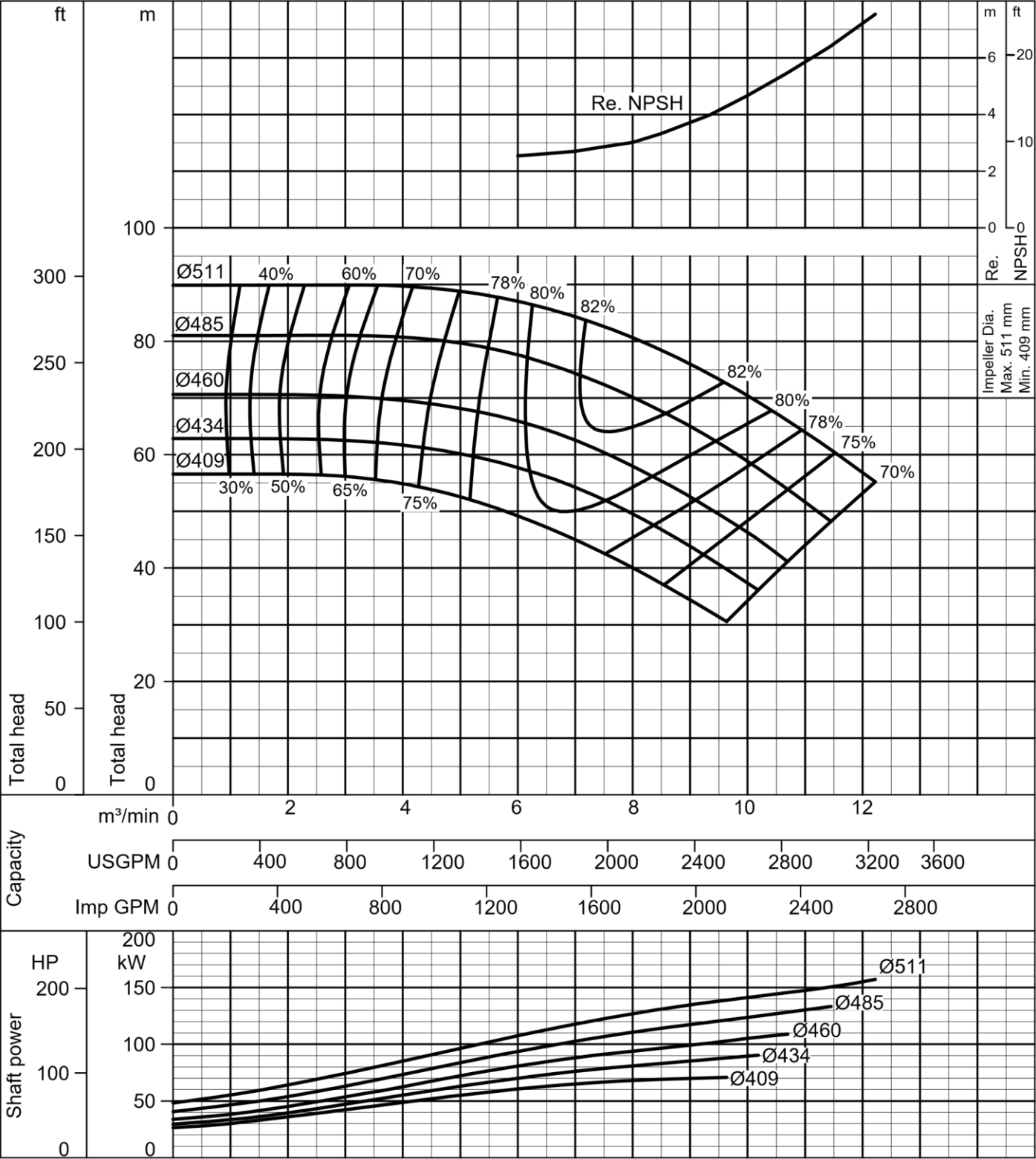
Curve No - 4 - 5FS5625R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (25/27)

200x150 FS4NA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



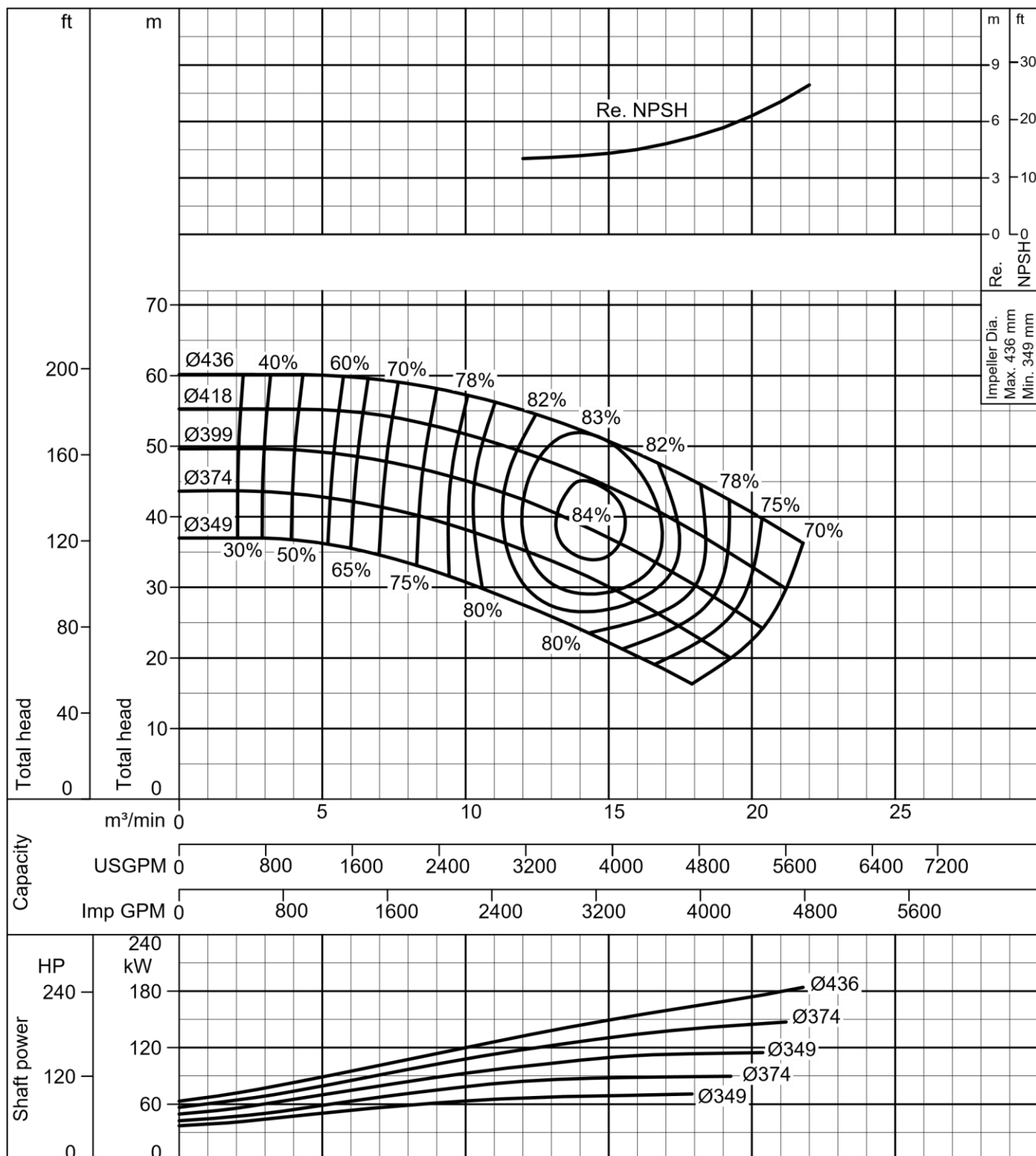
Curve No - 4 - 5FS5626R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (26/27)

250x200 FS4LA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



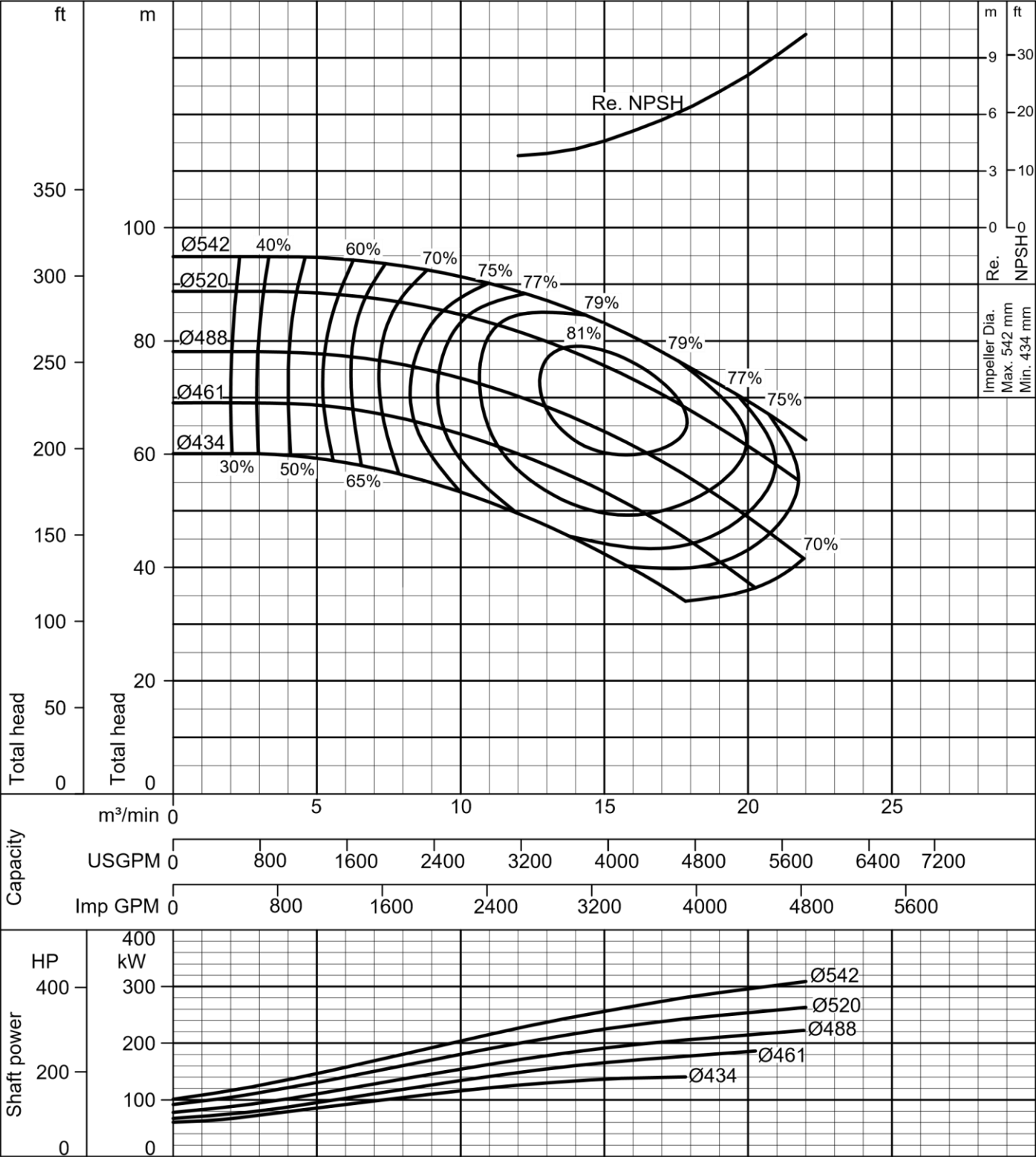
Curve No - 4 - 5FS5627R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (27/27)

250x200 FS4NA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



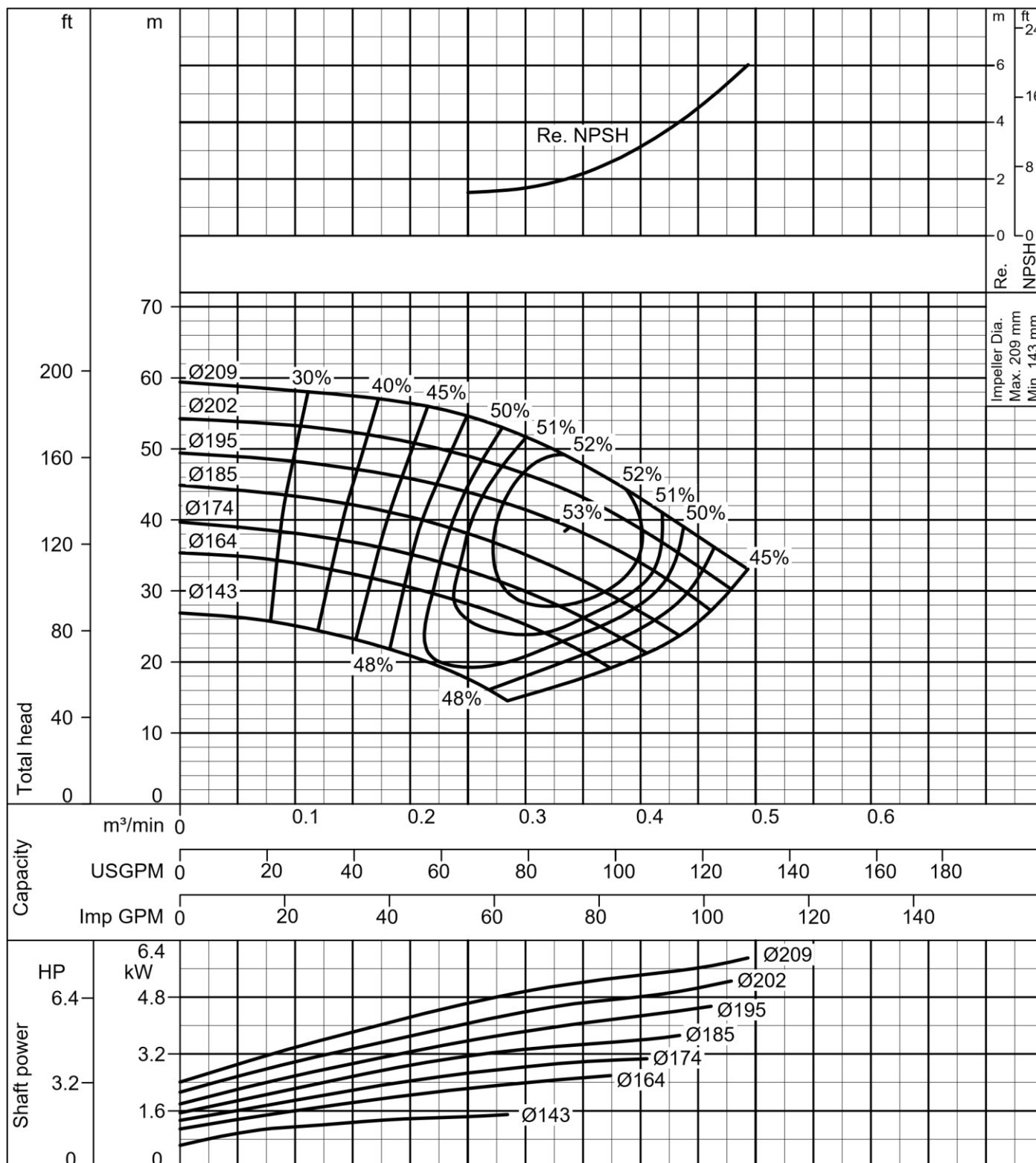
Curve No - 4 - 5FS5628R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (1/14)

50X40 FS2HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



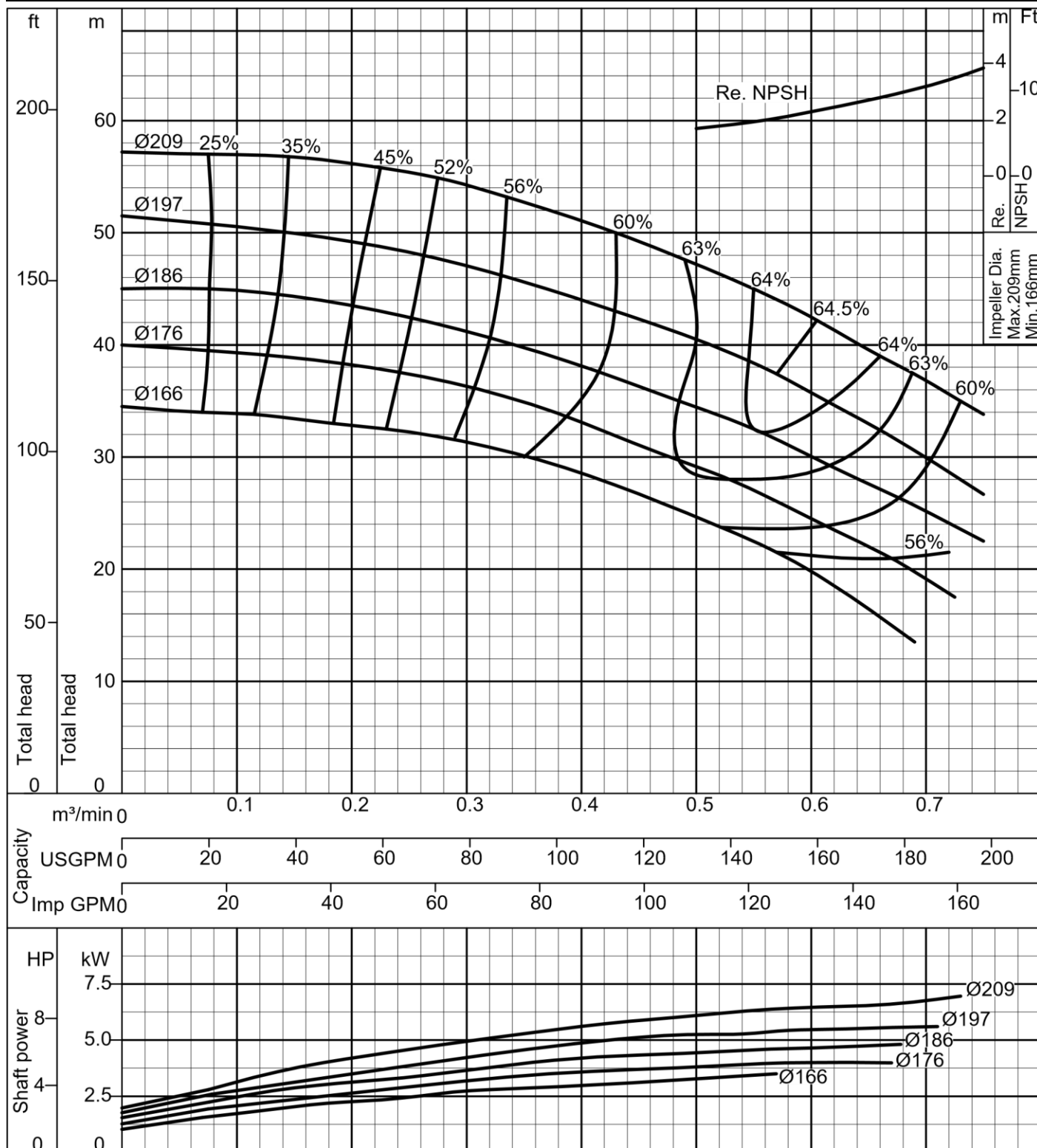
Curve No - 2 - 5FS5601R3

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (2/14)

65X50 FS2HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



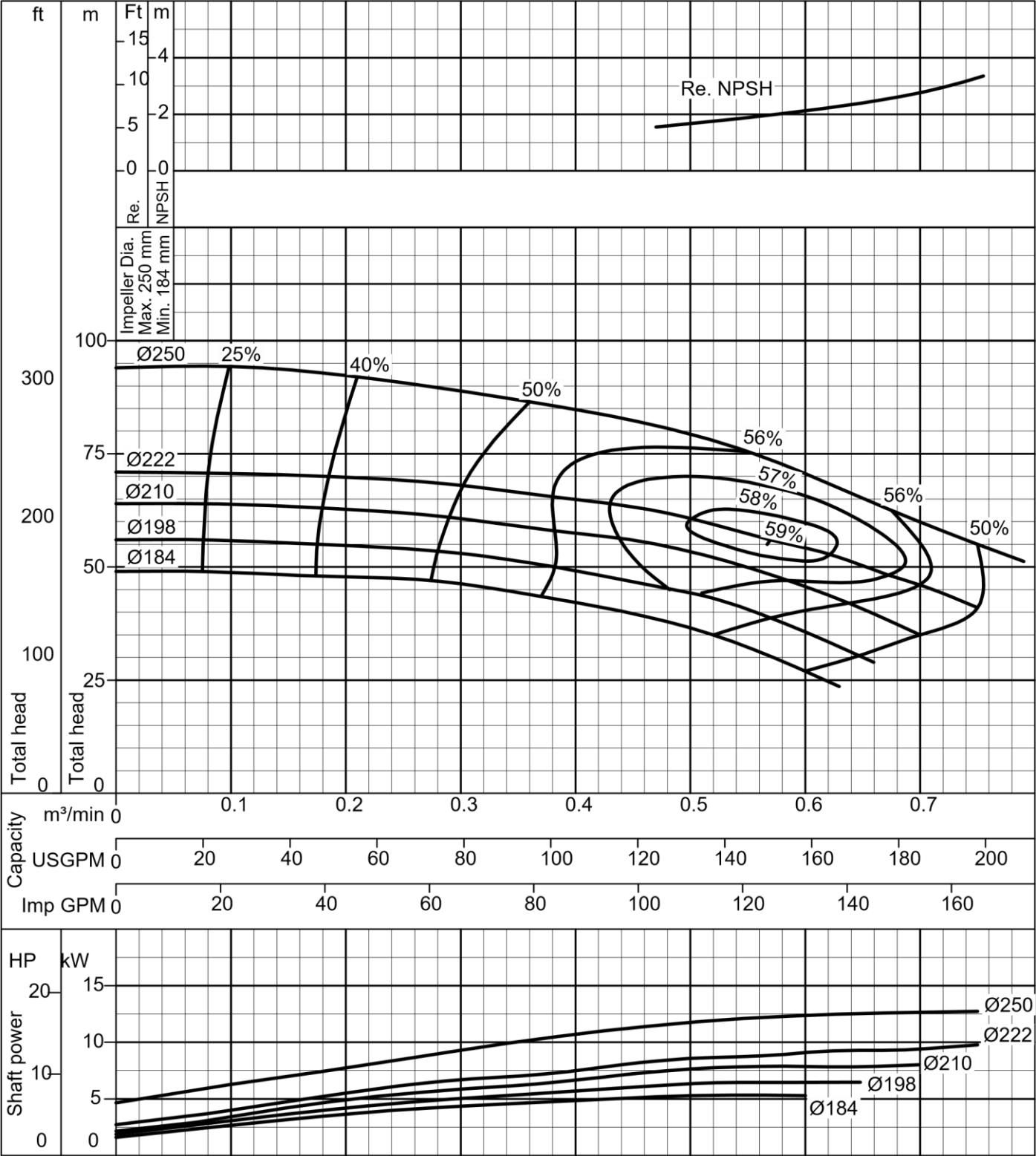
Curve No - 2 - 5FS5602R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (3/14)

65X50 FS2JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



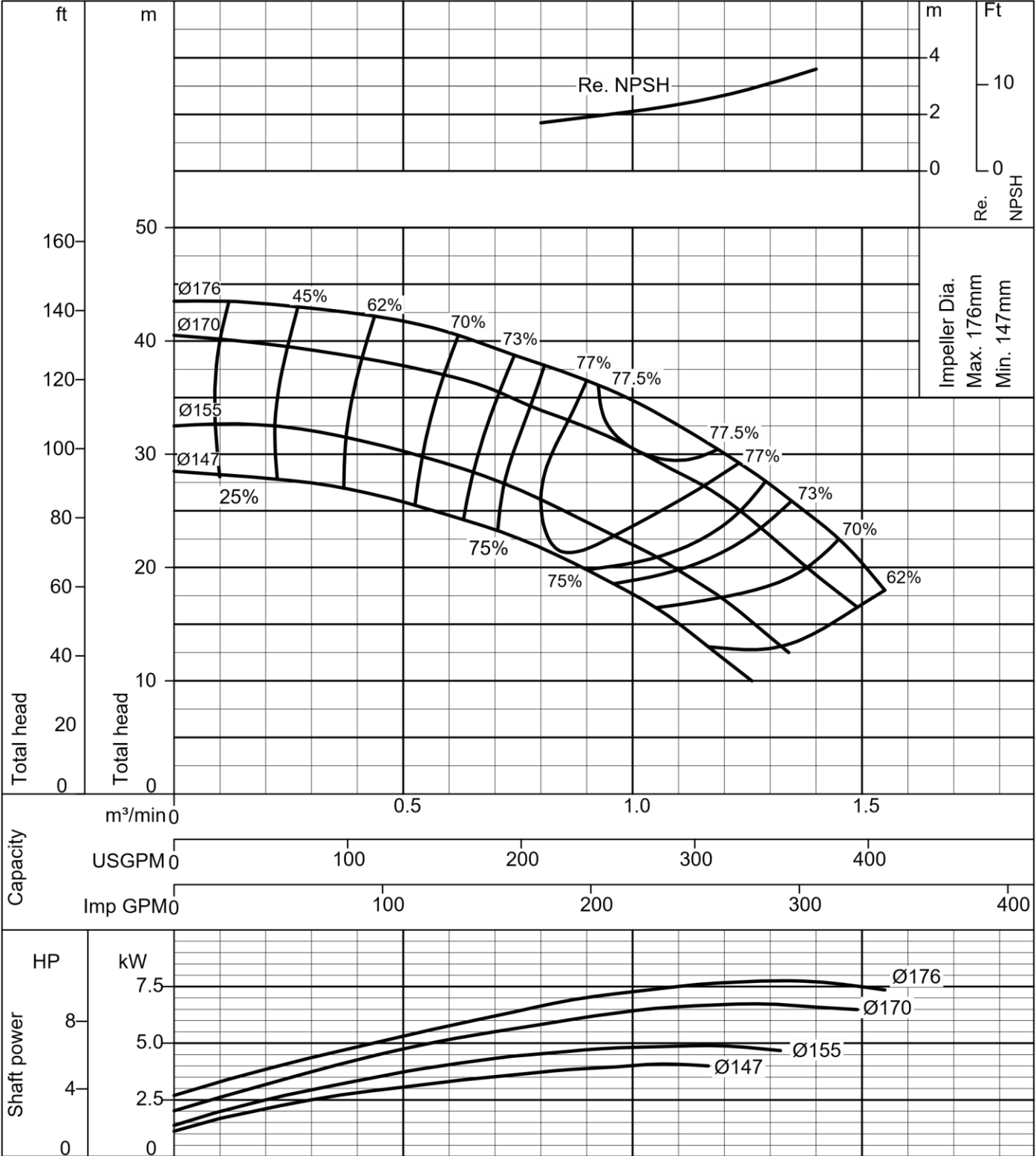
Curve No - 2 - 5FS5603R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (4/14)

80x65 FS2GA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



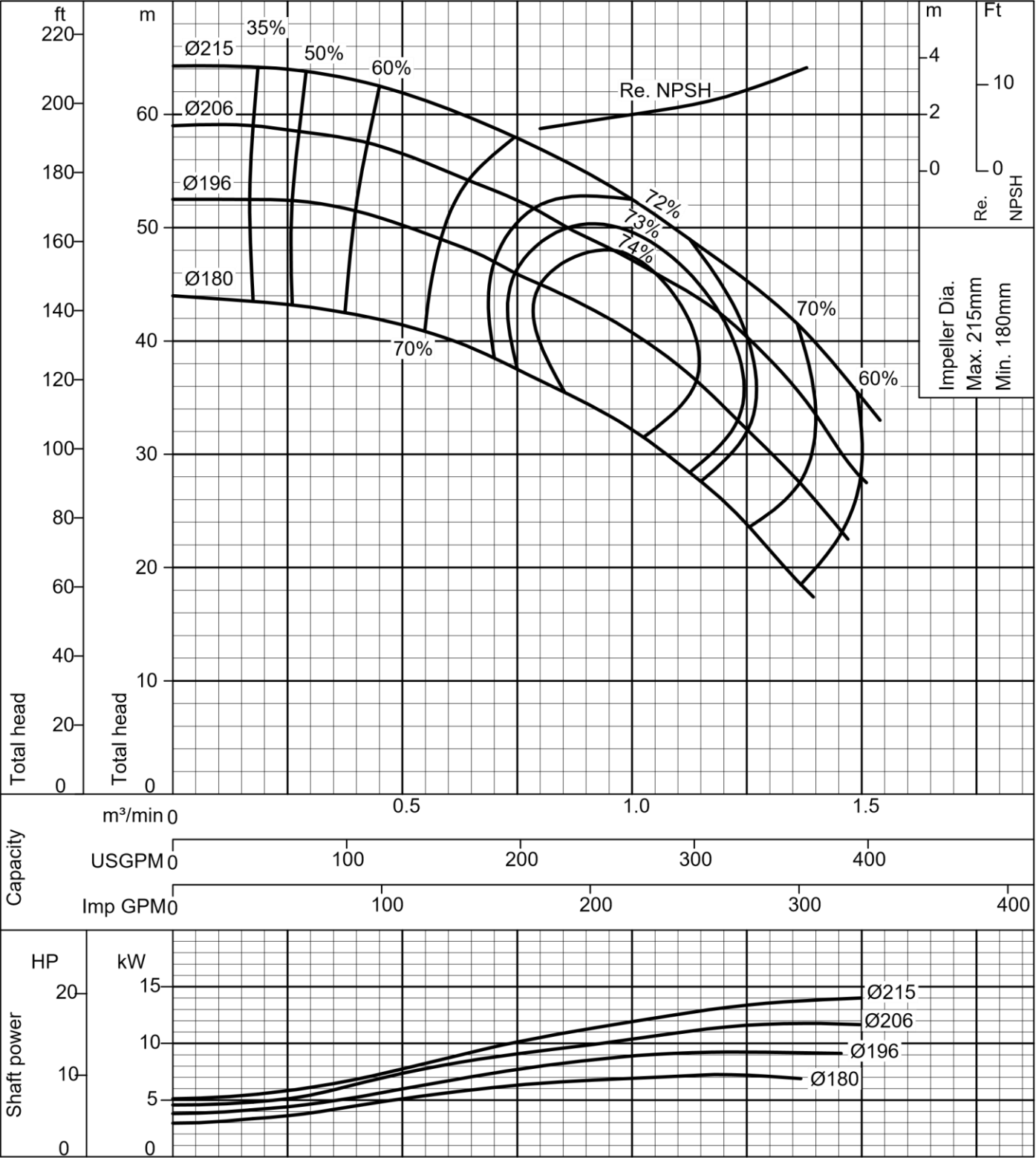
Curve No - 2 - 5FS5604R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (5/14)

80x65 FS2HA	According to ISO 9906 Grade 3B JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt

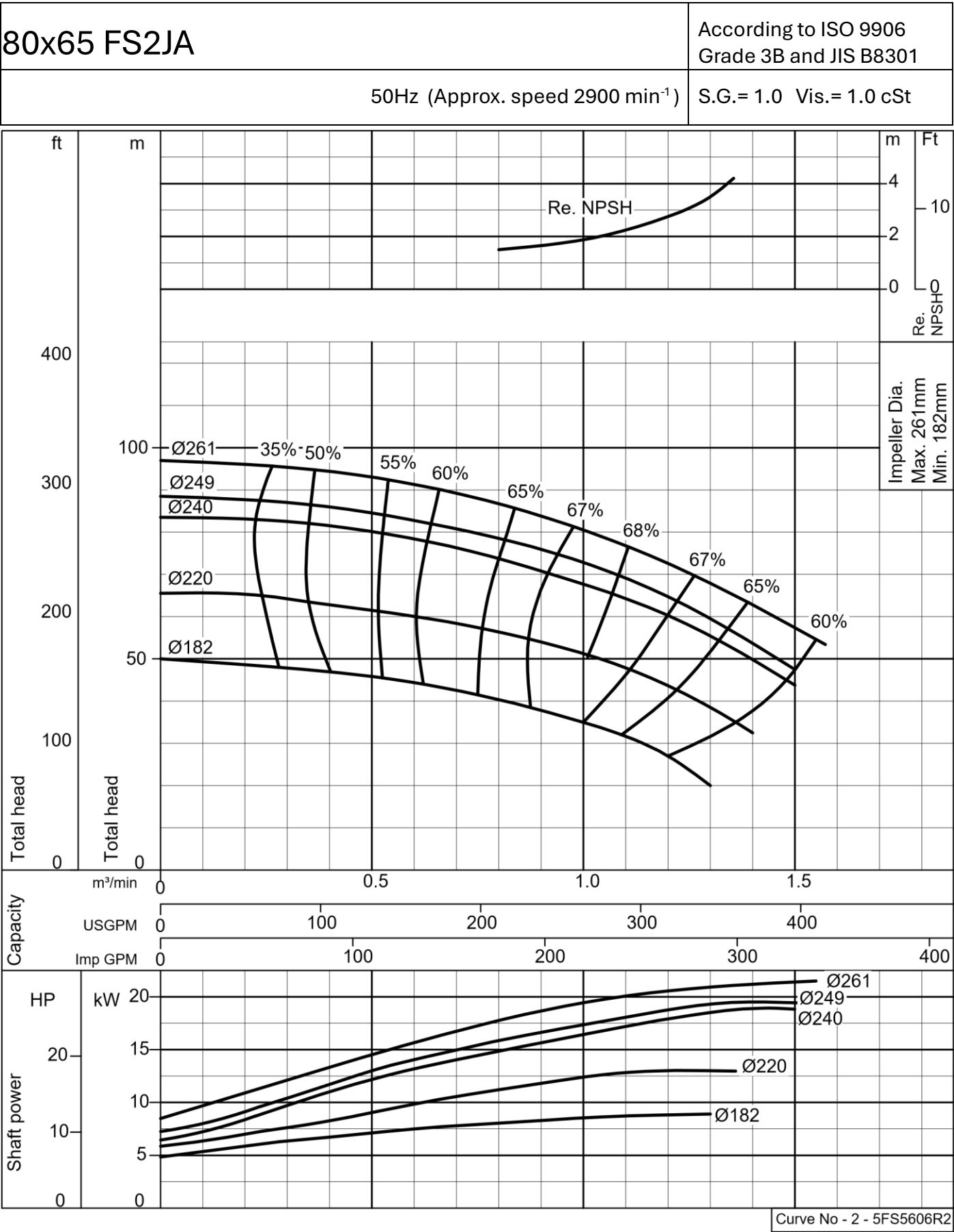


Curve No - 2 - 5FS5605R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

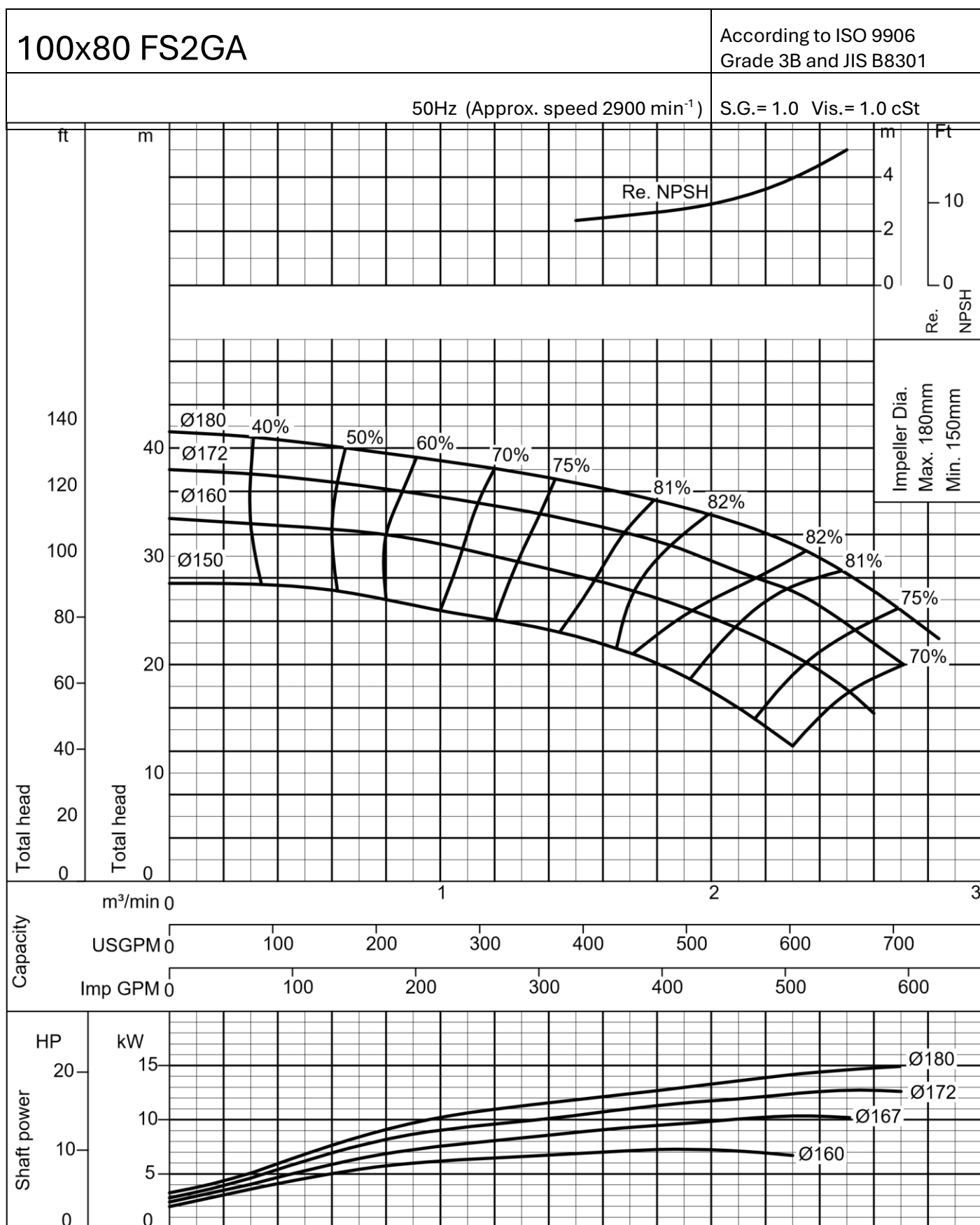
PERFORMANCE CURVE – 2 POLE (6/14)



EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (7/14)



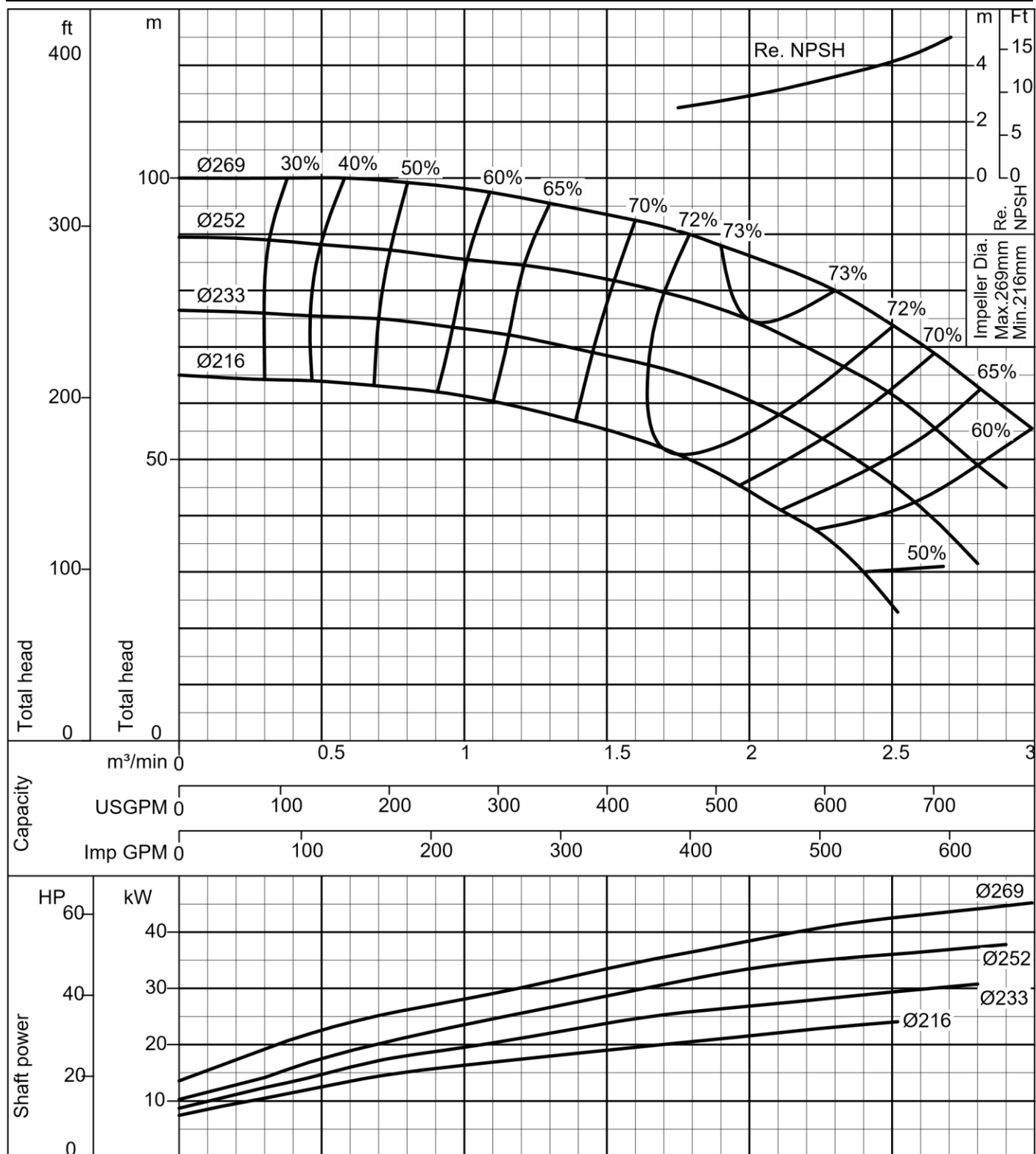
Curve No - 2 - 5FS5607R3

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (8/14)

100x80 FS2JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



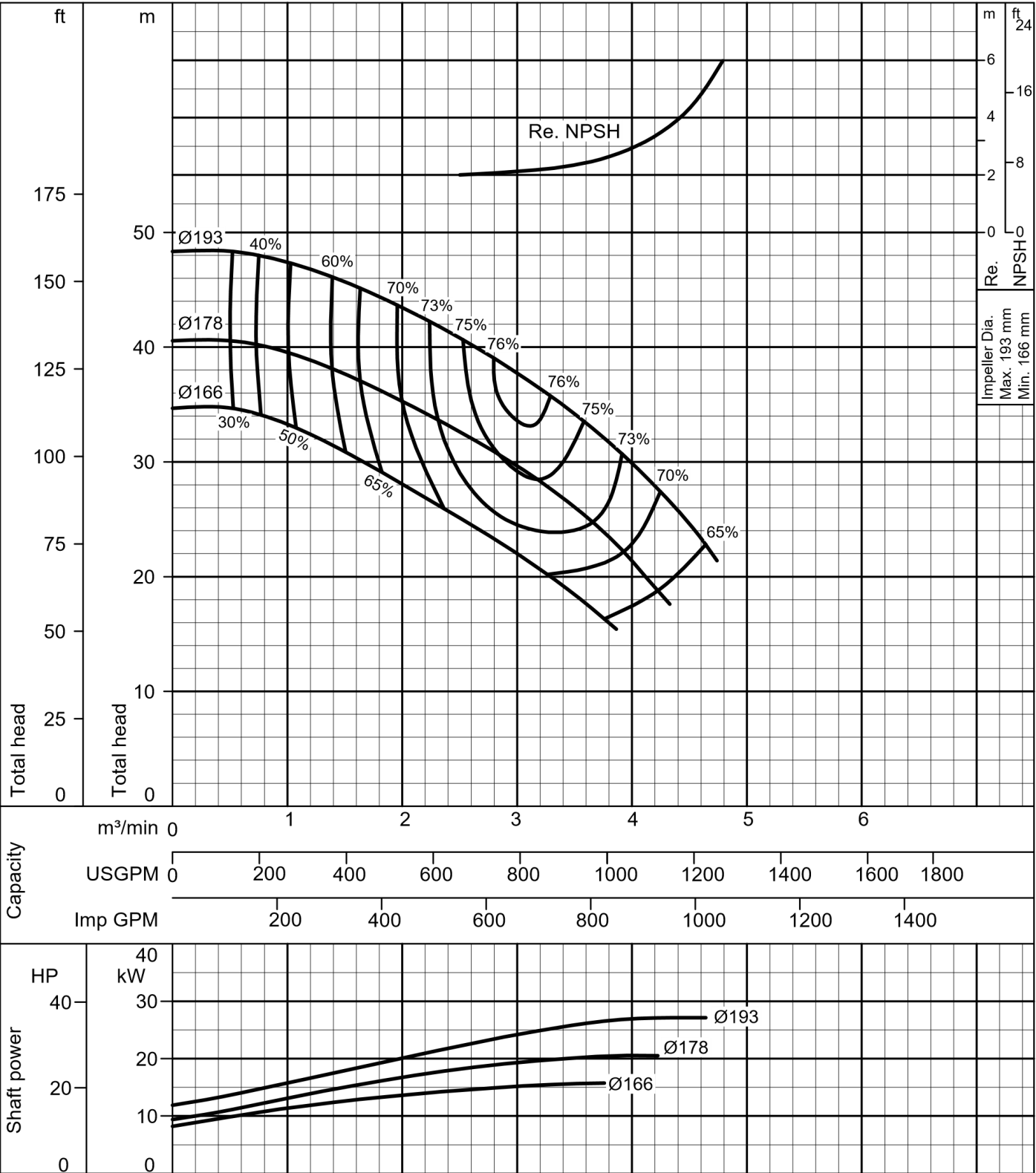
Curve No - 2 - 5FS5609R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (9/14)

100x80 FS2GCA	According to ISO 9906 Grade 3B and JIS B8031
50Hz (Approx. speed 2900 min ⁻¹) S.G.= 1.0 Vis.= 1.0 cSt	



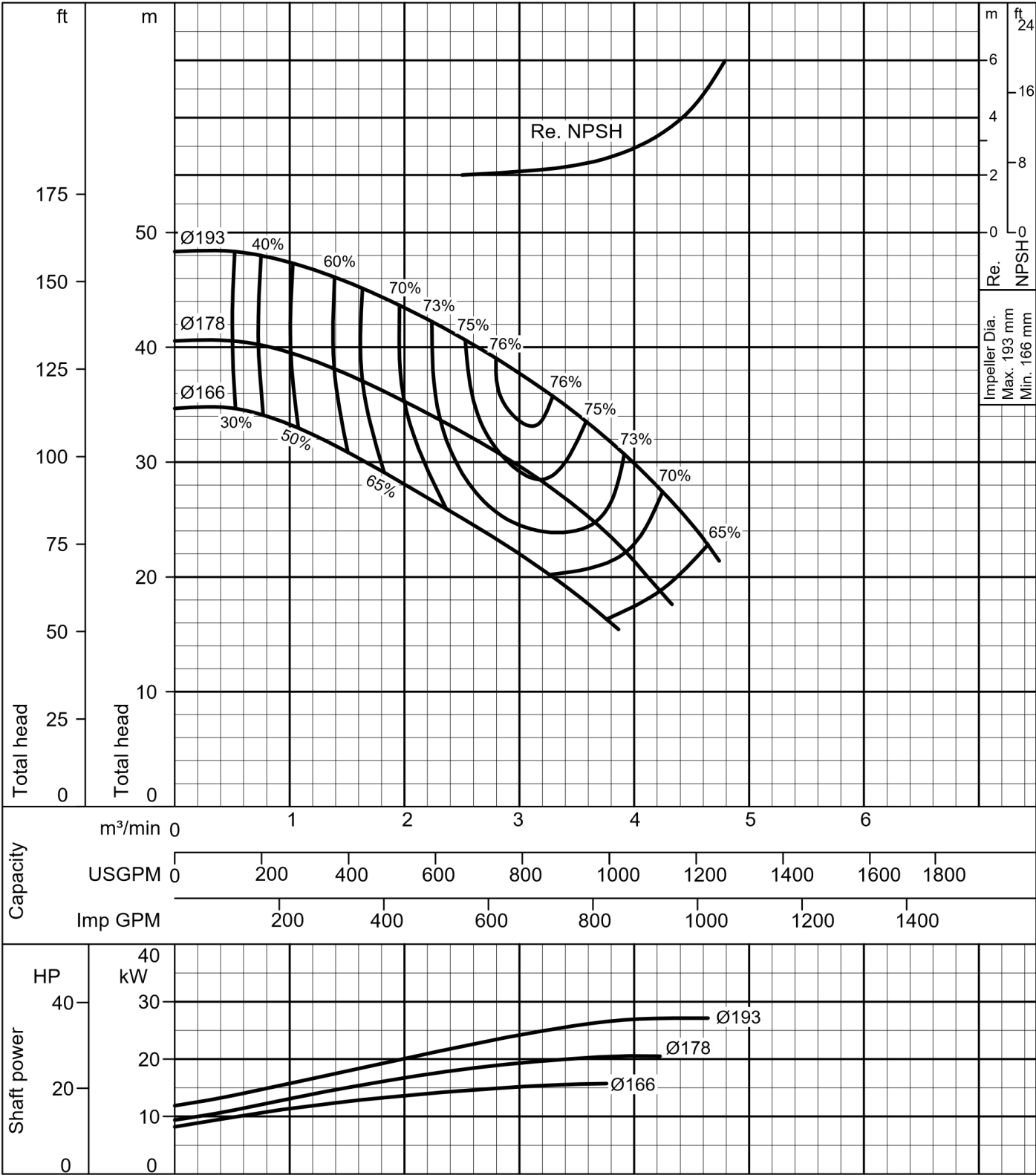
Curve No - 2 - 5FS5610R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (10/14)

100x80 FS2GCA	According to ISO 9906 Grade 3B and JIS B8031
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



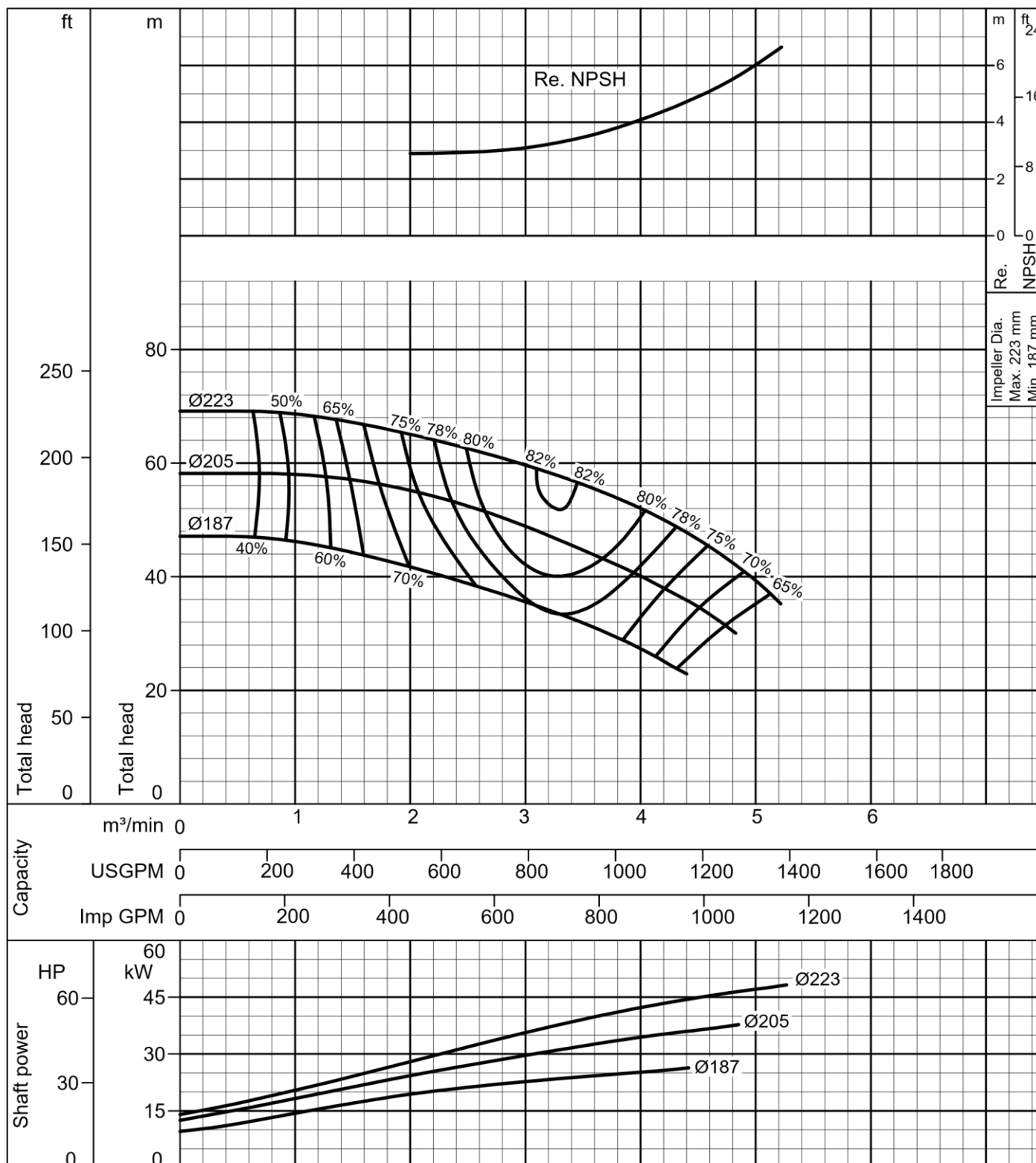
Curve No - 2 - 5FS5610R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (11/14)

100x80 FS2HCA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



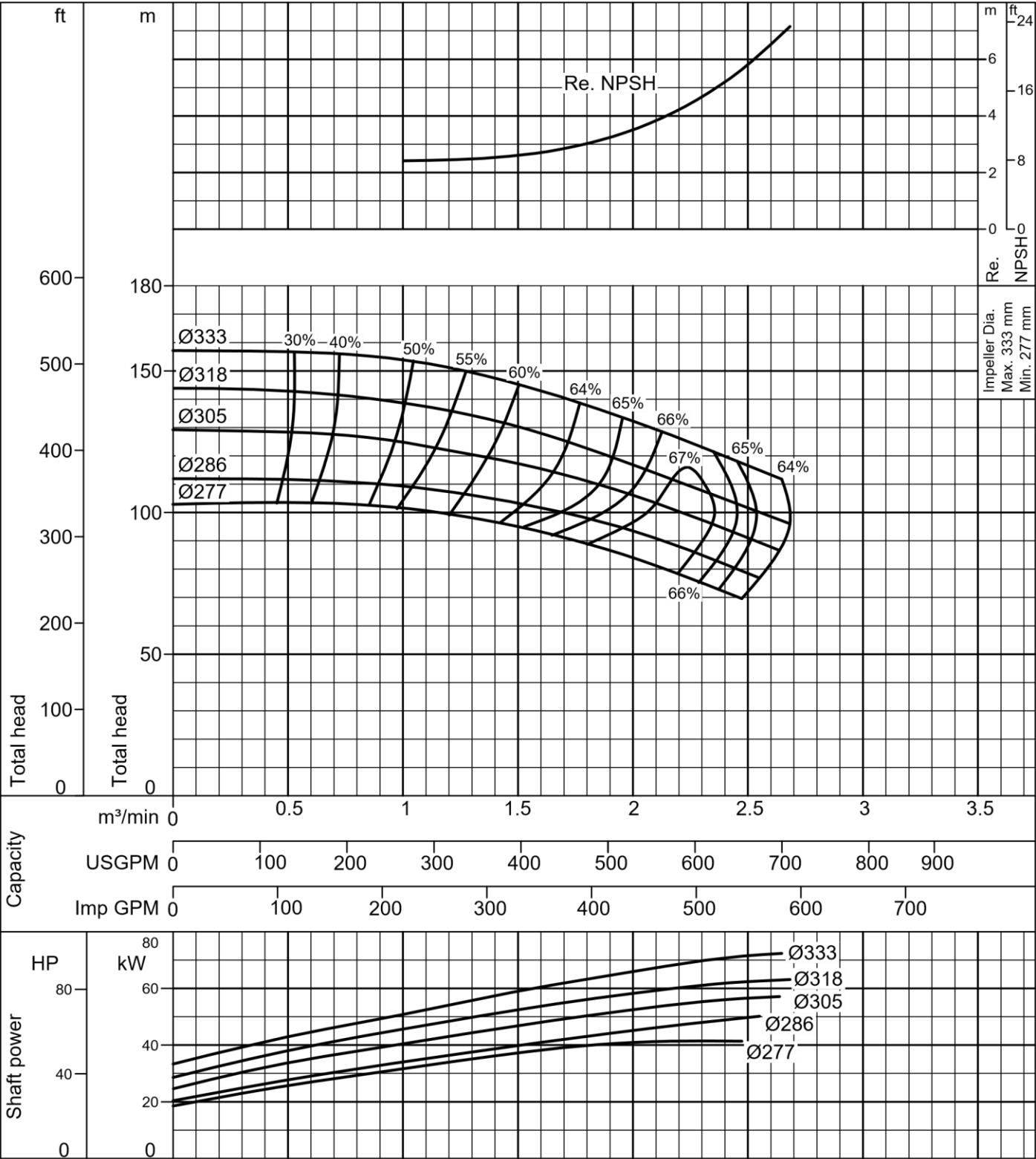
Curve No - 2 - 5FS5611R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (12/14)

100X80 FS2KA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



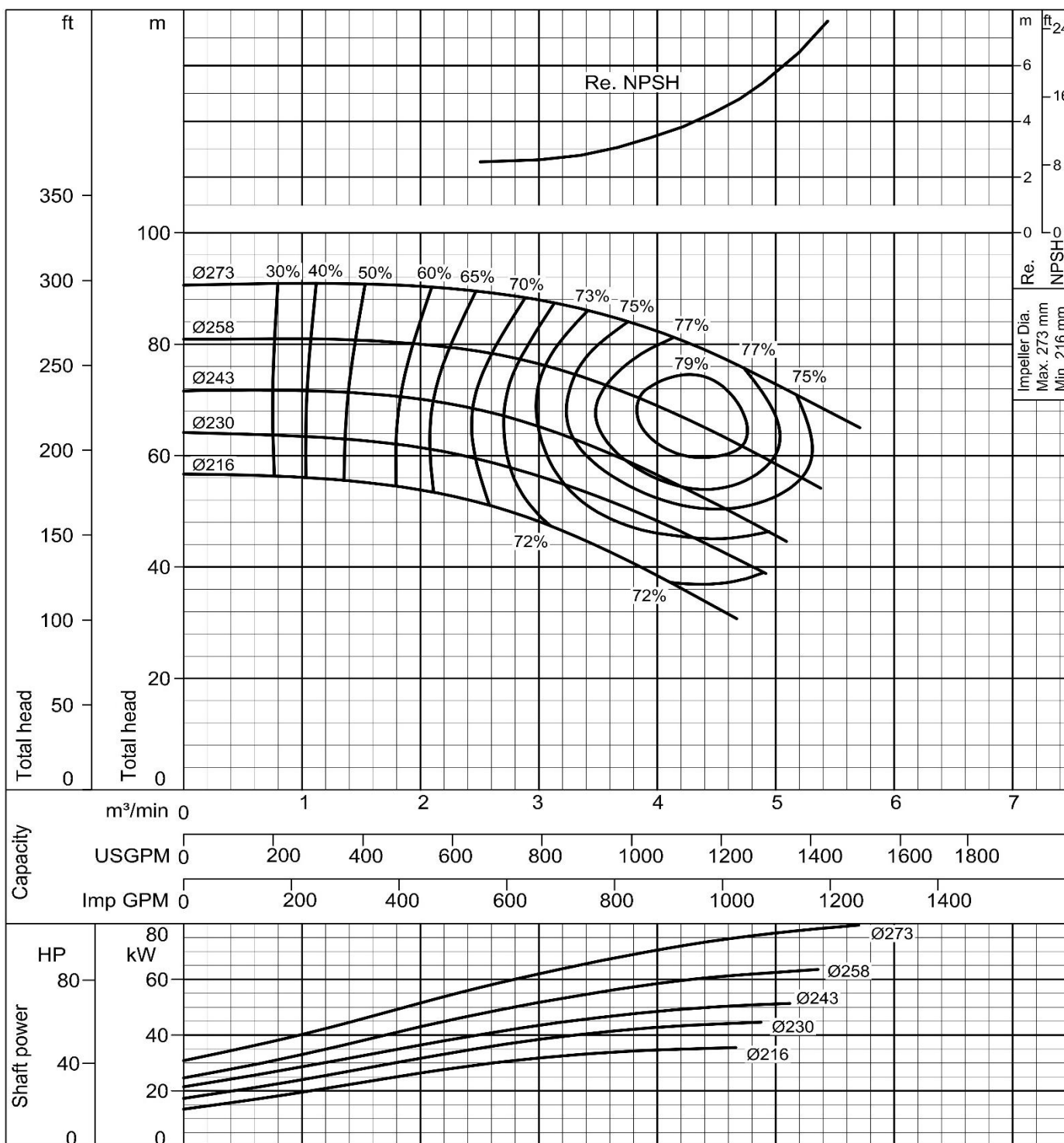
Curve No - 2 - 5FS5612R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (13/14)

125x100 FS2JCA	According to ISO 9906 and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



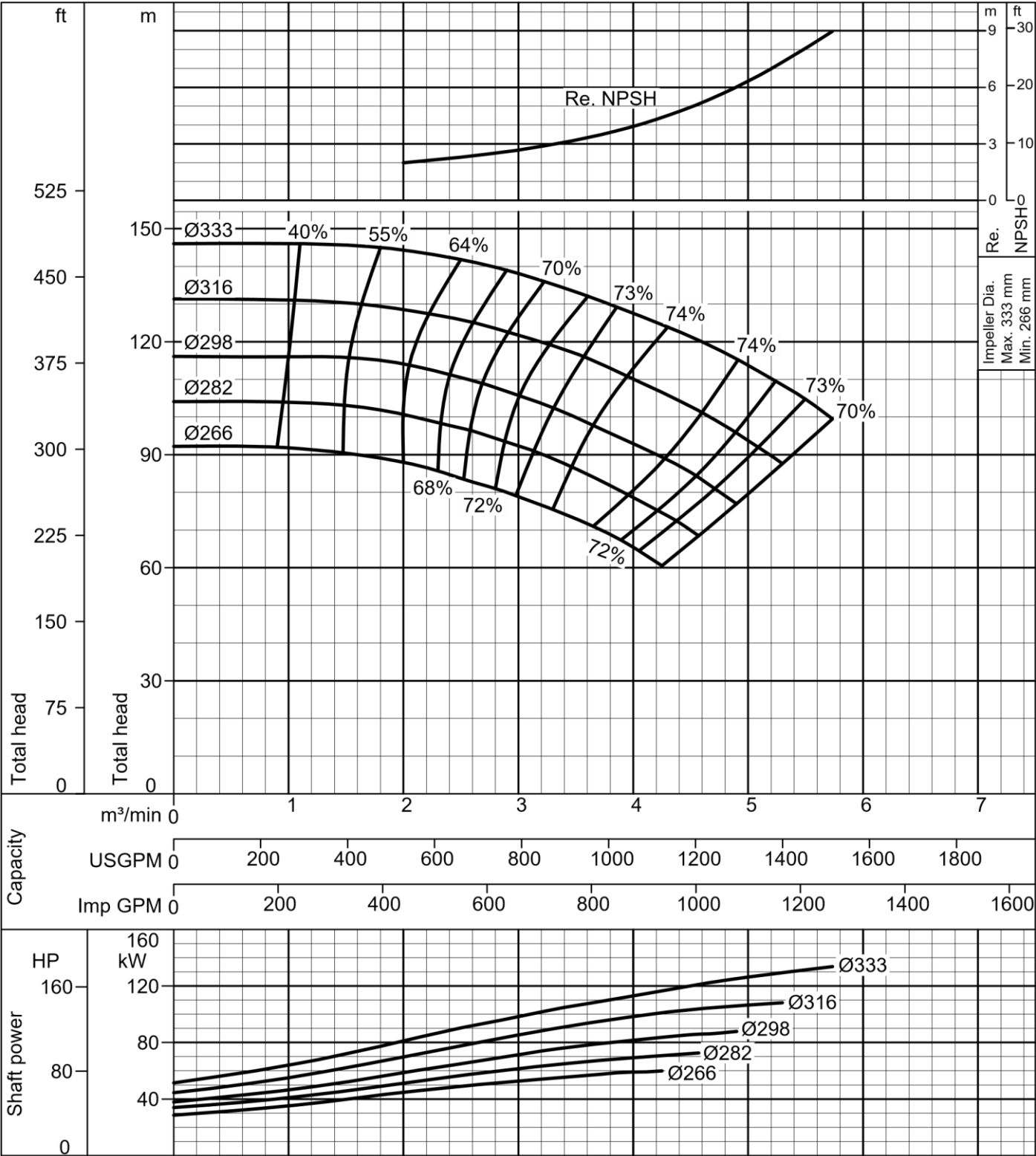
Curve No – 2 – 5FS5613R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (14/14)

150x100 FS2KA	According to ISO 9908 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



Curve No - 2 - 5FS5614R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

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EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

SPECIFICATION FEATURES AND MAIN APPLICATION

PRODUCT FEATURES

SIMPLE MAINTENANCE	• Easy removal and maintenance, BPO (Back Pull Out) system allows all rotating elements can be removed without disconnecting suction and discharge pipe work. • Top centreline discharge, foot support under casing for maximum resistance due to misalignment and distortions from pipe loads. • Shield bearings eliminate need for adding or exchanging lubricating oil.
PUMP SPECIFICATION	• Non-overload design to ensure stable performance for all applications. • Wider range application with flow capacity up to 22 m³/min. • Higher working pressure up to 16 bar. • Liquid temperature range expansion : 0°C to 80°C • Compatible with multiple flange standards (optional for DIN) • Able to meet customer specifications with many combinations of shaft seals and materials (optional request)
INTERNATIONAL STANDARD	• Pump dimensions and basic design adopt JIS B 8313

MAIN APPLICATION

- Industrial use
- Water supply
- Hot and cold-water supply
- For swimming pool
- Sprinkling
- Air conditioning
- Fire-fighting application

SPECIFICATION - GENERAL DESCRIPTION

DESCRIPTION	STANDARD	OPTIONAL
Capacities	To 6 m ³ /min (2 Pole, 50Hz & 60Hz)	
	To 22 m ³ /min (4 Pole, 50Hz & 60Hz)	
Head	To 155 m (2 Pole, 50Hz & 60Hz)	
	To 95 m (4 Pole, 50Hz & 60Hz)	
Liquid temperatures	0°C to 80°C	
Max. working pressures	10 bars for standard flange JIS 10K RF	
	16 bars for standard flange JIS 16K RF	
Materials	Casing: Cast Iron	Ductile Cast Iron
	Impeller: Bronze	Cast Iron, Cast Stainless
Standards	JIS B 8313	
Rotation	Clockwise viewed from coupling end	

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

SPECIFICATION – DESIGN DETAILS

FEATURES

- Horizontal foot mounting
- Back pull-out design
- Single stage
- Radially split volute casing

SHAFT SEAL

- Gland Packing
- Single Mechanical seal

BEARING AND LUBRICANT

- Shield ball bearing (Grease lubrication/Free maintenance ball bearing)
- Optional: Open ball bearing (Oil-lubricated/Oil-Bath).
- This option is limited for below models:
- 65x50 FSHA, 80x65 FSJA, 100x80 FSJA, 150x125 FSLA, 125x100 FSKA, 150x100 FSNA, 150x125 FSJA, 150x125 FSKA, 150x125 FSLA, 200x150 FSJA, 200x150 FSKA, 200x150 FSNA, 250x200 FSNA

IMPELLER

- Closed
- Single suction type and balancing holes to reduce axial thrust

APPLICABLE FLANGE STANDARD

JIS 10K	(Suction < $\varnothing$ 150 mm, except 100x65 FSKA)
	(Suction = $\varnothing$ 150 mm, except 150x100 FSKA, 150x100 FSNA)
	(Suction = $\varnothing$ 200 mm, except 200x150 FSLA, 200x150 FSNA)
JIS 16K	(Suction = $\varnothing$ 250 mm and above mention exception JIS 10K)
	(100x65 FSKA, 150x100 FSKA, 150x100 FSNA, 200x150 FSLA, 200x150 FSNA)
	(Optional for Suction $\leq \varnothing$ 150 mm)
DIN PN16	(Optional)

PAINTING

INNER SURFACE (STANDARD)

Primer coating	Zinc chromate primer
Final coating	Non painting
Finish color	Grey

OUTER SURFACE (STANDARD)

Primer coating	Zinc chromate primer
Final coating	Phthalic resin enamel
Finish color	Grey

PUMP MODEL FSA 50 Hz

Performance Chart – 4 Pole – 50 Hz

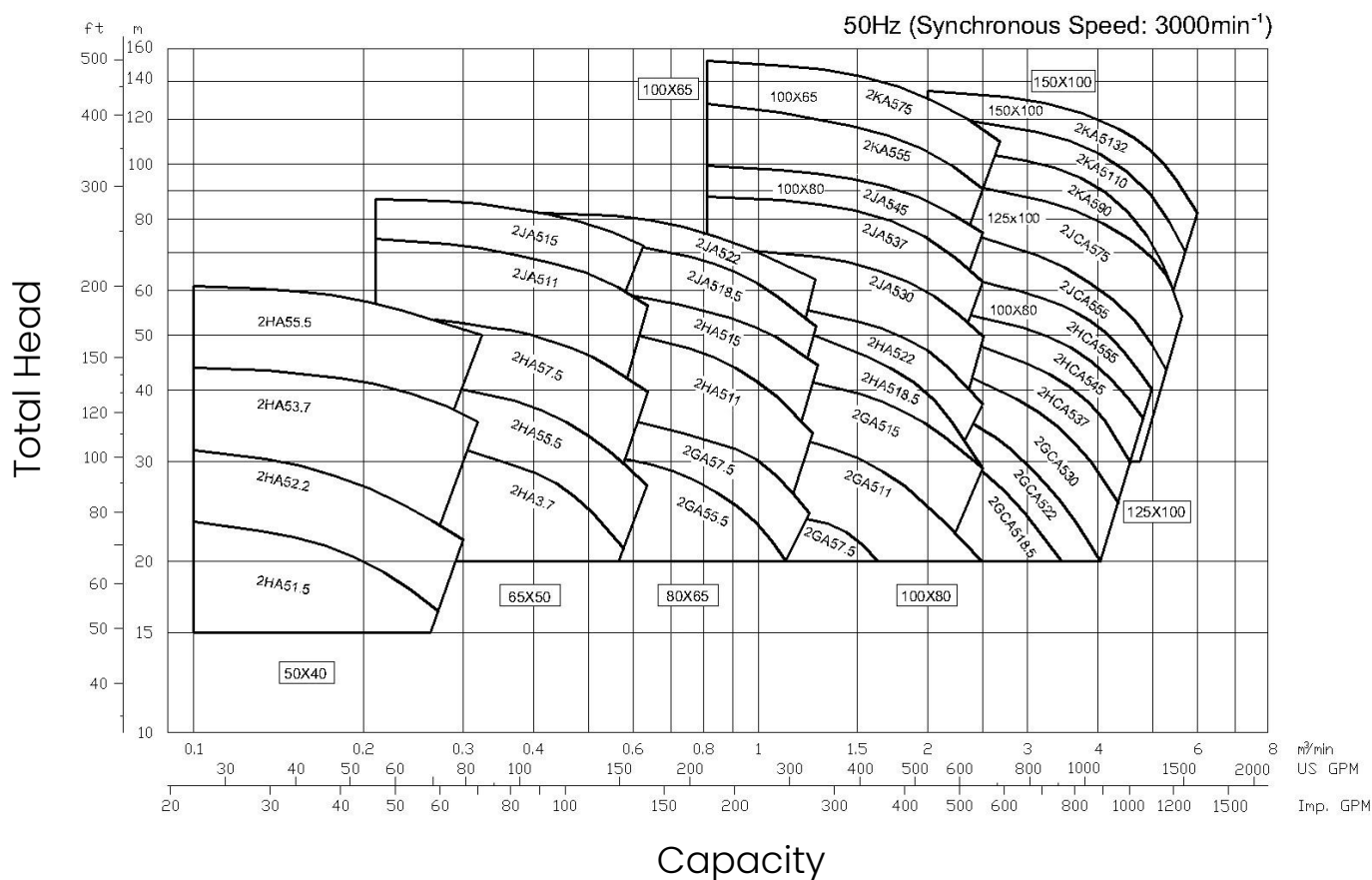


EBARA END SUCTION VOLUTE

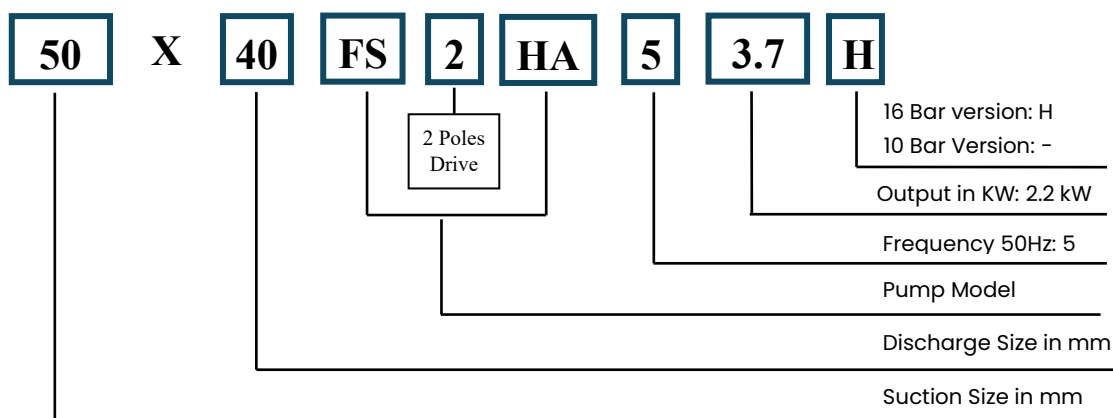
PUMP MODEL FSA 50 Hz

PERFORMANCE CHART – MODEL CODE (2/2)

Performance Chart – 2 Pole – 50 Hz



Model Code – 2 Pole – 50 Hz



EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

SPECIFICATIONS

Pump

Description		Standard		Optional	
		2 pole model	4 pole model	2 pole model	4 pole model
Liquid	Name	Clean water			
	Temperature	0 to 80 °C (32 to 176 °F)			
Max. Working Pressure		10 bar for standard flange JIS 10K RF		16 bar (16.3 kgf/cm ²)	
		16 bar for standard flange JIS 16K RF		20 bar (20.4 kgf/cm ²)	
Synchronous Speed		3000 min ⁻¹	1500 min ⁻¹		
Installation		Indoor/Outdoor			
Construction	Impeller	Enclosed			
	Shaf seal	Mechanical seal		Gland Packing	
	Sealing	Self-flushing		External flushing	
	Bearing	Sealed ball bearing		Oil bath (some models only)	
Flange	Suction & Discharge	Suction < ϕ 150 mm, except bellow model	: JIS 10K RF	JIS 16K, JIS 20K, DIN PN16	
		100x65 FSKA	: JIS 16K RF		
		Suction = ϕ 150 mm, except below models	: JIS 10K RF		
		150x100 FSKA; 150x100 FSNA	: JIS 16K RF		
		Suction = ϕ 200 mm, except below models	: JIS 10K RF		
		200x150 FSLA; 200x150 FSNA	: JIS 16K RF		
		Suction = ϕ 250	: JIS 16K RF		
Material	Casing	Cast Iron		Ductile Cast Iron (FCD)	
	Impeller	Bronze Casting (CAC406/BC6)		Cast iron; Ductile Cast Iron (FCD) some model only	
	Shaft	Stainless Steel (SUS403), Several Models SUS316		SCS13, SCS14	
	Seal	Mechanical Seal: Ceramic/Carbon/NBR		Gland Packing: Carbonized fiber, Teflon (PTFE) impregnated	
				Mechanical Seal: SiC/Car/EPDM, Sic/Car/FKM, SiC/SiC/FKM	
Accessories	Bare shaft			Priming funnel, Companion Flange, Pressure gauge compound gauge.	
	With motor	Common base, Coupling, Coupling guard			

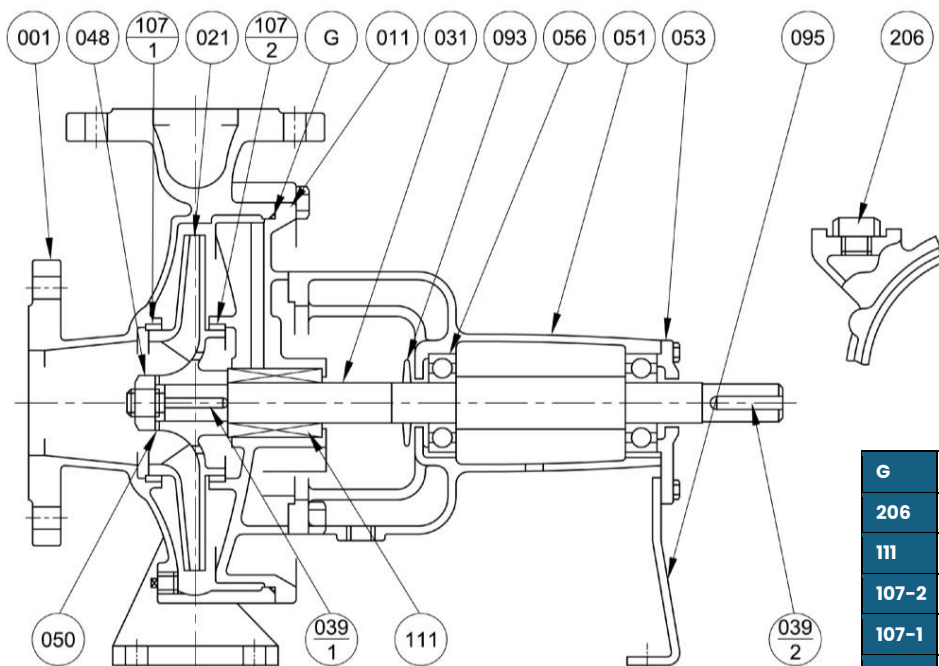
Model Code – 2 Pole – 50 Hz

Part Name	Material (JIS Code)	Standard		Optional Inner Surface
		Inner Surface	Outer Surface	
Casing	Cast Iron (FC)	1 coat of Alkyd primer	Under Coat: -1 coat of Alkyd primer	Glass Flake Coating, Epoxy Coating
Bearing Housing Bearing Cover	Cast Iron (FC)		Finish coat: -1 coat of Alkyd resin base enamel	
Common Base	Cast Iron (FC)	Under Coat: -1 coat of Alkyd primer		
	Steel	Finish coat: -1 coat of Alkyd resin base enamel		

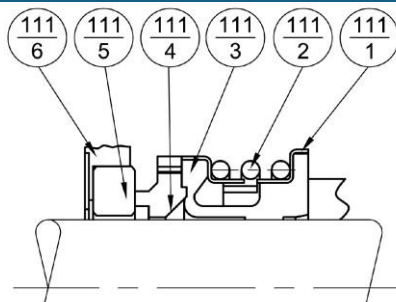
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

SECTIONAL – MECHANICAL SEAL TYPE (STANDARD)



Mechanical Seal Type (Standard)
Model EA



111-6	Cup Gasket	NBR	1
111-5	Matting Ring	Ceramic	
111-4	Seal Ring	Carbon	
111-3	Bellows	NBR	
111-2	Coil Spring	Stainless Steel	
111-1	Spring Holder		
No.	Part Name	Material	Qty

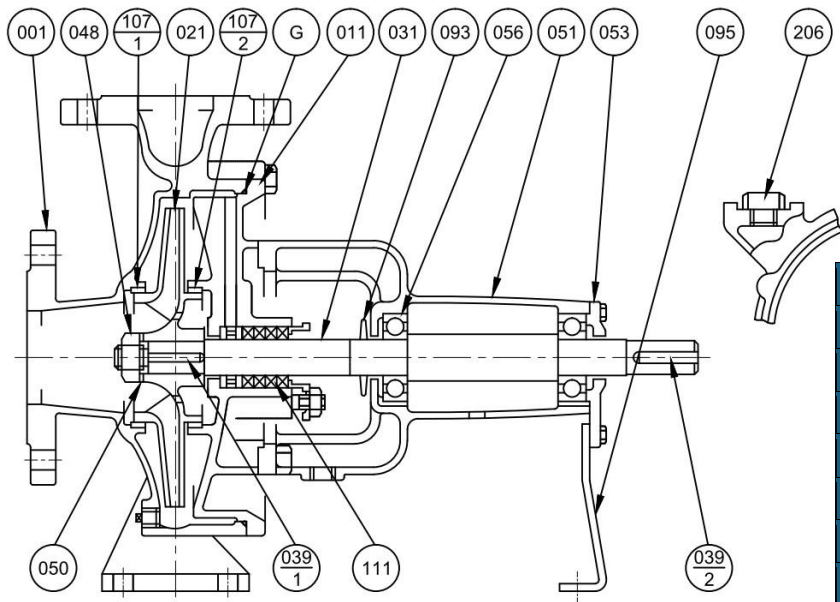
G	O-Ring	Rubber	1
206	Plug	Steel	
111	Mechanical Seal	-	
107-2	Casing Ring	Bronze	
107-1	Casing Ring		
095	Bearing Support	Steel	
093	Deflector	Rubber	
056	Ball Bearing	-	2
053	Bearing Cover	Cast Iron	1
051	Bearing Housing		
050	Impeller Nut Washer	Brass	
048	Impeller Nut		
039-2	Coupling Key	Steel	
039-1	Impeller Key	Stainless steel	
031	Shaft		
021	Impeller	Bronze	
011	Casing Cover	Cast Iron	
001	Casing		
No.	Part Name	Material	Qty

Recommended Spare Part			
No.	Part Name	Expected Life (Year)	Qty/ Unit
056	Ball Bearing	3	2
107	Casing Ring	2	2
111	Mechanical Seal	1	1
-	Coupling Rubber	2	1 Set

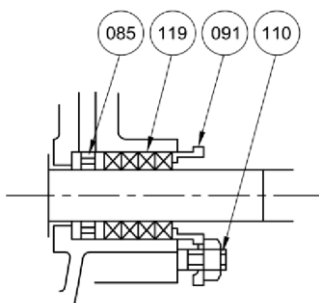
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

SECTIONAL – MECHANICAL SEAL TYPE (OPTIONAL)

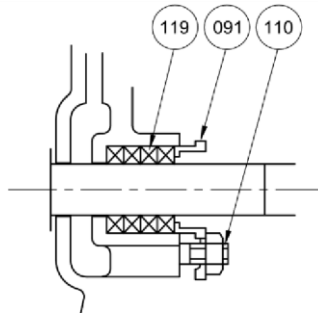


Gland Packing with Lantern



119	Gland Packing	Carbonized fiber	4 or 5
110	Gland Bolt	Brass	2
091	Gland	Brass	1
085	Lantern Ring	Bronze	
No.	Part Name	Material	Qty

Gland Packing without Lantern Ring



119	Gland Packing	Carbonized fiber	4 or 5
110	Gland Bolt	Brass	2
091	Gland	Brass	1
No.	Part Name	Material	Qty

Pump Model:

50x40 FSHA; 65x50 FSHA, FSJA;
80x65 FSGA, FSHA;
100x80 FSGA; 125x100 FSLA;
150x100 FSKA, FSNA;

Pump Model:

80x65 FSJA, FSKA;
100x65 FSKA;
100x80 FSHA, FSJA, FSGCA, FSHCA;
125x100 FSJCA, FSKA; 150x125 FSHA,
FSJA; 200x150 FSHA, FSKA.

G	O-Ring	Rubber	1
206	Plug	Steel	
111	Gland Packing	Carbonized fiber	
107-2	Casing Ring	Bronze	
107-1	Casing Ring		
095	Bearing Support	Steel	
093	Deflector	Rubber	
056	Ball Bearing	-	2
053	Bearing Cover	Cast Iron	1
051	Bearing Housing		
050	Impeller Nut Washer	Brass	
048	Impeller Nut		
039-2	Coupling Key	Steel	
039-1	Impeller Key	Stainlesssteel	
031	Shaft		
021	Impeller	Bronze	
011	Casing Cover	Cast Iron	
001	Casing		
No.	Part Name	Material	Qty

Recommended Spare Part			
No.	Part Name	Expected Life (Year)	Qty/ Unit
056	Ball Bearing	3	2
107	Casing Ring	2	2
111	Gland Packing	1	1 Set
-	Coupling Rubber	2	1 Set

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

SPARE PARTS – SHAFT SEAL, GASKET AND BEARING

Model	Mechanical Seal	O-Ring/ Gasket	Gland Packing Size mm	Qty of Gland Packing	Ball Bearing
50x40 FSHA	25	Gs-225	41x25x8	4	6305 ZZ
65x50 FSHA	25	Gs-225	41x25x8	4	6305 ZZ
80x65 FSGA	25	Gs-185	41x25x8	4	6305 ZZ
80x65 FSHA		Gs-225			
80x65 FSJA	35	Gs-275	51x35x8		6307 ZZ
80x65 FSKA		Gs-335			
100x65 FSKA	40	Gs-335	56x40x8	4	6208 ZZ
100x80 FSGA	25	Gs-185	41X25X8	4	6305 ZZ
100x80 FSHA	35	Gs-225	51X35X8		6307 ZZ
100x80 FSJA		Gs-275			
100x80 FSGCA	35	Gs-195			
100x80 FSHCA		Gs-225			
125x100 FSJCA	40	Gs-275	56x40x8	4	6208 ZZ
125x100 FSKA	35	Gs-335	51x35x8		6307 ZZ
125x100 FSLA	45	Gs-415	65x45x10	5	6309 ZZ
150x100 FSKA	50	370x320x0.8T	70x50x10	4	6310 ZZ
150x100 FSNA	55	560x515x0.8T	75x55x10	5	6312 ZZ
150x125 FSHA	35	Gs-225	51x35x8	4	6307 ZZ
150x125 FSJA		Gs-275			
150x125 FSKA	45	Gs-335	65x45x10	5	6309 ZZ
150x125 FSLA		Gs-425			
200x150 FSHA	35	Gs-225	51x35x8	4	6307 ZZ
200x150 FSJA	45	Gs-275	65x45x10	5	6309 ZZ
200x150 FSKA	55	Gs-335	75x55x10		6312 ZZ
200x150 FSLA		450x415x0.8T			
200x150 FSNA	65	560x515x0.8T	90x65x12.5		6313 ZZ
250x200 FSLA	65	493x440x0.8T	90x65x12.5	5	6313 ZZ
250x200 FSNA	75	615x550x0.8T	104x75x14.5		6315 ZZ

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

MOTOR AND COUPLING (1/3)

4 Pole – 1500 rpm

MODEL	MOTOR		COUPLING CLA	SHAFT DIAMETER	
	POWER	FRAME		PUMP	MOTOR
	kW	No.		φ P (mm)	φ M (mm)
50x40 FSHA	0,4	71	112	24	14
	0,75	80			19
65x50 FSHA	0,75	80	112	24	19
	1,5	90L	112	24	24
65x50 FSJA	1,5	90L	112	24	24
	2,2	100L	125		28
80x65 FSGA	0,75	80	112	24	19
	1,5	90L	112	24	24
80x65 FSHA	1,5	90L	112	24	24
80x65 FSJA	2,2	100L	140	32	28
	3,7	112M			
80x65 FSKA	5,5	132S	160	32	38
	7,5	132M			
	11	160M			42
100x80 FSGA	1,5	90L	112	24	24
	2,2	100L	125		28
100x80 FSHA	2,2	100L	140	32	28
	3,7	112M			
100x80 FSJA	3,7	112M	140	32	28
	5,5	132S	160		38
100x80 FSGCA	2,2	100L	140	32	28
	3,7	112M			
100x80 FSHCA	5,5	132S	160	32	38
	7,5	132M			
125x100 FSJCA	5,5	132S	160	38	38
	7,5	132M			
	11	160M			42
125x100 FSKA	15	160L	160	32	42
	18,5	180MC	180		48
125x100 FSLA	22	180LC	180	42	48
	30	200LC	200		55
150x125 FSHA	7,5	132M	160	32	38
	11	160M			
	15	160L			42
150x125 FSJA	15	160L	160	32	42
	18,5	180MC	180		
	22	180LC			48

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

MOTOR AND COUPLING (2/3)

4 Pole – 1500 rpm (Continued)

150x125 FSKA	30	200LC	200	42	55
	37	225SC	224		60
150x125 FSLA	45	225MC	224	42	60
	55	250SC	250		70
	75	250MC			
150x100 FSNA	55	250SC	250	48	70
	75	250MC			80
	90	280SC	280		
200x150 FSHA	5,5	132S	160	32	38
	7,5	132M			42
	11	160M			
200x150 FSJA	15	160L	160	42	42
	18,5	180MC	180		48
	22	180LC			
	30	200LC	200		55
200x150 FSKA	37	225SC	224	48	60
	45	225MC			
	55	250SC	250		70
200x150 FSLA	75	250MC	250	48	70
	90	280SC	280		80
200x150 FSNA	110	280MC	280	60	80
	132	315SC	315		85
	150	315MC			
250x200 FSLA	90	280SC	280	60	80
	110	280MC			
	132	315SC	315		85
	150	315MC			
250x200 FSNA	185	315MB	315	74	85
	225	315AB	355		95
	260	315CB			
	300				
	335	315DB			

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

MOTOR AND COUPLING (3/3)

2 Pole – 3000 rpm

MODEL	MOTOR		COUPLING CLA	SHAFT DIAMETER	
	POWER kW	FRAME		PUMP	MOTOR
		No.		ϕ P (mm)	ϕ M (mm)
50x40 FSHA	1,5	90S	112	24	24
	2,2	90L			
	3,7	112M	125		28
	5,5	132S	160		38
65x50 FSHA	3,7	112M	125	24	28
	5,5	132S	160		38
	7,5				
	65X50 FSJA	11	160M		160
15					
80x65 FSGA	5,5	132S	160	24	38
	7,5				
80X65 FSHA	11	160M	160	24	42
	15				
80X65 FSJA	18,5	160L	160	32	42
	22	180MA	180		48
100X80 FSGA	7,5	132S	160	24	38
	11	160M			42
	15				
100X80 FSHA	18,5	160L	160	32	42
	22	180MA	180		48
100X80 FSJA	30	200LA	200	32	55
	37	200LA			
	45	225MA			
100x65 FSKA	55	250SA	224	38	60
	75	250MA			
100X80 FSGCA	18,5	160L	160	32	42
	22	180MA	180		48
	30	200LA	200		55
100X80 FSHCA	37	200LA	200	32	55
	45	225MA			
	55	250SA	224		60
125X100 FSJCA	55	250SA	224	38	60
	75	250MA			
150x100 FSKA	90	280SA	250	42	65
	110	280MA			
	132	315SA			

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

SPECIFICATION – APPLICABLE MODEL

- Applicable

MODEL		50Hz		60Hz		REMARKS
		2900 min-1	1450 min-1	3500 min-1	1750 min-1	
50x40 FSHA		•	•	•	•	
65x50 FSHA		•	•	•	•	
65x50 FSJA		•	•	•	•	
80x65 FSGA		•	•	•	•	
80x65 FSHA		•	•	•	•	
80x65 FSJA		•	•	•	•	
80x65 FSKA		-	•	-	•	
100x80 FSGA		•	•	•	•	
100x80 FSHA		•	•	•	•	
100x80 FSJA		•	•	•	•	
100x80 FSGCA		•	•	•	•	
100x80 FSHCA		•	•	•	•	
100x65 FSKA		•		•		
125x100 FSJCA		•	•	•	•	
125x100 FSKA		-	•	-	•	
125x100 FSLA		-	•	-	•	
150x100 FSKA		•		•		
150x125 FSHA		-	•	-	•	
150x125 FSJA		-	•	-	•	
150x125 FSKA		-	•	-	•	For 60Hz, Pump length is shorter than 50Hz
150x125 FSLA		-	•	-	•	For 60Hz, Pump length is shorter than 50Hz
150x100 FSNA		-	•	-	•	
200x150 FSHA		-	•	-	•	
200x150 FSJA		-	•	-	•	For 60Hz, Pump length is shorter than 50Hz
200x150 FSKA		-	•	-	•	For 60Hz, Pump length is shorter than 50Hz
200x150 FSLA		-	•	-	•	
200x150 FSNA		-	•	-	•	
250x200 FSLA		-	•	-	•	
250x200 FSNA		-	•	-	•	

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

SPECIFICATION – APPLICABLE MODEL

MODEL	50Hz				60Hz				REMARKS
	2P		4P		2P		4P		
	Max	Min	Max	Min	Max	Min	Max	Min	
50X40 FSHA	209	143	209	165	209	164	209	155	
65x50 FSHA	209	166	209	165	209	166	209	163	
65X50 FSJA	250	184	261	210	225	180	261	210	
80X65 FSGA	176	147	176	140	176	147	176	140	
80X65 FSHA	215	180	215	215	197	180	215	175	
80X65 FSJA	261	182	261	210	222	180	261	210	
80X65 FSKA	-	-	333	277	-	-	333	277	
100X65 FSKA	333	277	-	-	281	265	-	-	
100X80 FSGA	180	150	180	145	166	150	180	145	
100X80 FSHA	223	187	223	180	222	180	223	180	
100X80 FSJA	269	216	269	215	233	216	269	215	
100x80 FSGCA	193	166	193	166	193	166	193	166	
100X80 FSHCA	223	187	223	187	205	187	223	187	
125X100 FSJCA	273	216	273	216	243	216	273	216	
125X100 FSKA	-	-	333	275	-	-	333	275	
125X100 FSLA	-	-	413	340	-	-	413	340	
150X100 FSKA	333	266	-	-	288	266	-	-	
150X125 FSHA	-	-	224	180	-	-	224	180	
150X125 FSJA	-	-	274	222	-	-	261	222	
150X125 FSKA	-	-	334	270	-	-	334	270	
150X125 FSLA	-	-	424	332	-	-	378	332	
150X100 FSNA	-	-	511	409	-	-	448	382	
200X150 FSHA	-	-	224	191	-	-	224	191	
200X150 FSJA	-	-	274	222	-	-	274	222	
200X150 FSKA	-	-	334	286	-	-	334	286	
200X150 FSLA	-	-	411	329	-	-	370	329	
200X150 FSNA	-	-	511	409	-	-	460	409	
250X200 FSLA	-	-	436	349	-	-	399	349	
250X200 FSNA	-	-	542	434	-	-	461	407	

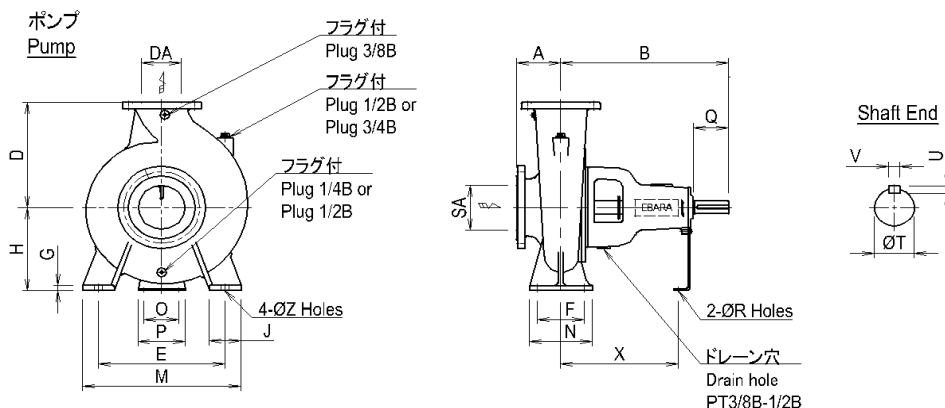
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

TECHNICAL DATA – SHAFT NO. AND SHAFT DIAMETER

DIMENSION – BARE SHAFT PUMP (10 BAR MODEL) ½

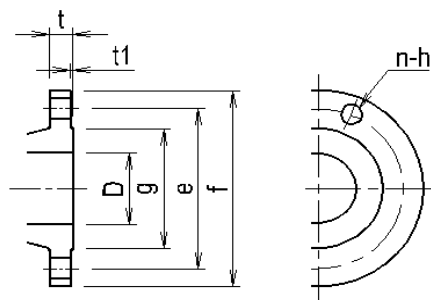
PUMP



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	tl mm	t mm	n	h mm
40	140	105	81	2	20	4	19
50	155	120	96	2	20	4	19
65	175	140	116	2	22	4	19
80	185	150	126	2	22	8	19
100	210	175	151	2	24	8	19
125	250	210	182	2	24	8	23
150	280	240	212	2	26	8	23
200	330	290	262	2	26	12	23

フランジ
Flange



DIMENSION PUMP

Model	Size		Pump															Shaft				wt kg							
	SA	DA	A	B	H	D	E	F	G	J	M	N	O	P	R	X	Z	T	Q	U	V								
50x40 FSHA	50	40	80	360	160	180	190	70	12	50	240	100	110	150	17	285	15	24	50	7	8	37							
65x50 FSHA	65	50	100	360	160	180	212	70	12	50	265	100	110	150	17	285	15	24	50	7	8	42							
65x50 FSJA					180	225	250	95	14	65	320	125										49							
80x65 FSGA	80	65	100	360	160	180	212	70	12	50	265	100	110	150	17	285	15	24	50	7	8	39							
80x65 FSHA					200	225	250	95	14	65	320	125										48							
80x65 FSJA					180	225	250	95	14	65	320	125										60							
80x65 FSKA					125	280	315	120	16	80	400	160										370	19	32	80	8	10	108	
100x80 FSGA	100	80	100	360	160	200	212	95	14	65	280	125	110	150	17	285	15	24	50	7	8	49							
100x80 FSHA					180	225	250		15		80											320	62						
100x80 FSJA					200	250	280	120	15	80	360	160										70							
100x80 FSGCA					125	225	250	95	14	65	320	125										62							
100x80 FSHCA			250	280		345	65				125											65							
125x100 FSJCA	125	100	140	360	225	280	315	120	16	80	400	160	110	150	17	285	19	38	80	8	10	108							
125x100 FSKA				470	250	315										315	120	16				80	400	160	32	80	8	10	128
125x100 FSLA				530	280	355										400	150	20				100	500	200	370	24	42	110	8
150x125 FSHA	150	125	140	470	250	315	315	120	16	80	400	160	110	150	17	370	19	32	80	8	10	120							
150x125 FSJA					355	355			355								120	16				32	80	8	10	128			
200x150 FSHA	200	150	160	470	280	355	400	150	18	100	500	200	110	150	17	370	24	32	80	8	10	137							

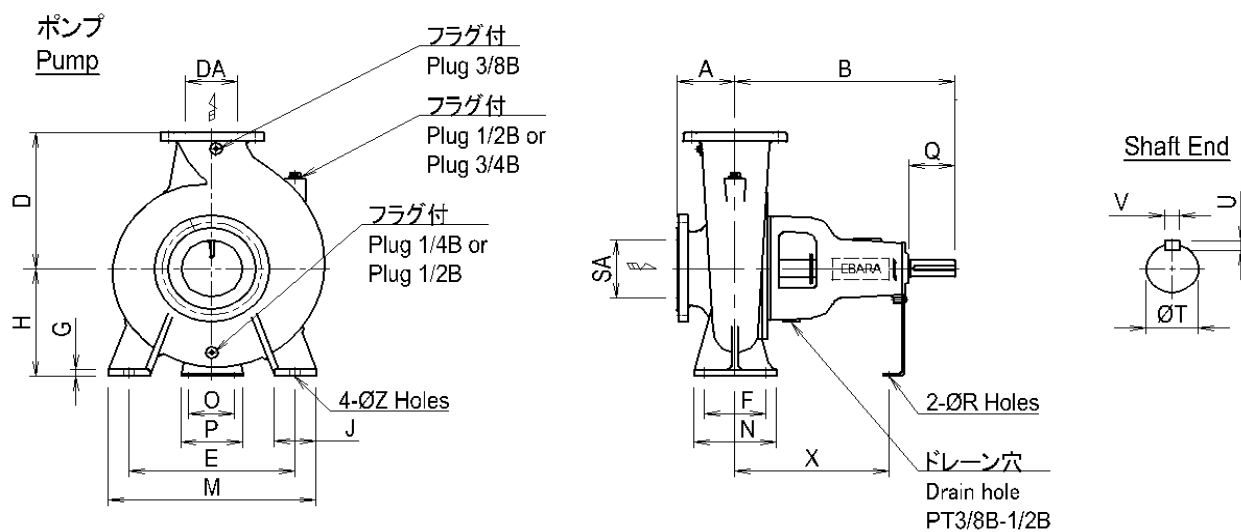
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

TECHNICAL DATA – SHAFT NO. AND SHAFT DIAMETER

DIMENSION – BARE SHAFT PUMP (10 BAR MODEL) 2/2

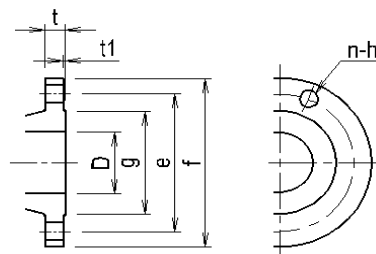
PUMP



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
125	250	210	182	2	24	8	23
150	280	240	212	2	26	8	23
200	330	290	262	2	26	12	23

フランジ Flange



DIMENSION PUMP

Model	Size		Pump															Shaft				wt
	SA	DA	A	B	H	D	E	F	G	J	M	N	O	P	R	X	Z	T	Q	U	V	kg
150x125 FSKA	150	125	140	530	280	355	400	150	18	100	500	200	110	150	17	370	24	42	110	8	12	170
150x125 FSLA					315	400			20													205
200x150 FSJA	200	150	160	530	280	375	400	150	18	100	500 550	200	110	150	17	370	24	42	110	8	12	183
200x150 FSKA				670	315	400			450				18	140	180	19		500		48	9	14

Unit:mm, unless otherwise stated

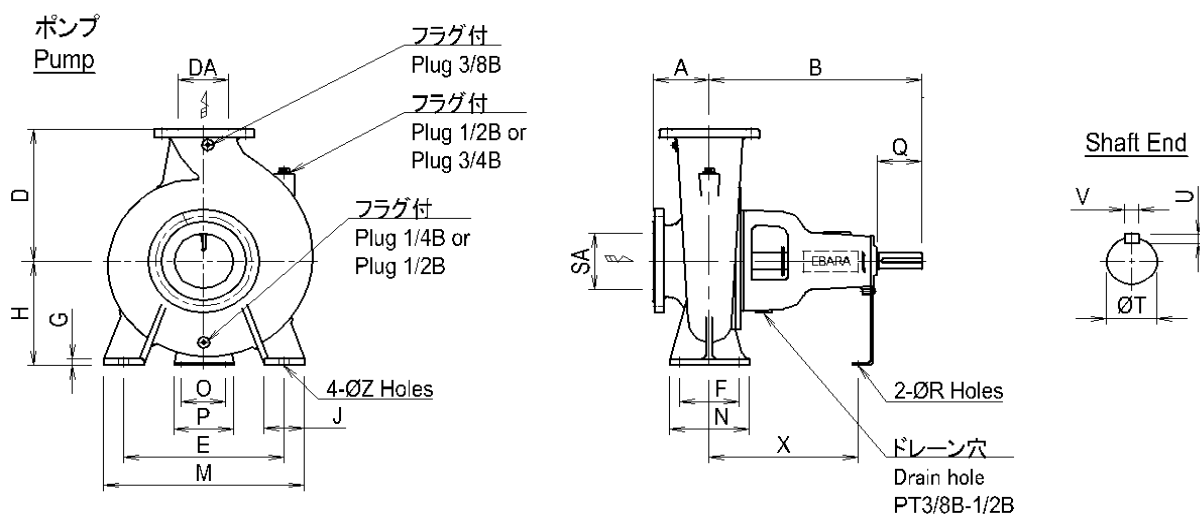
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

TECHNICAL DATA – SHAFT NO. AND SHAFT DIAMETER

DIMENSION – BARE SHAFT PUMP (16 BAR MODEL)

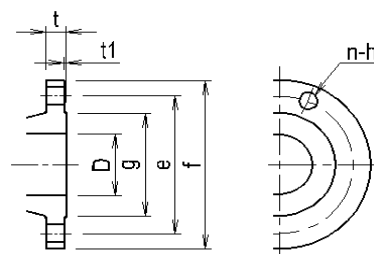
PUMP



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
65	175	140	116	2	22	8	19
100	225	185	160	2	26	8	23
150	305	260	230	2	28	12	25
200	350	305	275	2	30	12	25
250	430	380	345	2	34	12	27

フランジ
Flange



DIMENSION PUMP

Model	Size		Pump																Shaft				wt
	SA	DA	A	B	H	D	E	F	G	J	M	N	O	P	R	X	Z	T	Q	U	V	kg	
100x65 FSKA	100	65	125	360	225	280	315	120	16	80	400	160	110	150	17	285	20	38	80	8	10	106	
150x100 FSKA	150	100	140	530	250	315	315	120	16	80	400	160	90	120	15	370	19	42	95	8	12	146	
150x100 FSNA			182	670	375	450	450	150	20	100	550	200	140	180	19	499	24	48	110	9	14	365	
200x150 FSLA	200	150	164	670	315	452	450	150	20	100	550	200	140	180	19	499	24	48	110	9	14	336	
200x150 FSNA			184		375	562												60		11	18	488	
250x200 FSLA	250	200	180	670	385	560	560	250	25	100	660	315	140	180	19	499	27	60	110	11	18	505	
250x200 FSNA			200	820	435	630							160	200		629		74	125	12	20	642	

Unit:mm, unless otherwise stated

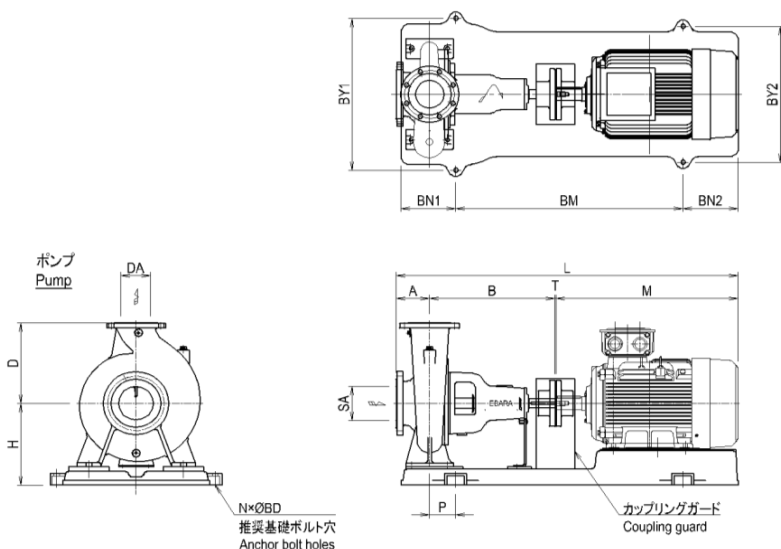
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

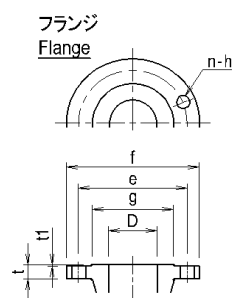
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

4 POLES DRIVE – 50 Hz (1/3)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
40	140	105	85	2	20	4	19
50	155	120	100	2	20	4	19
65	175	140	120	2	22	4	19
80	185	150	130	2	22	8	19
100	210	175	155	2	24	8	19

DIMENSION PUMP

Model	Moto r	Size		Pump				Motor		Common Base											Total		
	kW	SA	D A	A	B	D	wt kg	Fram e	M mm	wt kg	H	P	BM	BN1	BN2	BY1	BY2	NxØBD	wt kg	T	L	wt kg	
50x40 FS4HA	0,75	50	40	80	360	180	37	80M	292	17	215	45	420	105	115	320	230	4-Ø15	20	3	735	74	
65x50 FS4HA	0,75	65	50	100	360	180	42	80M	292	17	215	45	420	105	115	320	230	4-Ø15	27	3	755	86	
65x50 FS4JA	1,5	65	50	100	360	225	49	90L	354	23	230	40	480	115	145	400	260	4-Ø15	32	3	817	104	
	2,2							100L	391	32									34		854	115	
80x65 FS4GA	0,75	80	65	100	360	180	39	80M	292	17	215	45	420	105	115	320	230	4-Ø15	22	3	755	78	
	1,5	80	65	100	360	180	39	90L	354	23	230	40	550	115	75	360	290	4-Ø15	31	3	817	93	
80x65 FS4HA	1,5	80	65	100	360	200	48	90L	354	23	230	40	550	115	75	360	290	4-Ø15	31	3	817	102	
80x65 FS4JA	2,2	80	65	100	360	225	60	100L	391	32	230	40	480	115	145	400	260	4-Ø15	35	3	854	127	
	3,7							112M	412,5	43							36		876		79		
80x65 FS4KA	5,5	80	65	125	470	280	108	132S	456	64	295	80	660	180	120	490	400	4-Ø19	61	3	1054	233	
	7,5							132M	494	77									63		1092	248	
	11							160M	608	115			100	740	200				150		68	1206	291
100x80 FS4GA	1,5	100	80	100	360	200	49	90L	354	23	230	40	550	115	75	360	290	4-Ø15	27	3	817	99	
	2,2							100L	391	32									32		854	113	
100x80 FS4HA	2,2	100	80	100	360	225	62	100L	391	32	230	40	480	115	145	400	260	4-Ø15	34	3	854	128	
	3,7							112M	412,5	43							34		876		139		
100x80 FS4JA	3,7	100	80	100	360	250	70	112M	412,5	43	265	55	540	155	70	440	320	4-Ø19	41	3	876	154	
	5,5							132S	456	64							270		630		350	49	916

Unit:mm, unless otherwise stated

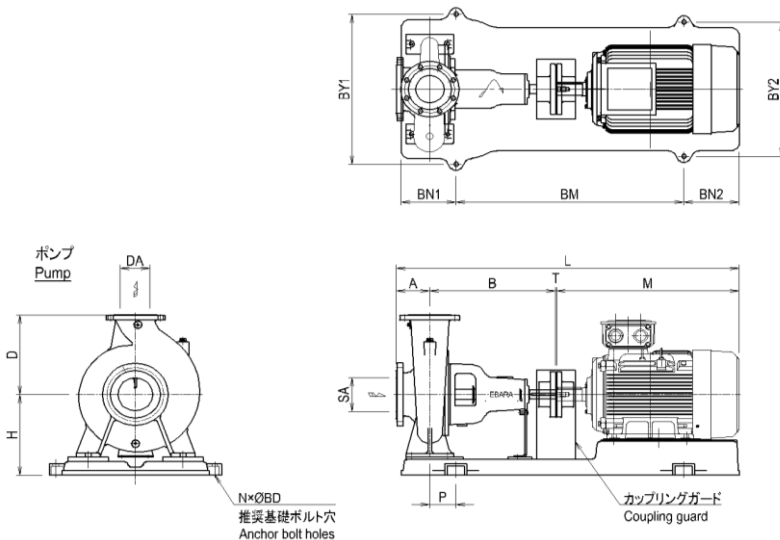
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

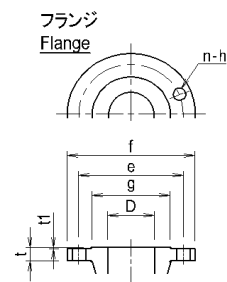
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

4 POLES DRIVE – 50 Hz (2/3)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	tl mm	t mm	n	h mm
80	185	150	130	2	22	8	19
100	210	175	155	2	24	8	19
125	250	210	185	2	24	8	23
150	280	240	215	2	26	8	23
200	330	290	265	2	26	12	23

DIMENSION PUMP

Model	Moto r	Size		Pump				Motor			Common Base										Total		
	kW	SA	DA	A	B	D	wt kg	Fram e	M mm	wt kg	H	P	BM	BN1	BN2	BY1	BY2	NxØBD	wt kg	T	L	wt kg	
100x80 FS4GCA	2,2	100	80	125	360	225	62	100L	391	32	230	40	480	115	145	400	260	4-Ø15	33	3	879	127	
	3,7							112M	412,5	43							290		34		900,5	139	
100x80 FS4HCA	5,5	100	80	125	360	250	65	132S	456	64	270	55	630	155	70	440	350	4-Ø19	49	3	944	178	
	7,5							132M	494	77	270						49	982	191				
125x100 FS4JCA	5,5	125	100	140	360	280	108	132S	456	64	295	0	660	180	120	490	400	4-Ø19	49	3	959	221	
	7,5							132M	494	77	295	0		180	120	490	400	4-Ø19	71		997	256	
	11							160M	608	115	295	10		740	200	150	490	400	4-Ø19		72	1111	295
125x100 FS4KA	15	125	100	140	470	315	128	160L	652	132	330	100	740	190	145	490	400	4-Ø19	79	3	1265	339	
	18,5							180M	672	172									96		1285	396	
125x100 FS4LA	22	125	100	140	530	355	168	180L	710	205	390	95	840	205	185	600	440	4-Ø24	104	3	1383	477	
	30							200L	770	278		120	152	4	1444		598						
150x125 FS4HA	7,5	150	125	140	470	315	120	132M	494	77	320	80	660	180	120	490	400	4-Ø19	69	3	1107	266	
	11							160M	608	115	330	100	740	190	145				81		1221	316	
	15							160L	652	132	320			200	150				81		1265	333	
150x125 FS4JA	15	150	125	140	470	355	128	160L	652	132	320	100	740	200	150	490	400	4-Ø19	85	3	1265	345	
	18,5							180M	672	172	330			190	145				100		1285	400	
	22							180L	710	205	370	50	940	230	110	600	490	4-Ø24	102		1323	435	
150x125 FS4KA	30	150	125	140	530	355	170	200L	770	278	390	120	940	230	110	600	490	4-Ø24	107	4	1444	555	
	37							225S	816	327	385	110	960		235	670	600		153		1490	650	
150x125 FS4LA	45	150	125	140	530	400	205	225M	841	351	395	110	960	230	235	670	600	4-Ø24	134	4	1515	690	
	55							250M	921	475	410								145		1595	825	
	75							280S	1037,5	550	410								145		1711,5	900	

Unit:mm, unless otherwise stated

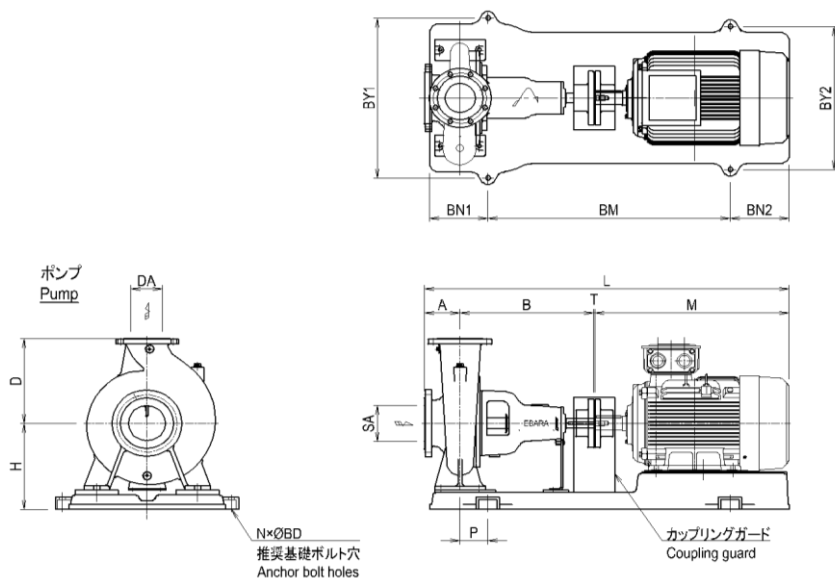
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

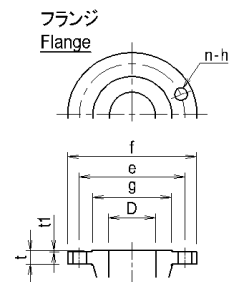
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

4 POLES DRIVE – 50 Hz (3/3)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
150	280	240	215	2	26	8	23
200	330	290	265	2	26	12	23

DIMENSION PUMP

Model	Motor	Size		Pump				Motor			Common Base									Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN2	BY1	BY2	NxØBD	wt kg	T	L	wt kg
200x150 FS4HA	5,5	200	150	160	470	355	137	132S	456	64	390	80	660	200	120	600	400	4-Ø19	105	3	1089	306
	7,5							132M	494	77									105		1127	319
	11							160M	608	115	360	840	150	115	1241	367						
200x150 FS4JA	15	200	150	160	530	375	183	160L	652	132	390	95	840	205	185	600	440	4-Ø19	117	3	1345	432
	18,5							180M	672	172		117		1365	472							
	22							180L	710	205		117		1403	505							
	30							200L	770	278	120	940	230	110	600	490	120	4	1464	581		
	37							225S	816	327							385		110	960	230	235
200x150 FS4KA	37	200	150	160	670	400	222	225S	816	327	425	110	1000	230	230	670	550	4-Ø24	162	4	1650	711
	45							225M	841	351									162		1675	735
	55							250M	921	475	430	125	1040	245	235	600	171		1755		868	

Unit:mm, unless otherwise stated

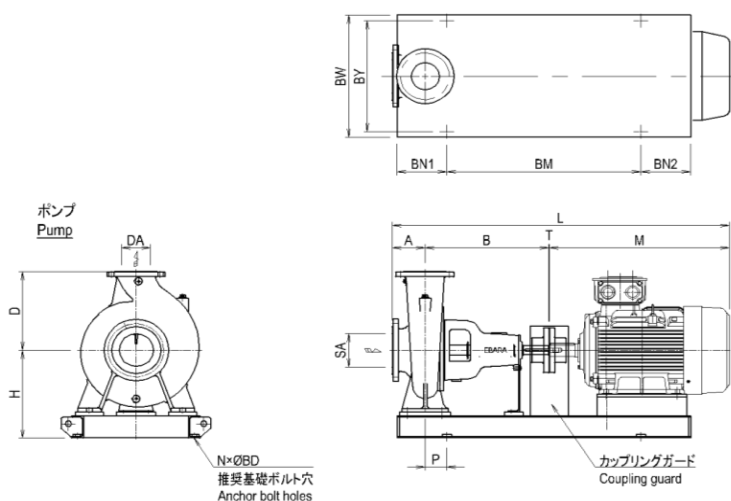
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

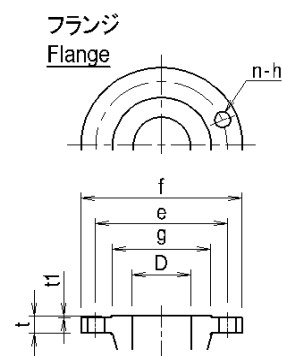
DIMENSION – PUMP WITH MOTOR (16 BAR MODEL)

4 POLES DRIVE – 50 Hz

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
100	225	185	160	2	26	8	23
150	305	260	230	2	28	12	25
200	350	305	275	2	30	12	25
250	430	380	345	2	34	12	27

DIMENSION – PUMP (Steel Baseplate)

Model	Motor	Size		Pump				Motor			Common Base									Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN2	BY	BW	NxØBD	wt kg	T	L	wt kg
150x100 FSNA	55	150	100	182	670	450	365	250M	921	475	545	85	2x560	215	215	580	640	6-Ø26	156	4	1777	996
	75							280S	1037,5	550	545		2x625						170		1893,5	1085
	90							280M	1087,5	660	545		2x605			620	680		175		1943,5	1200
200x150 FSLA	75	200	150	164	670	452	336	280S	1037,5	550	490	85	2x590	215	215	610	680	6-Ø26	150	4	1875,5	1036
	90							280M	1087,5	660	490		2x605						145		1925,5	1141
200x150 FSNA	110	200	150	184	670	562	488	315S	1192	720	545	85	2x665	215	215	650	720	6-Ø26	176	4	2050	1384
	132							315M	1273	920	545		2x675						200		2131	1608
	150							315M	1273	920	545		2x755						220		2131	1628
250x200 FSLA	90	250	200	180	670	560	505	280M	1087,5	660	555	30	2x635	215	215	680	750	6-Ø26	250	4	1942	1415
	110							315S	1192	720	555		2x690						255		2046	1480
	132							315M	1273	920	555		2x705						235		2127	1660
	150							315M	1273	920	555		2x780						240		2127	1665
250x200 FSNA	185	250	200	200	820	630	642	315L	1376	1070	610	25	3x560	215	215	650	720	8-Ø28	342	5	2400	2054
	220							355M	1645	1450	660		3x630						374		2670	2466
	250							355M	1757	1800			3x630			411	2782		2853			
	300							355L	1757	1800			3x630			411	2782		2853			
	335							355C	1835	1900			3x700			452	2860		2994			

Unit:mm, unless otherwise stated

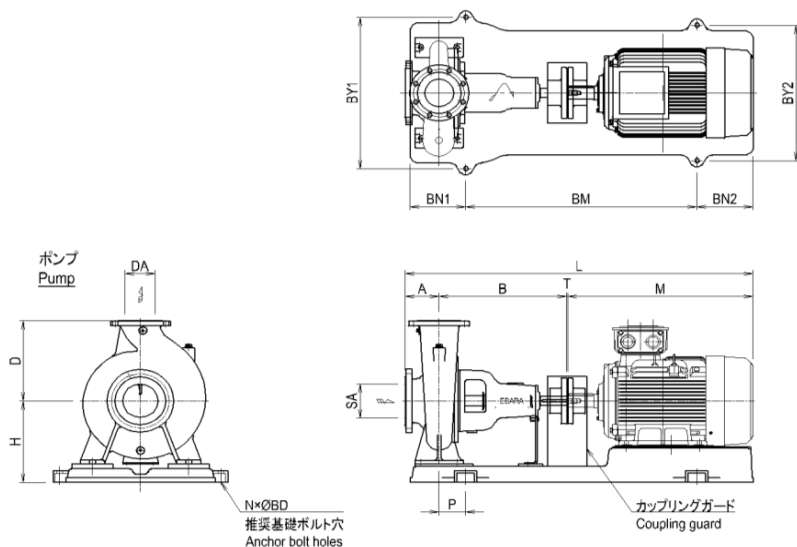
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

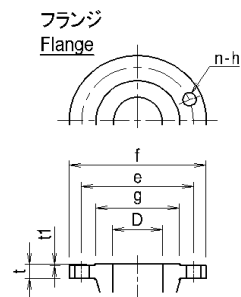
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

2 POLES DRIVE – 50 Hz (1/2)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
40	140	105	85	2	20	4	19
50	155	120	100	2	20	4	19
65	175	140	120	2	22	4	19
80	185	150	130	2	22	8	19

DIMENSION PUMP (Steel baseplate)

Model	Motor	Size		Pump				Motor			Common Base										Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN2	BY1	BY2	NxØBD	wt kg	t	L	wt kg	
50X40 FS2HA	1,5	50	40	80	360	180	37	90L	354	23	220	40	550	115	75	360	290	4-Ø15	32	3	797	92	
	2,2							100L	391	32									834		101		
	3,7							112M	412,5	43	215	55	540	130	70	350	290		33		855,5	113	
	5,5							132S	456	64	230			130	150	350	350		41		899	142	
65X50 FS2HA	3,7	65	50	100	360	180	42	112M	412,5	43	215	55	540	130	70	350	290	4-Ø15	27	3	875,5	112	
	5,5							132S	456	64	230			130	150	350	350		32		919	138	
	7,5							132S	494	77									32		957	151	
65X50 FS2JA	11	65	50	100	360	225	49	160M	608	115	270	98	600	180	180	400	400	4-Ø19	69	3	1071	233	
	15							160M	652	132									1115		250		
80X65 FS2GA	5,5	80	65	100	360	180	39	132S	456	64	230	55	540	130	150	350	350	4-Ø15	33	3	919	136	
	7,5							132S	494	77									957		149		
80X65 FS2HA	11	80	65	100	360	200	48	160M	608	115	250	98	600	180	180	400	400	4-Ø19	69	3	1071	232	
	15							160M	652	132									1115		249		
80X65 FS2JA	18,5	80	65	100	360	225	60	160L	672	172	270	98	600	180	180	400	400	4-Ø19	69	3	1135	301	
	22							180M	710	205									1173		334		

Unit:mm, unless otherwise stated

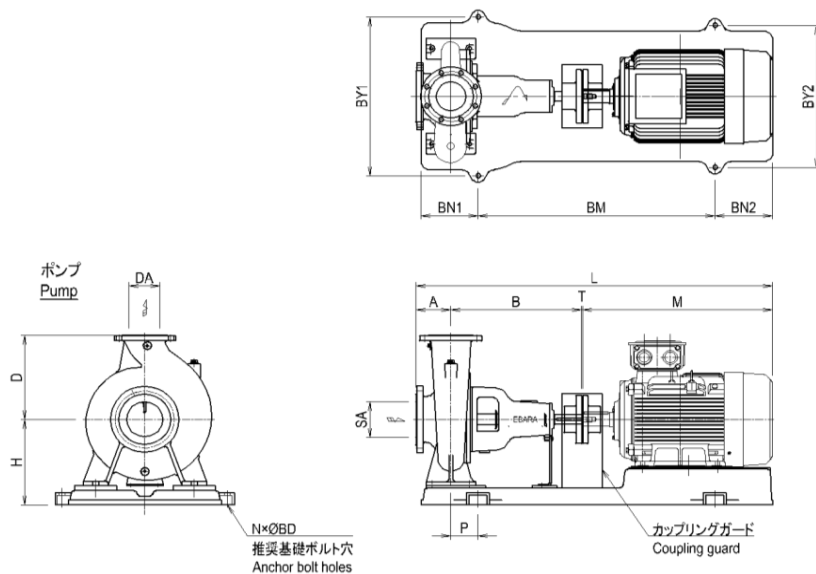
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

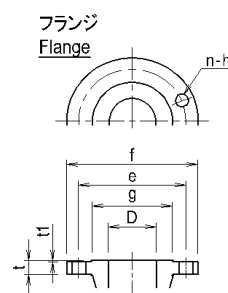
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

2 POLES DRIVE – 50 Hz (2/2)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
80	185	150	130	2	22	8	19
100	210	175	155	2	24	8	19
125	250	210	185	2	24	8	23

DIMENSION PUMP (Steel baseplate)

Model	Motor	Size		Pump				Motor			Common Base										Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN 2	BY1	BY2	NxØBD	wt kg	T	L	wt kg	
100X80 FS2GA	7,5	100	80	100	360	200	49	132S	494	77	230	55	540	130	150	350	350	4-Ø15	30	3	957	156	
	160M							608	115	1071											216		
	160M							652	132	1115											233		
100X80 FS2HA	18,5	100	80	100	360	225	62	160L	672	172	270	98	600	180	180	400	400	4-Ø19	52	3	1135	286	
	180M							710	205	52									1173		319		
100X80 FS2JA	30	100	80	100	360	250	70	200L	770	278	275	95	660	185	195	440	440	4-Ø19	65	4	1234	413	
	200L							816	327	1280											462		
	225M							841	351	315											80	760	180
100X80 FS2GCA	18,5	100	80	125	360	225	62	160L	672	172	270	98	600	180	180	400	400	4-Ø19	52	4	1161	286	
	180M							710	205	52									1199		319		
	200L							770	278	275									95		660	185	195
100X80 FS2HCA	37	100	80	125	360	250	65	200L	816	327	275	95	660	185	195	440	440	4-Ø19	65	4	1305	457	
	225M							841	351	315											80	760	180

(*) only available for Steel material of Baseplate

Unit:mm, unless otherwise stated

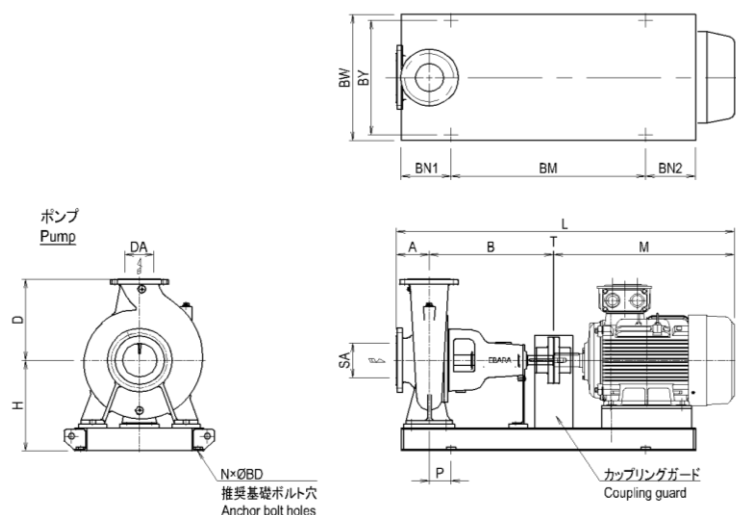
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

DIMENSION – PUMP WITH MOTOR (16 BAR MODEL)

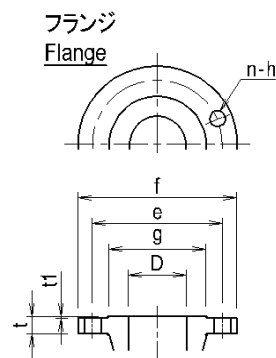
2 POLES DRIVE – 50 Hz

PUMP



DIMENSION – PUMP

FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 mm	t mm	n	h mm
65	175	140	12	2	22	8	19
100	225	185	160	2	26	8	23
150	305	260	230	2	28	12	25

Model	Motor	Size		Pump				Motor			Common Base										Total		
	kW	SA	DA	A	B	D	wt kg	Frame	M	wt kg	H	P	BM	BN1	BN2	BY	BW	NxØBD	wt kg	T	L	wt	kg
100X65 FS2KA	55	100	65	125	360	280	106	250M	921	475	425	95	810	215	215	560	630	4-ø26	138	4	1410	719	
	75							280S	1037,5	550	455		850			610	680		145		1526,5	801	
150x100 FS2KA	90	150	100	140	530	315	146	280M	1087,5	660	455	95	1070	215	215	600	670	4-ø26	186	4	1761,5	992	
	110							315S	1192	720	490		575			650	720	6-Ø26	191		1866	1057	
	132							315M	1273	920			610			670	740		195		1947	1261	

Unit:mm, unless otherwise stated

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

TECHNICAL DATA – MAXIMUM ALLOWABLE PRESSURE

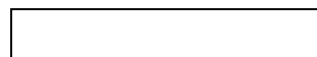
MAXIMUM ALLOWABLE WORKING PRESSURE (MAWP)

PRESSURE CASING MATERIAL	LIQUID TEMPERATURE	MAX. ALLOWABLE WORKING PRESSURES
Cast Iron	0°C to 80°C	10 bar (1.0 MPa) & 16 bar* (1.6MPa)
Ductile Cast Iron	0°C to 80°C	16 – 20 bar (1.6~2.0MPa)

(*): Only for several models.

MAXIMUM ALLOWABLE SUCTION PRESSURE (MASP)

MECHANICAL SEAL APPLICATION	GLAND PACKING APPLICATION
Maximum Allowable Suction Pressure (MASP) must be smaller than the difference between the Maximum Allowable Working Pressure (MAWP) and Pump Shut off Pressure (PSP), as follows. However, MASP shall not exceed 16 bars. $MASP < MAWP - PSP$ [$PSP \text{ (in bar)} = 0.098 \times \text{Pump Shut-off Head (in m)} \times \text{Liquid Density (in kg/l)}$]	Maximum Allowable Suction Pressure (MASP) of Gland Packing application is 6 bar as standard.

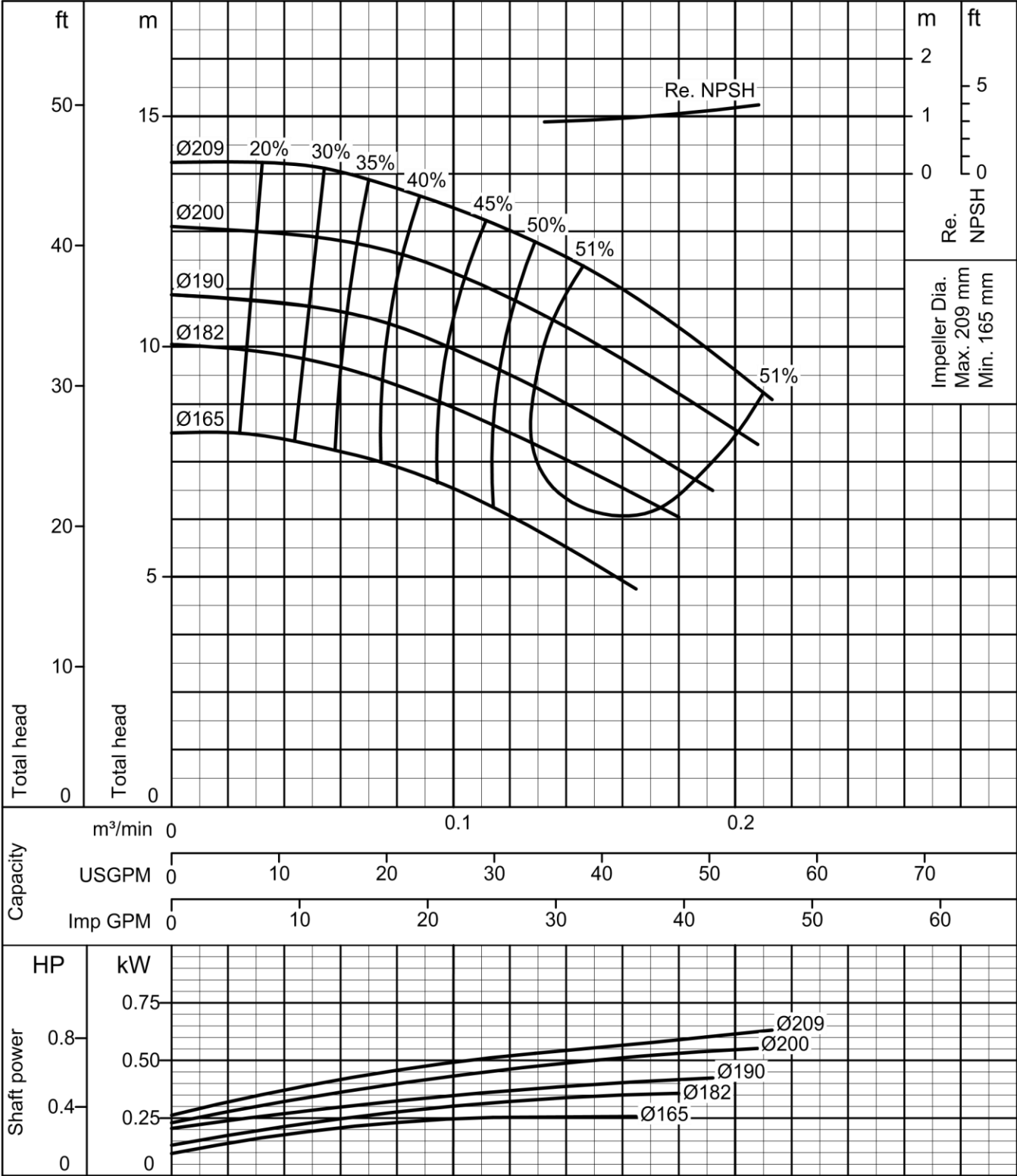


EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (1/27)

50X40 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



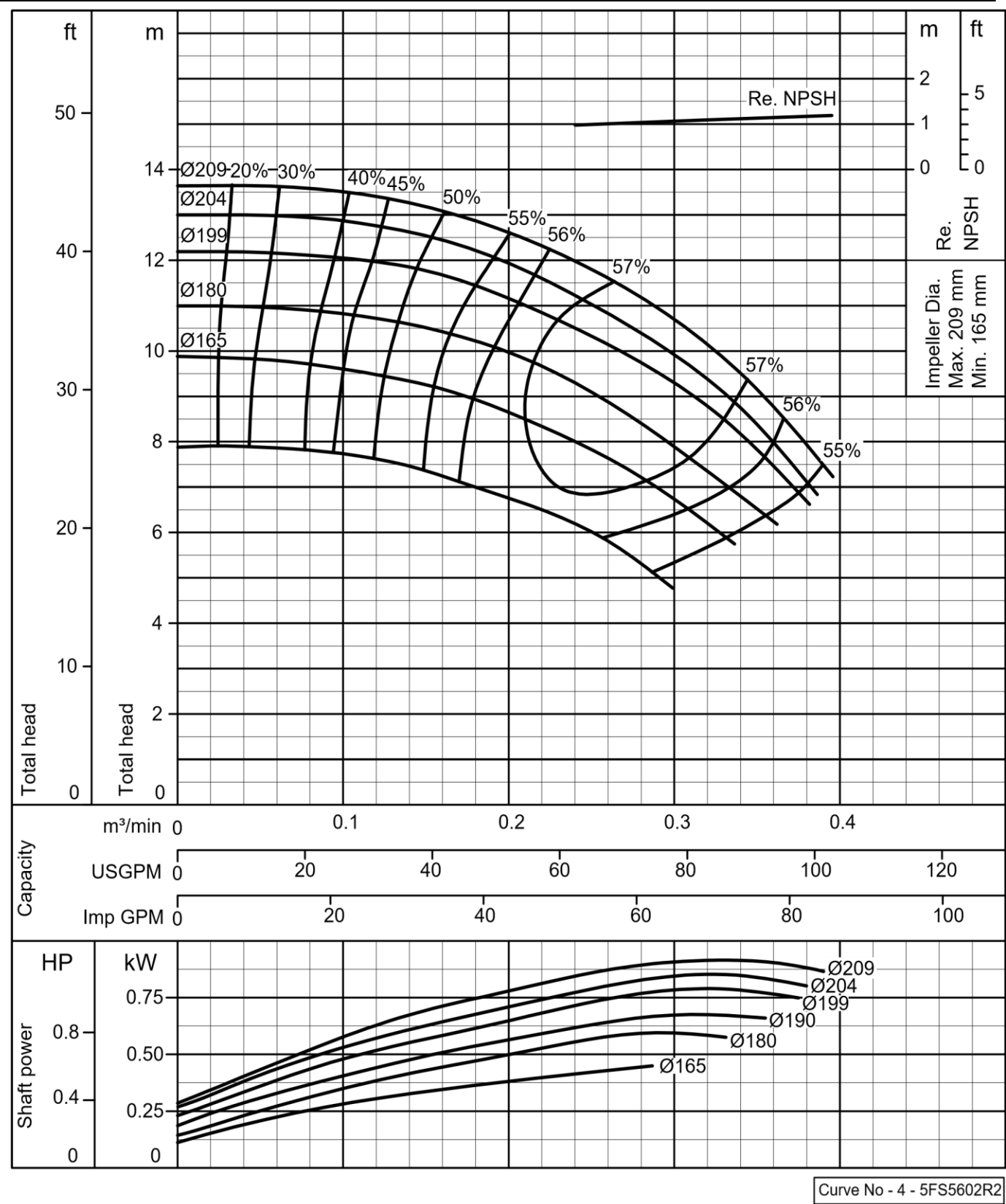
Curve No - 4 - 5FS5601R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (2/27)

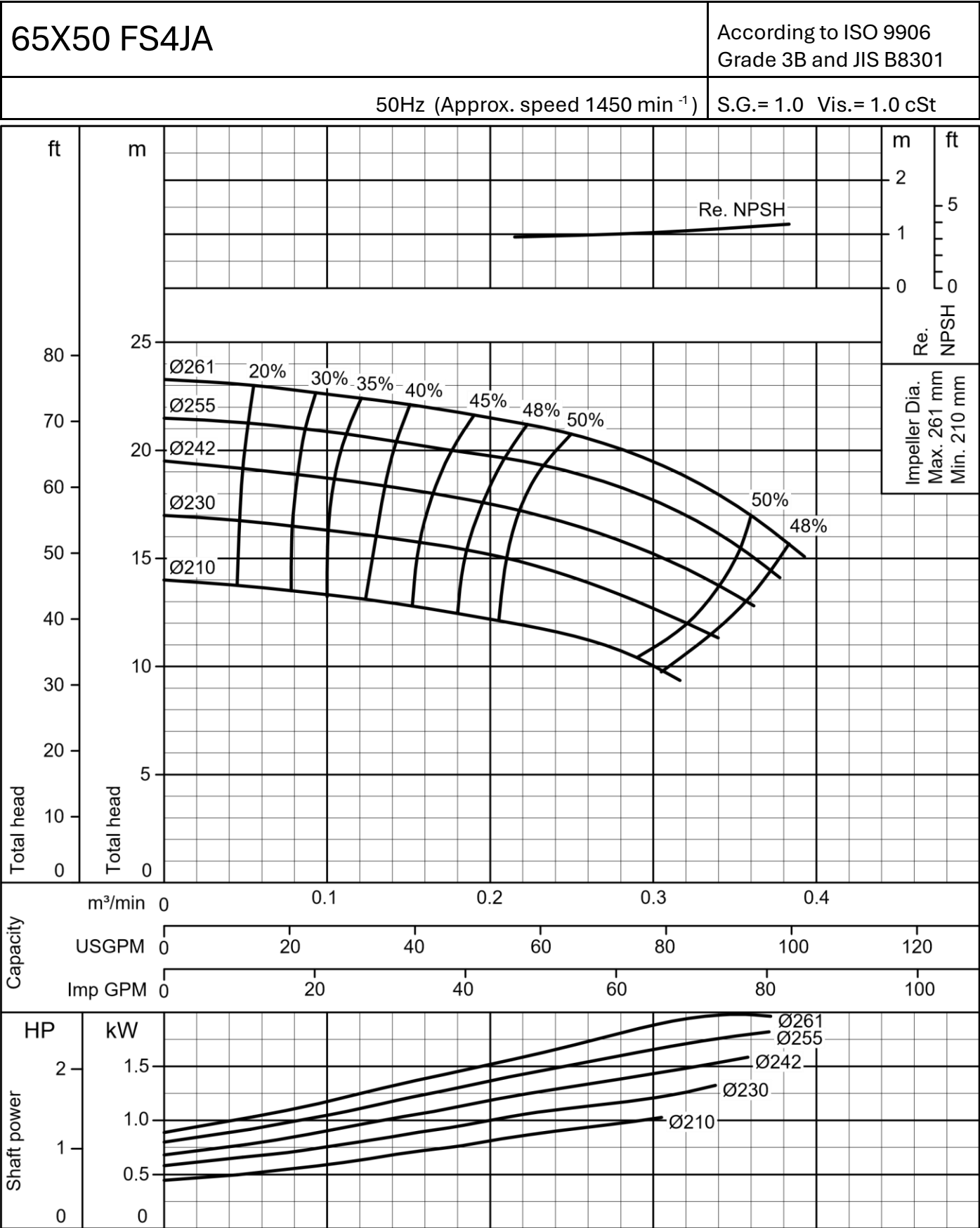
65X50 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹) S.G.= 1.0 Vis.= 1.0 cSt	



EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (3/27)

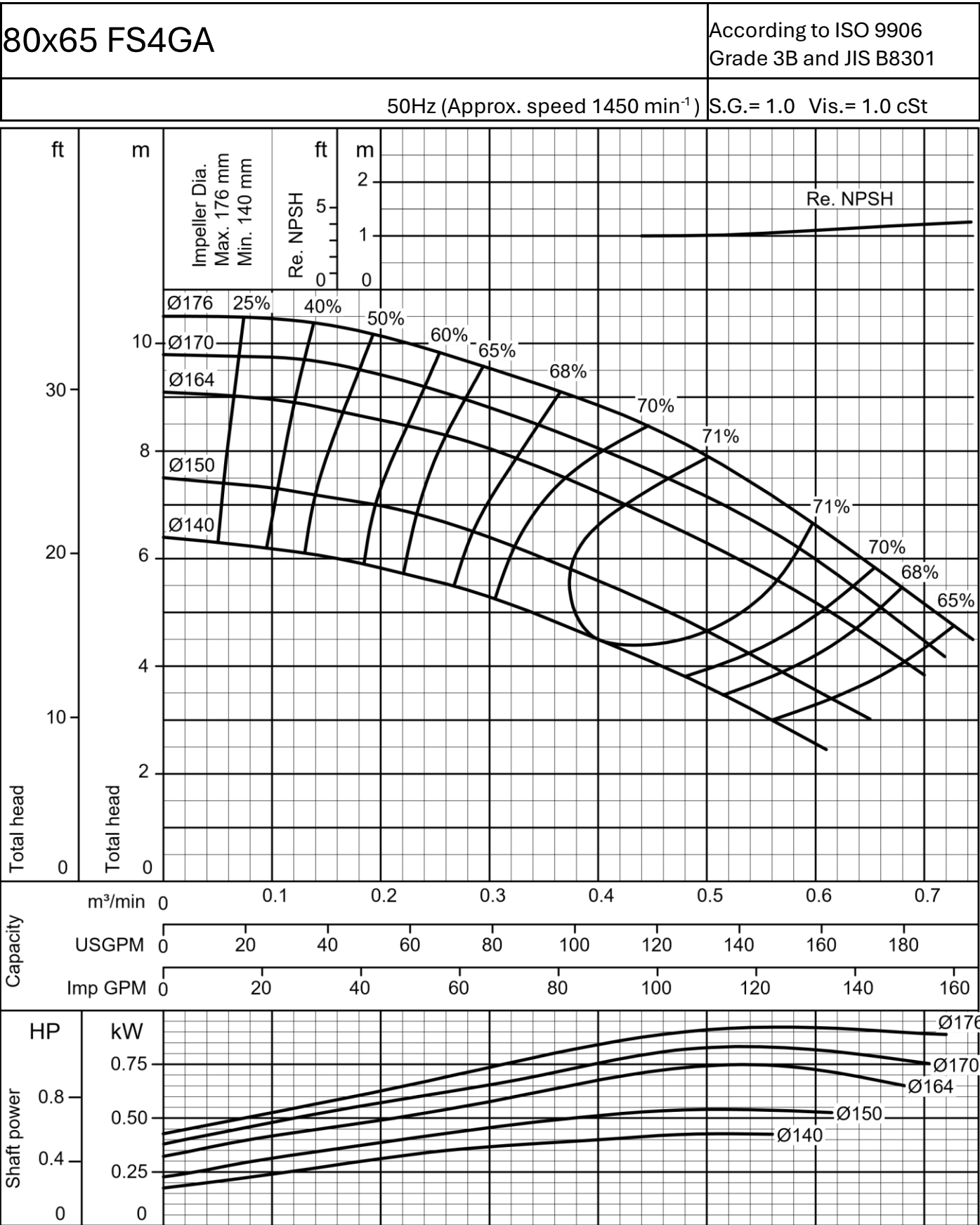


Curve No - 4 - 5FS5603R2

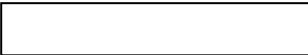
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (4/27)



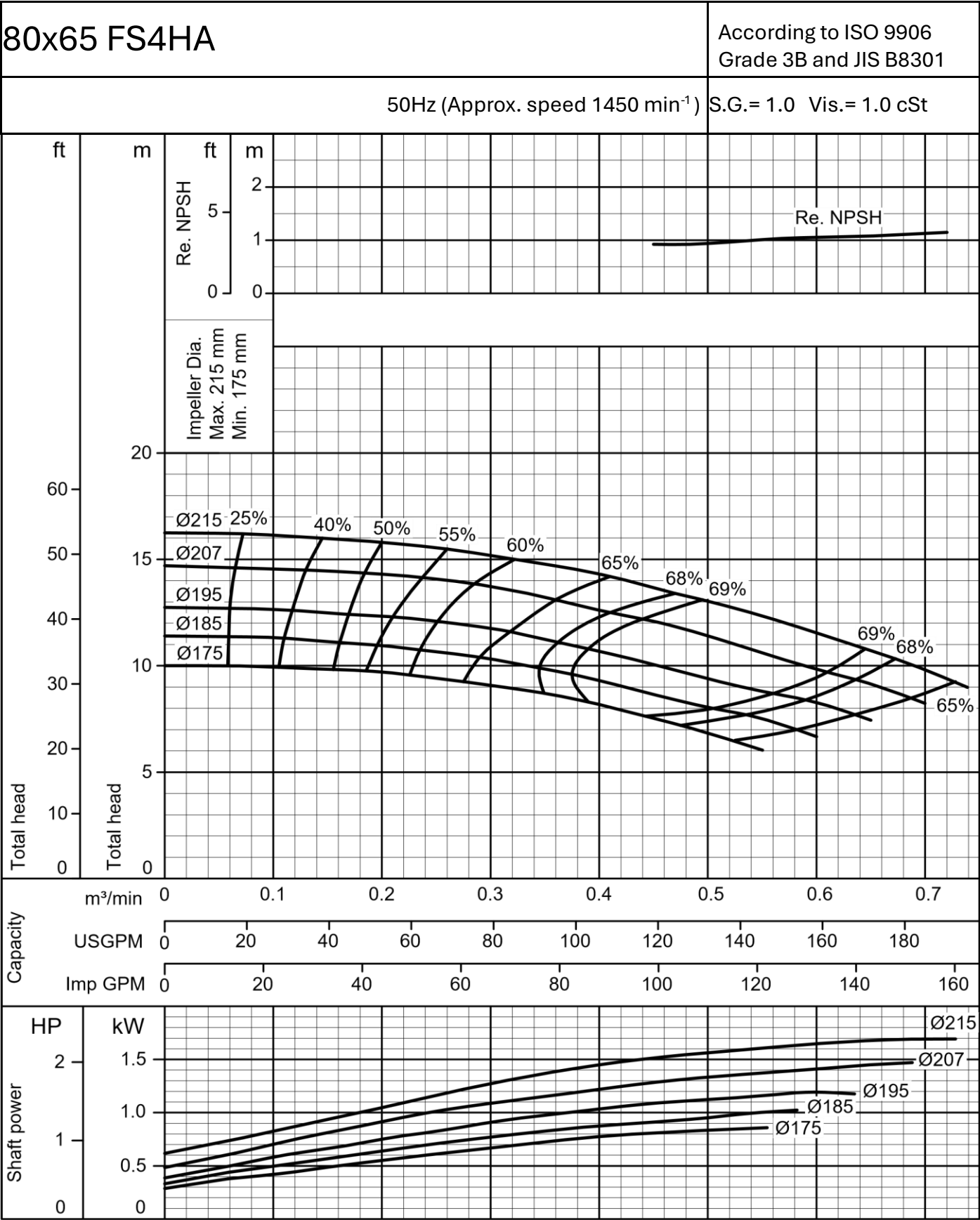
Curve No - 4 - 5FS5604R2



EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (5/27)



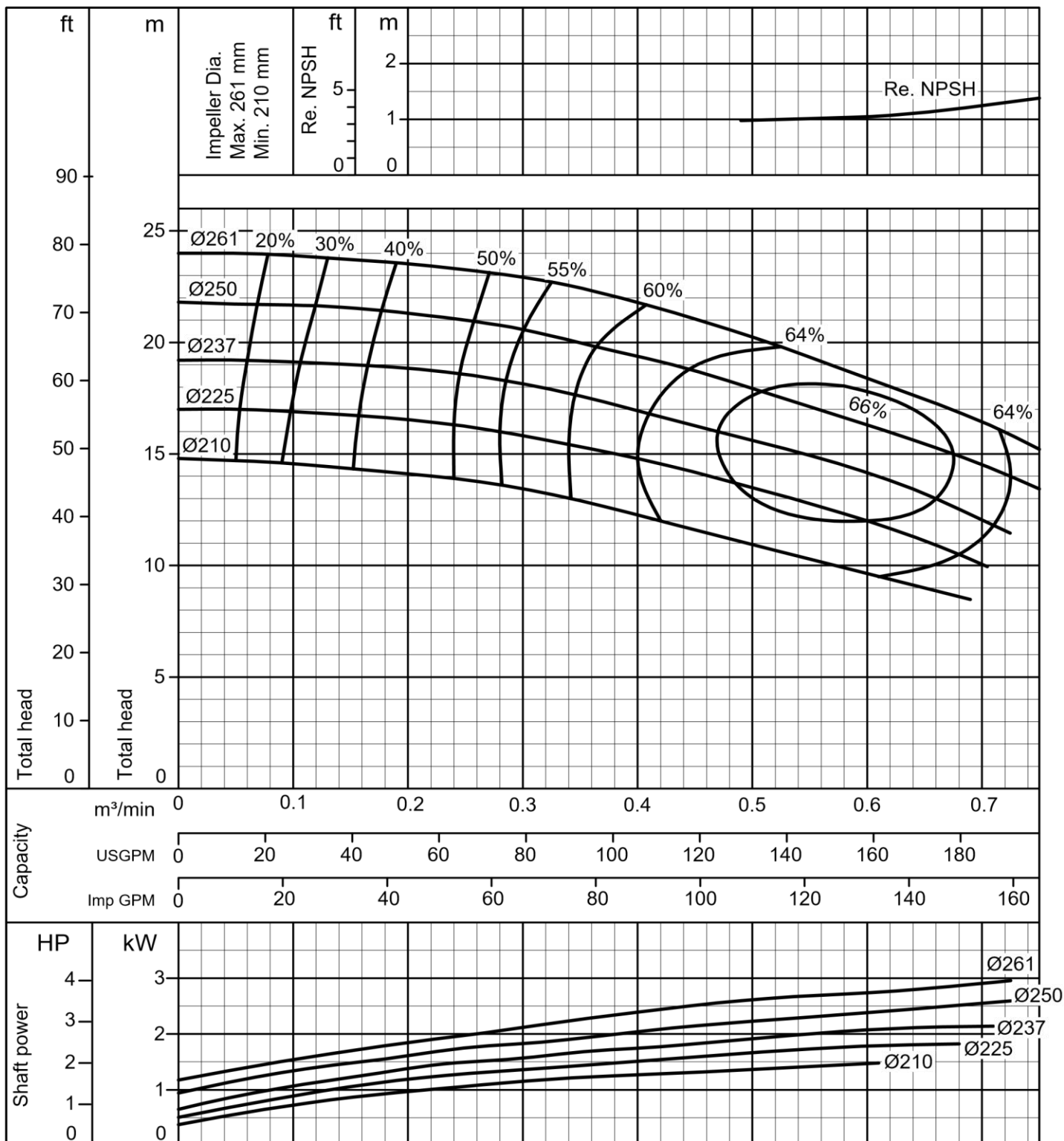
Curve No - 4 - 5FS5605R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (6/27)

80x65 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



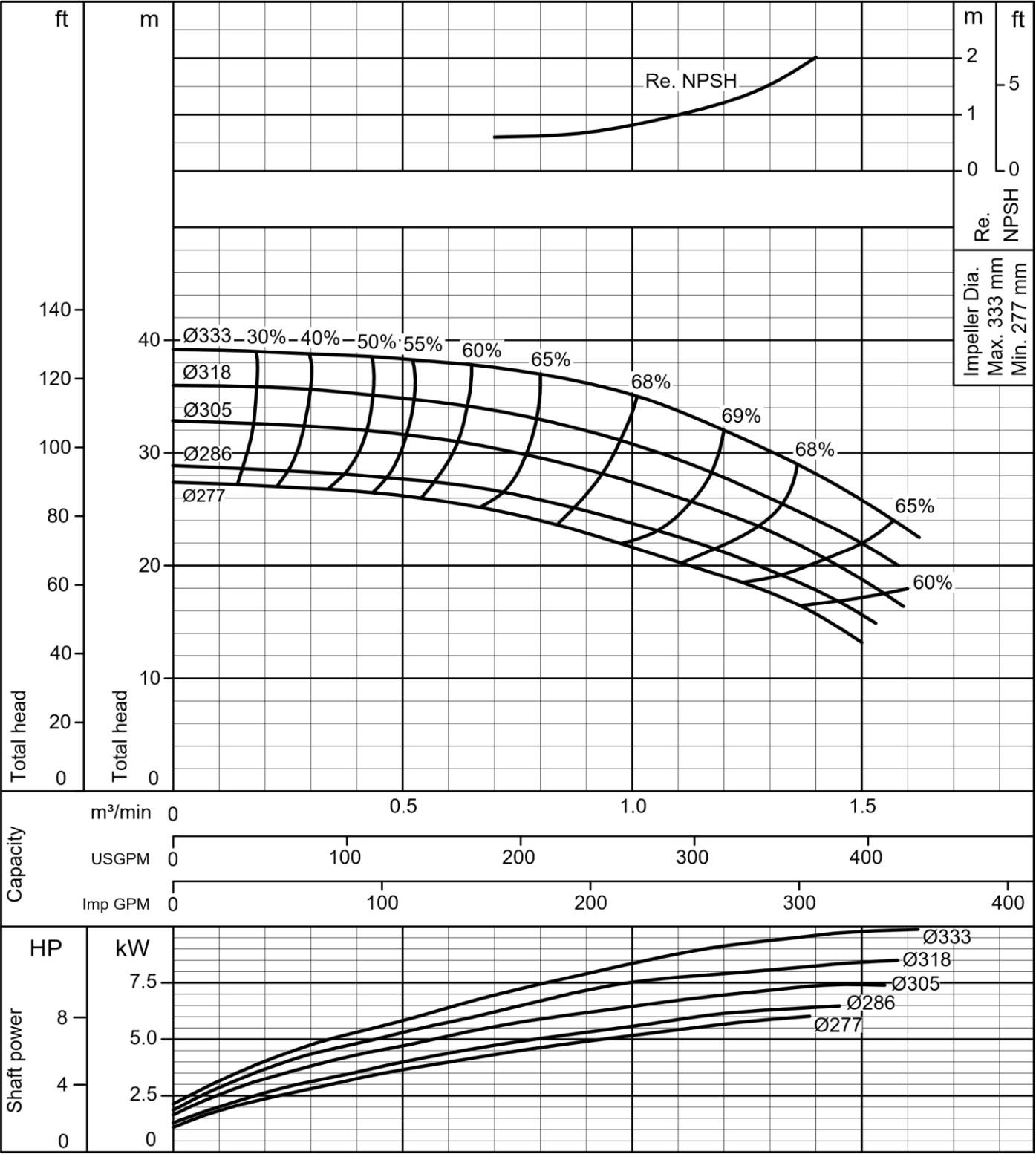
Curve No - 4 - 5FS5606R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (7/27)

80x65 FS4KA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



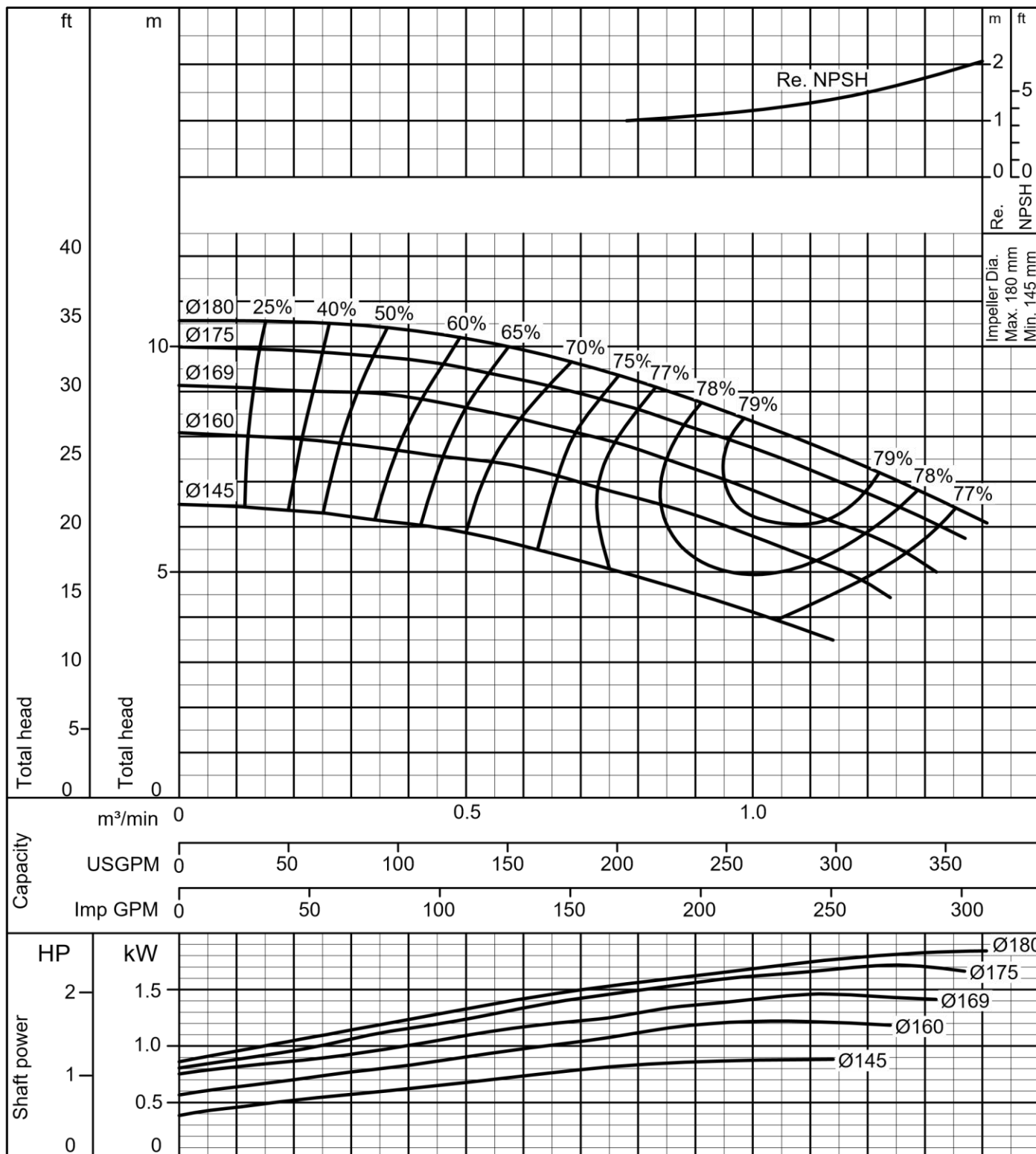
Curve No - 4 - 5FS5607R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (8/27)

100x80 FS4GA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



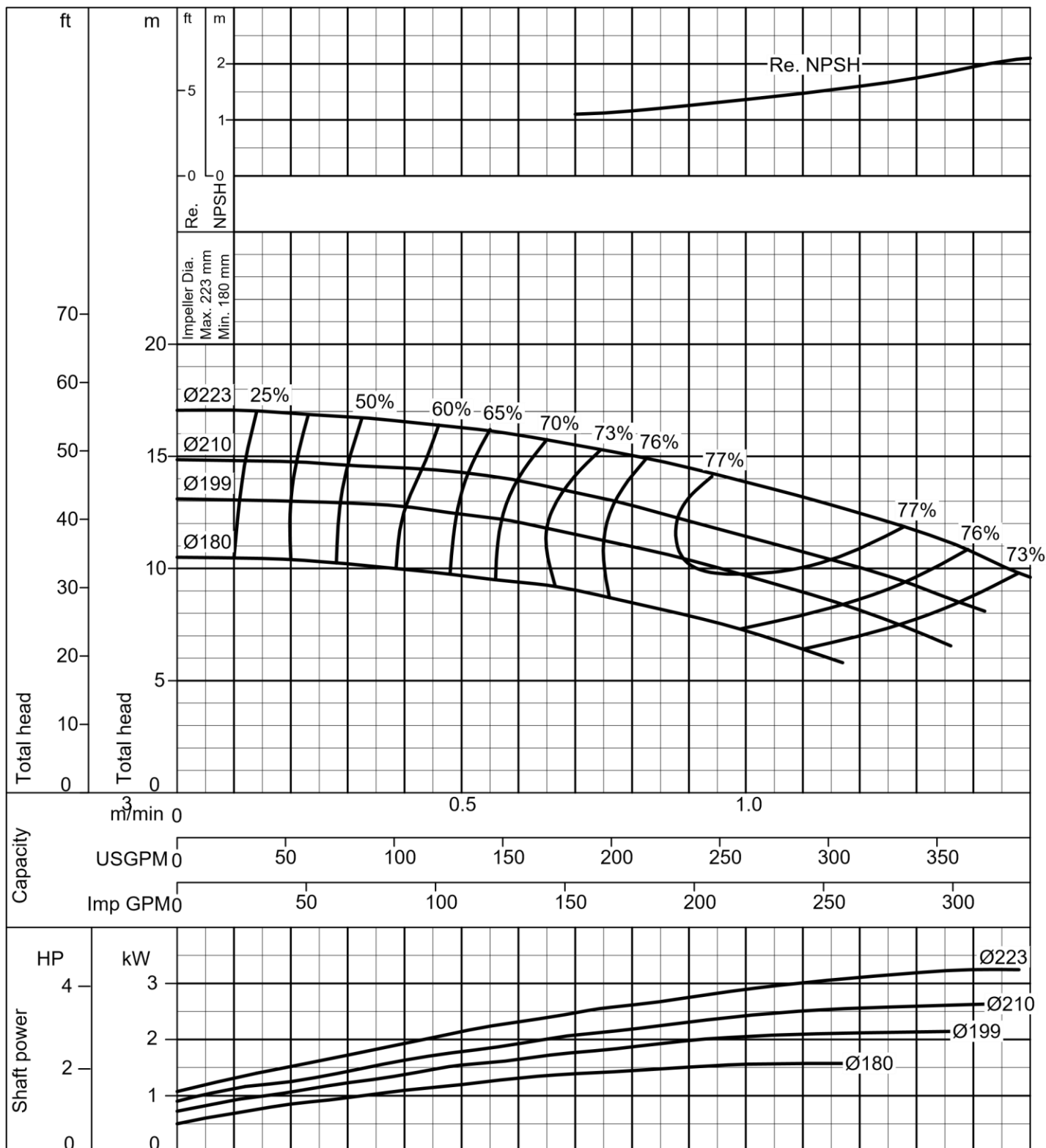
Curve No - 4 - 5FS5608R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (9/27)

100x80 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



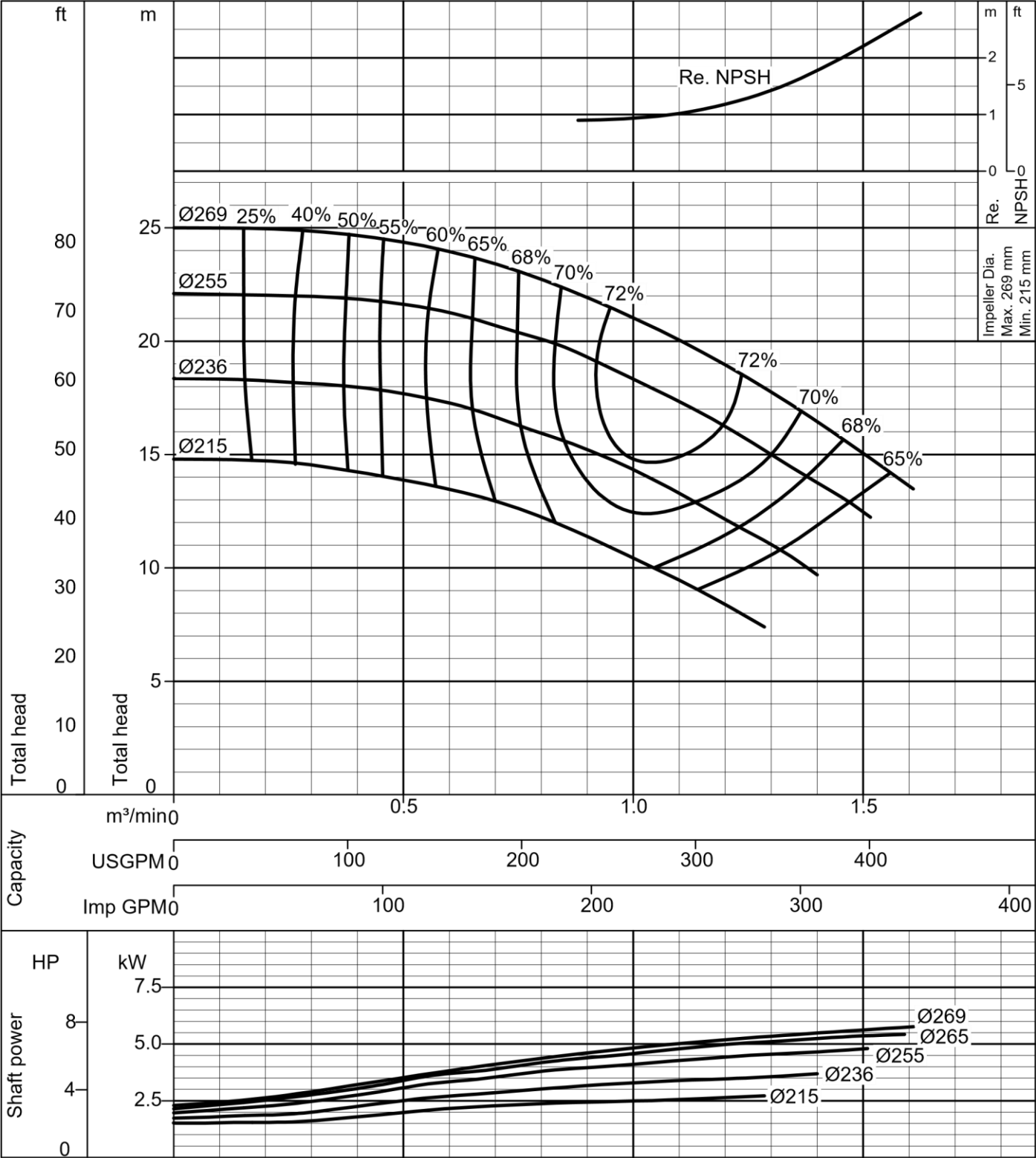
Curve No - 4 - 5FS5609R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (10/27)

100x80 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt

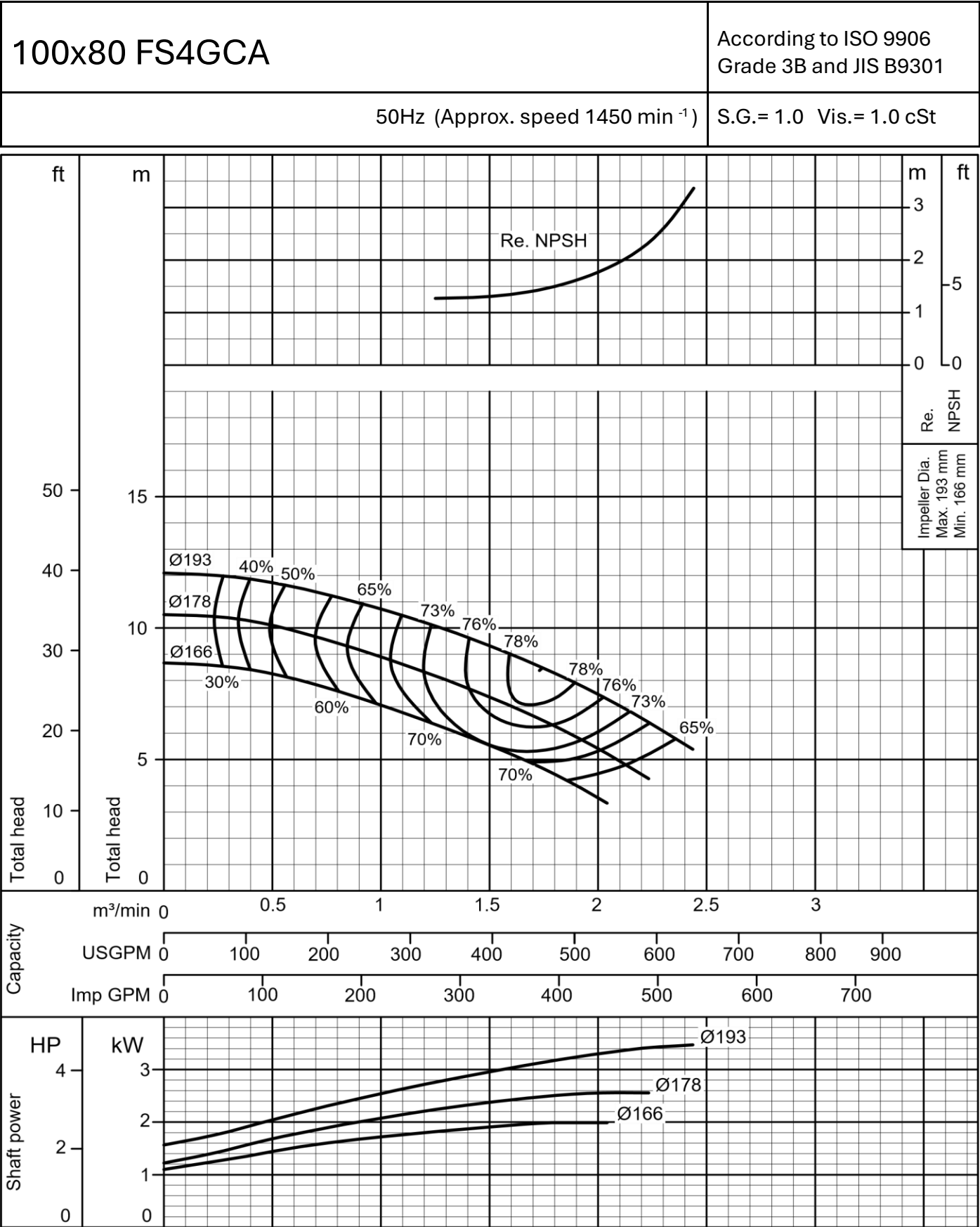


Curve No - 4 - 5FS5610R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (11/27)

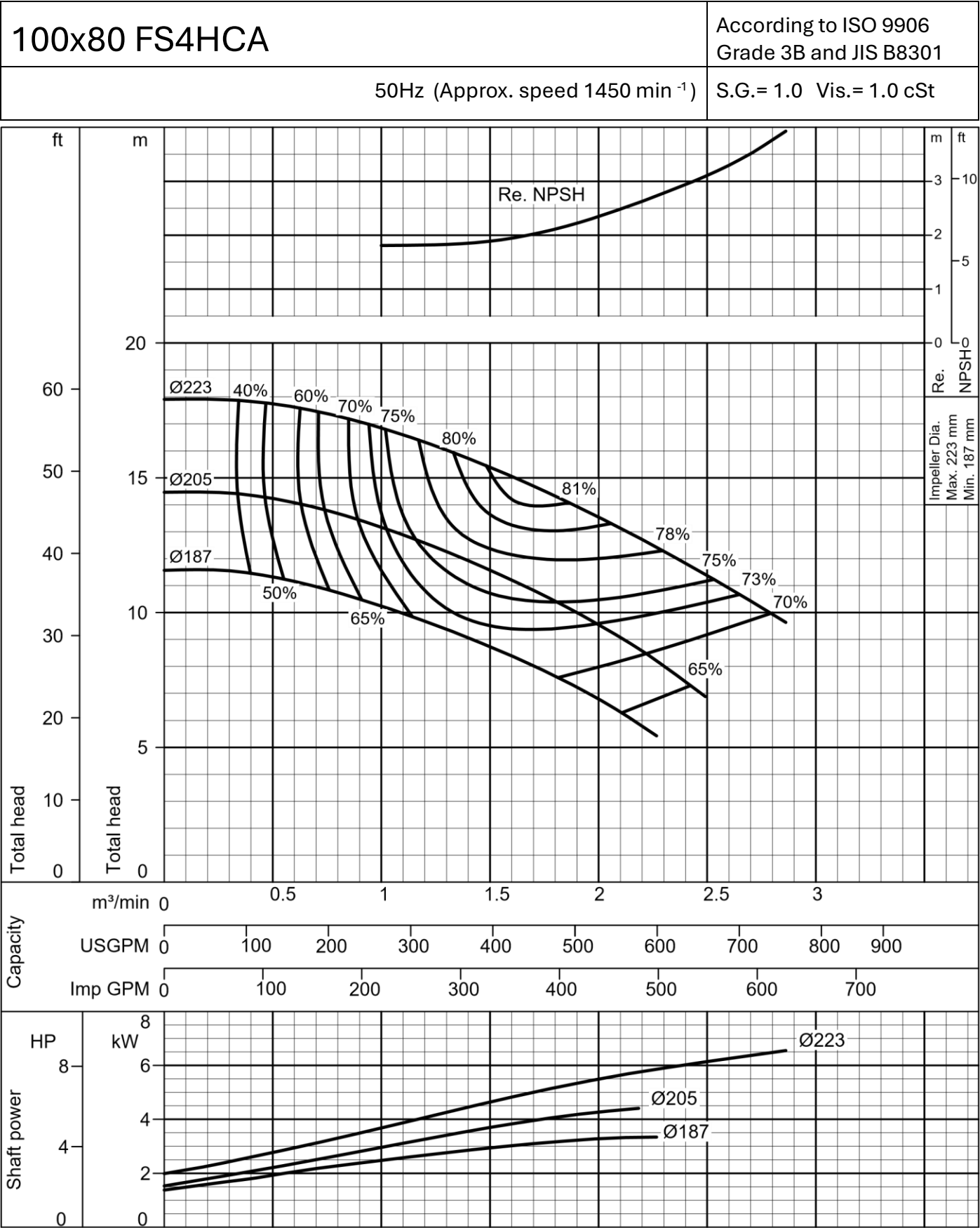


Curve No - 4 - 5FS5620R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (12/27)

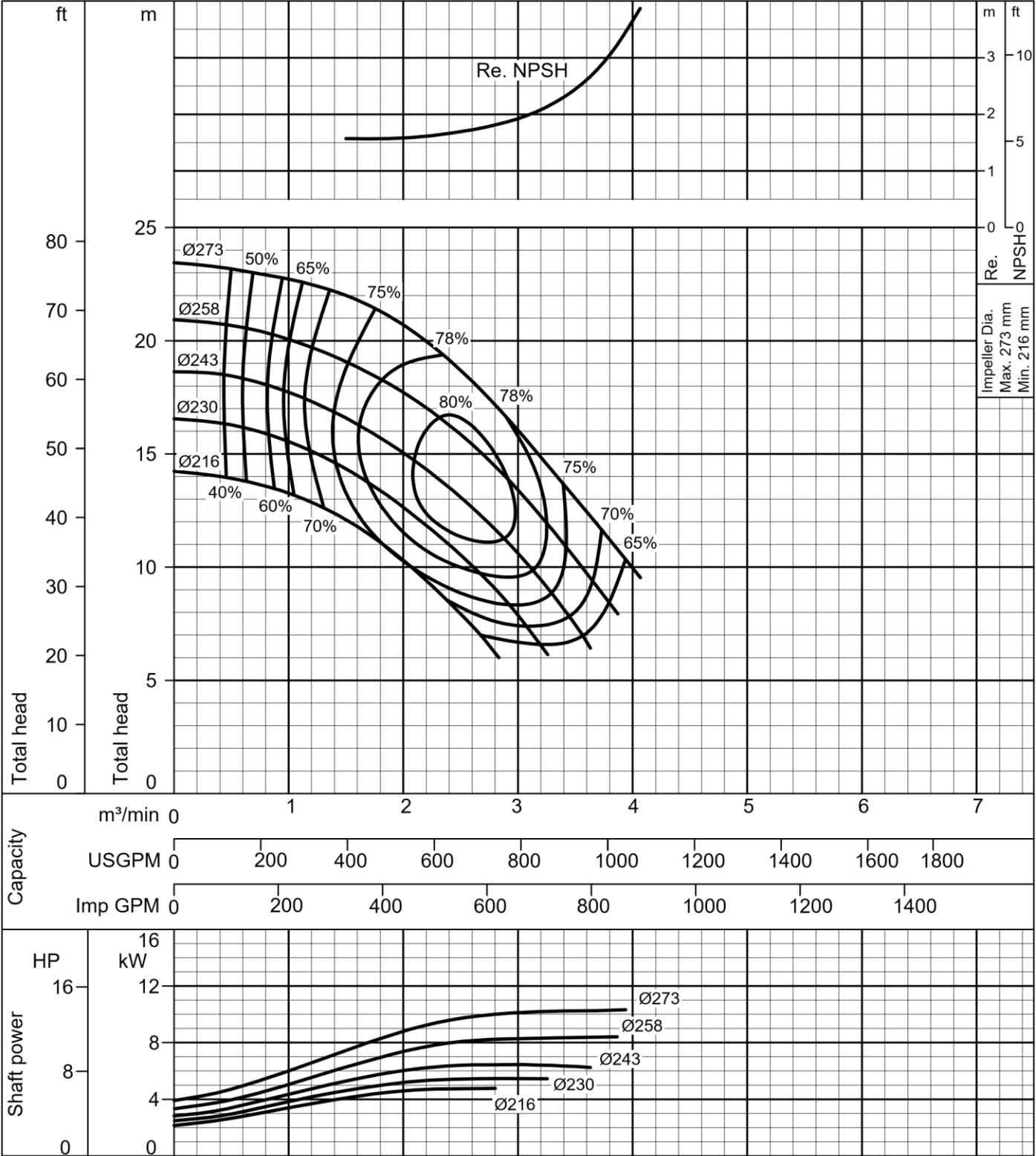


EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (13/27)

125x100 FS4JCA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt

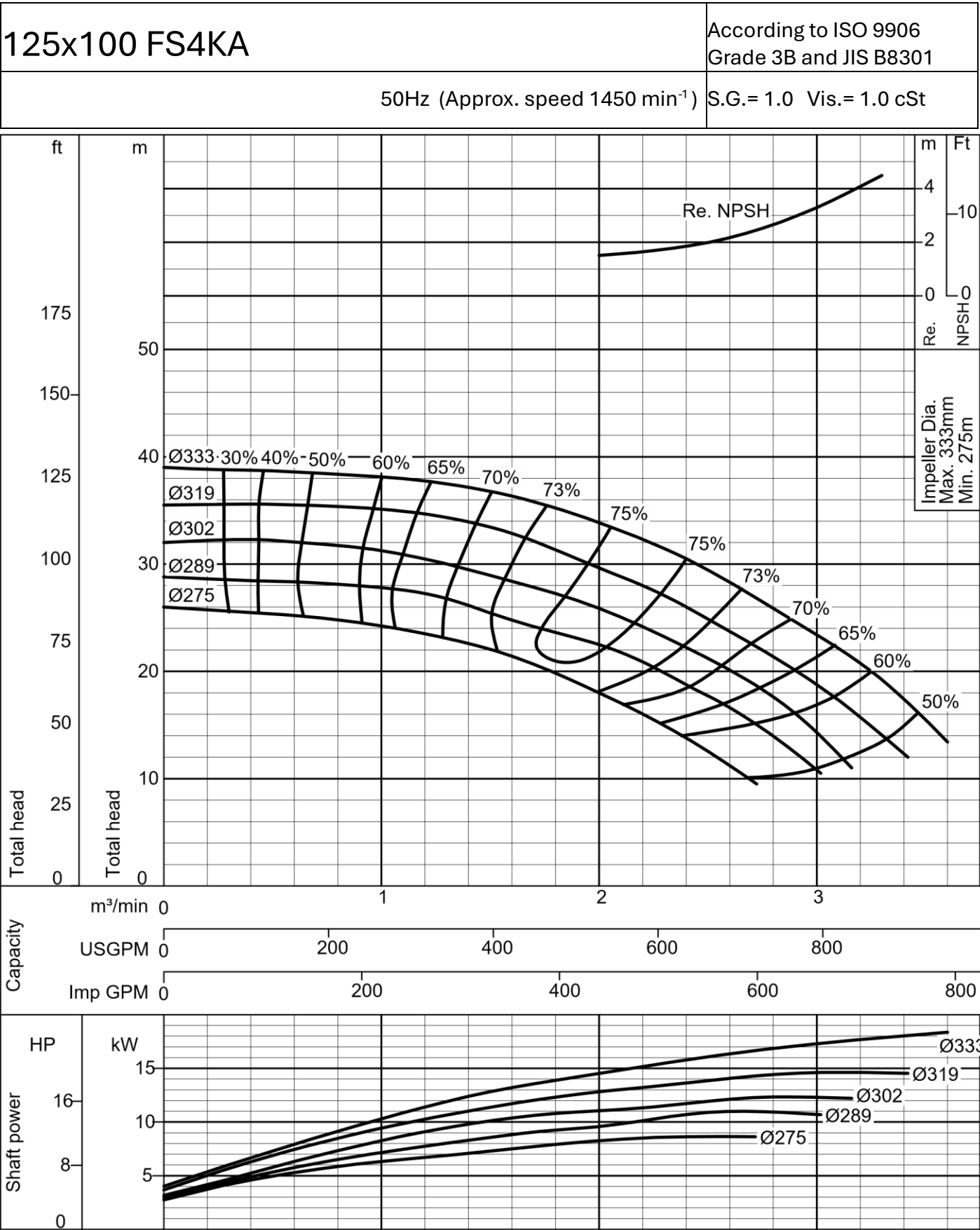


Curve No - 4 - 5FS5622R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (14/27)



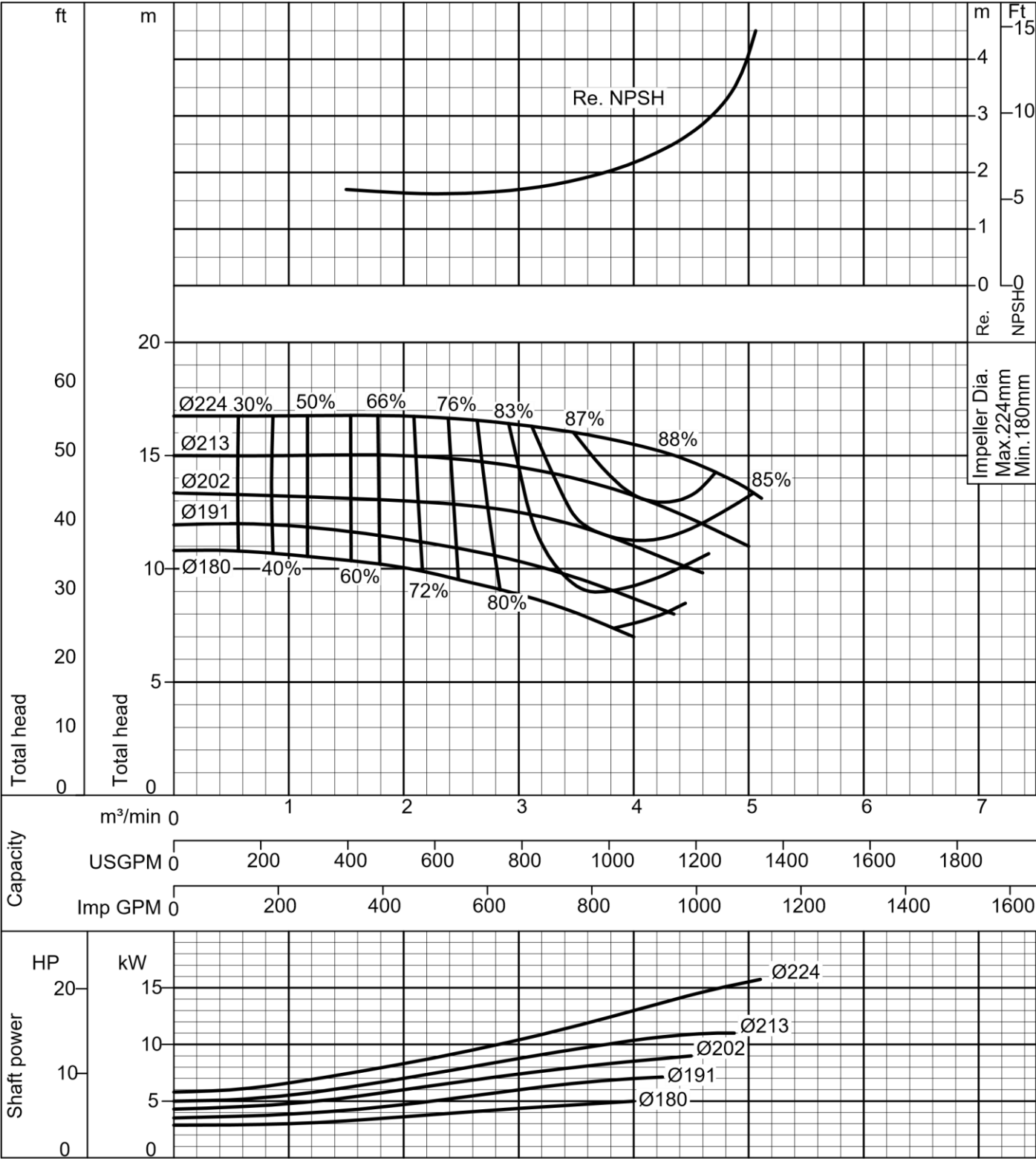
Curve No - 4 - 5FS5611R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (15/27)

150x125 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



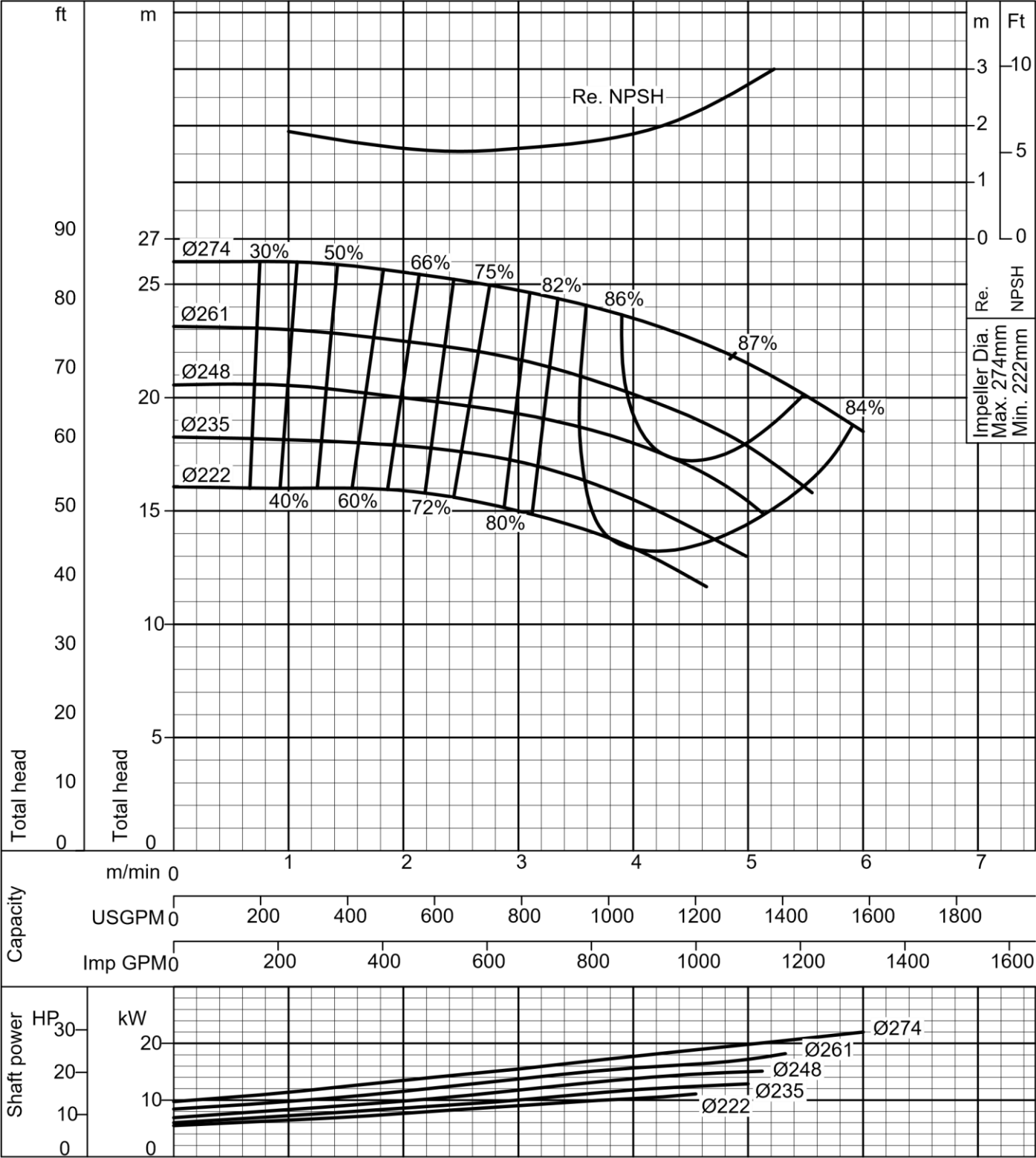
Curve No - 4 - 5FS5613R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (16/27)

150x125 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



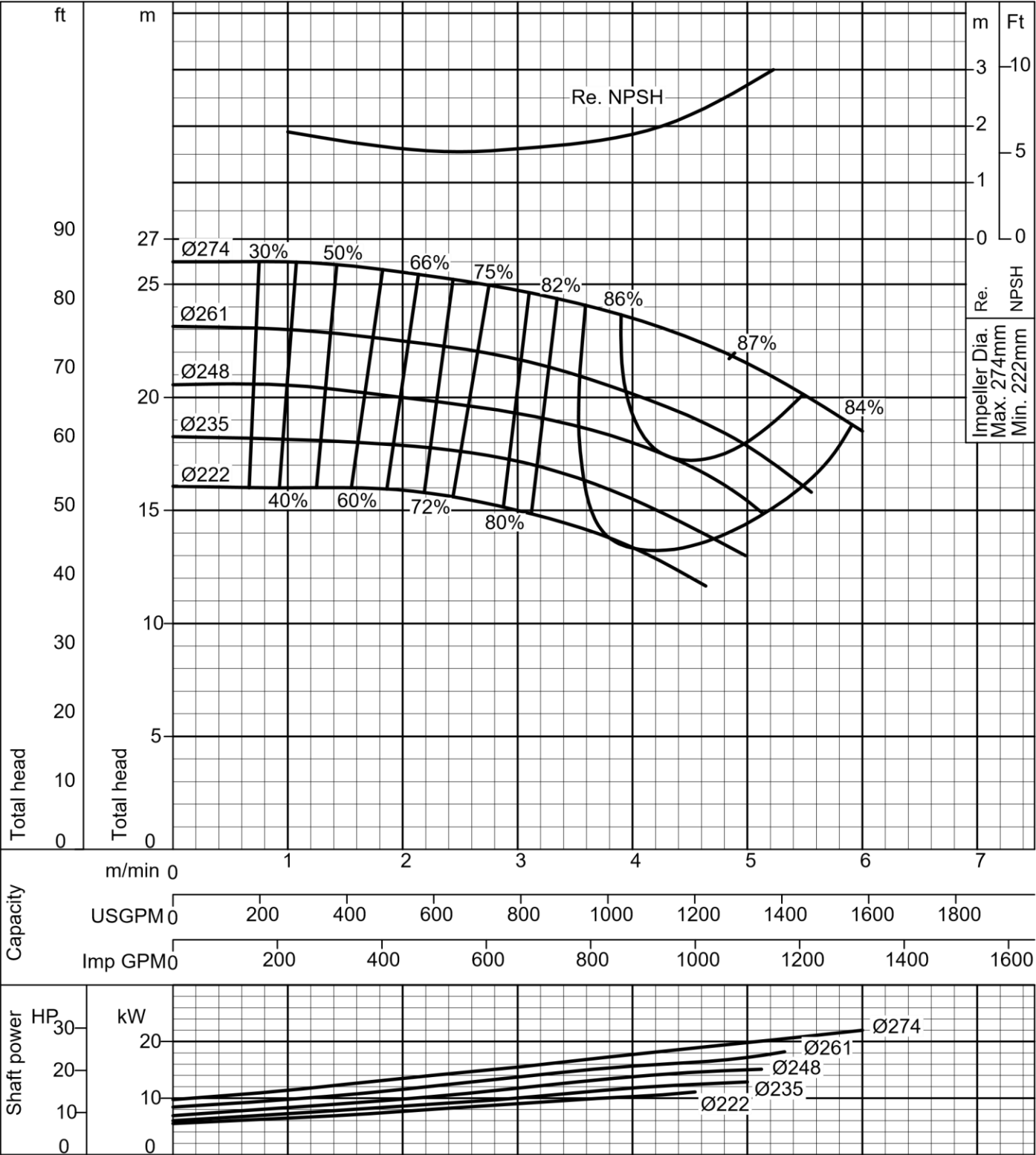
Curve No - 4 - 5FS5614R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (17/27)

150x125 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



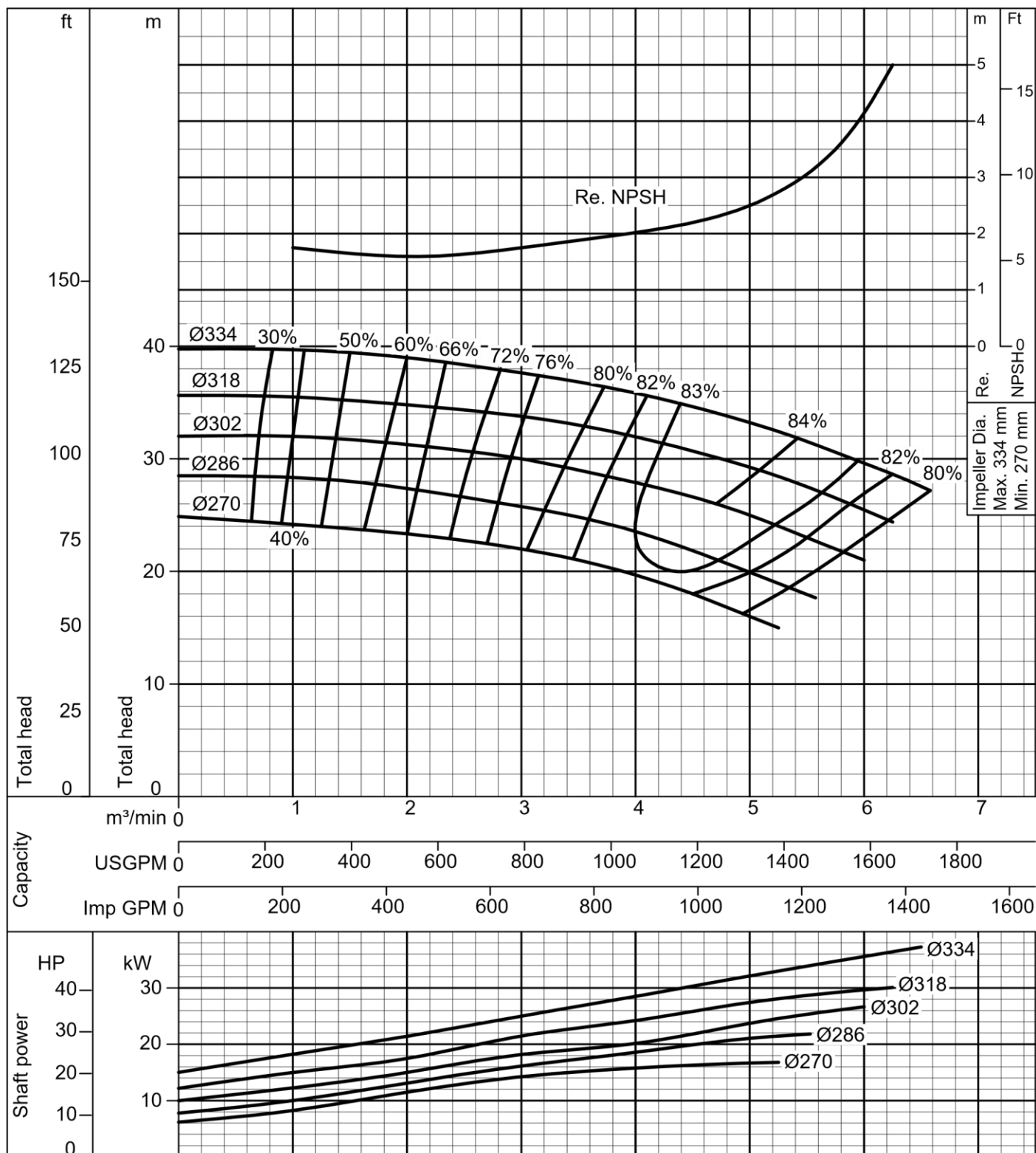
Curve No - 4 - 5FS5614R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (18/27)

150x125 FS4KA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



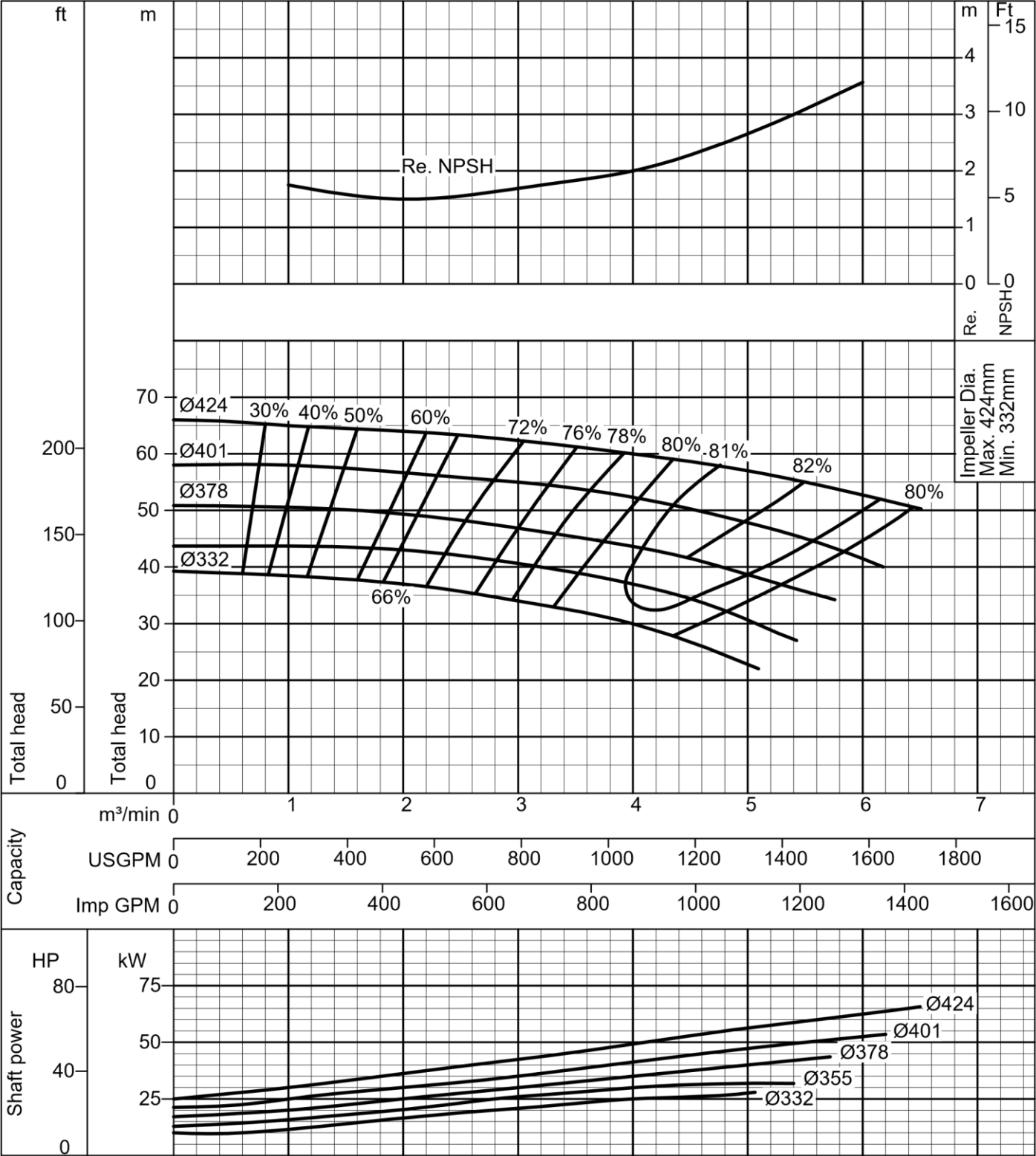
Curve No - 4 - 5FS5615R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (19/27)

150x125 FS4LA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



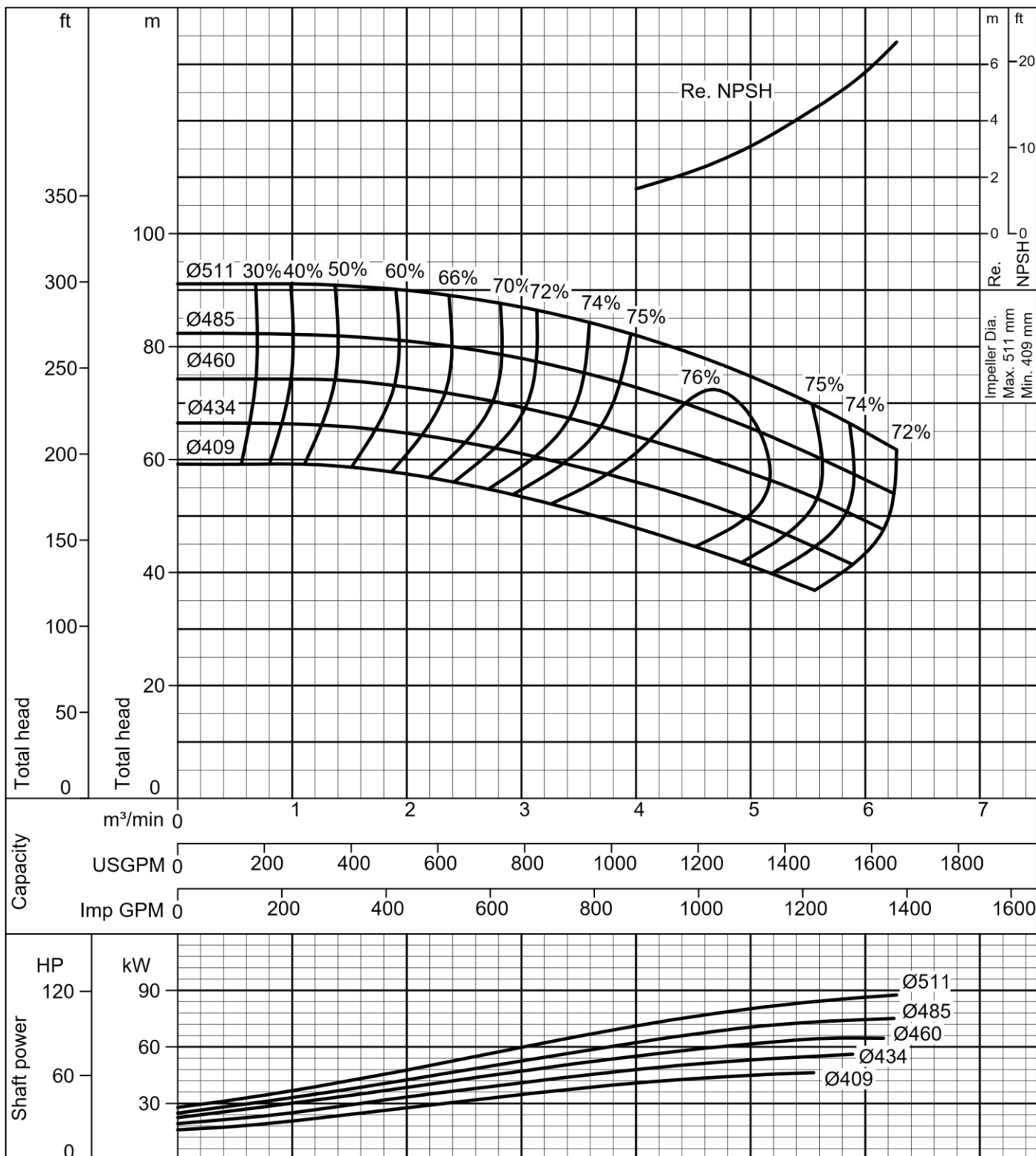
Curve No - 4 - 5FS5616R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (20/27)

150x100 FS4NA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



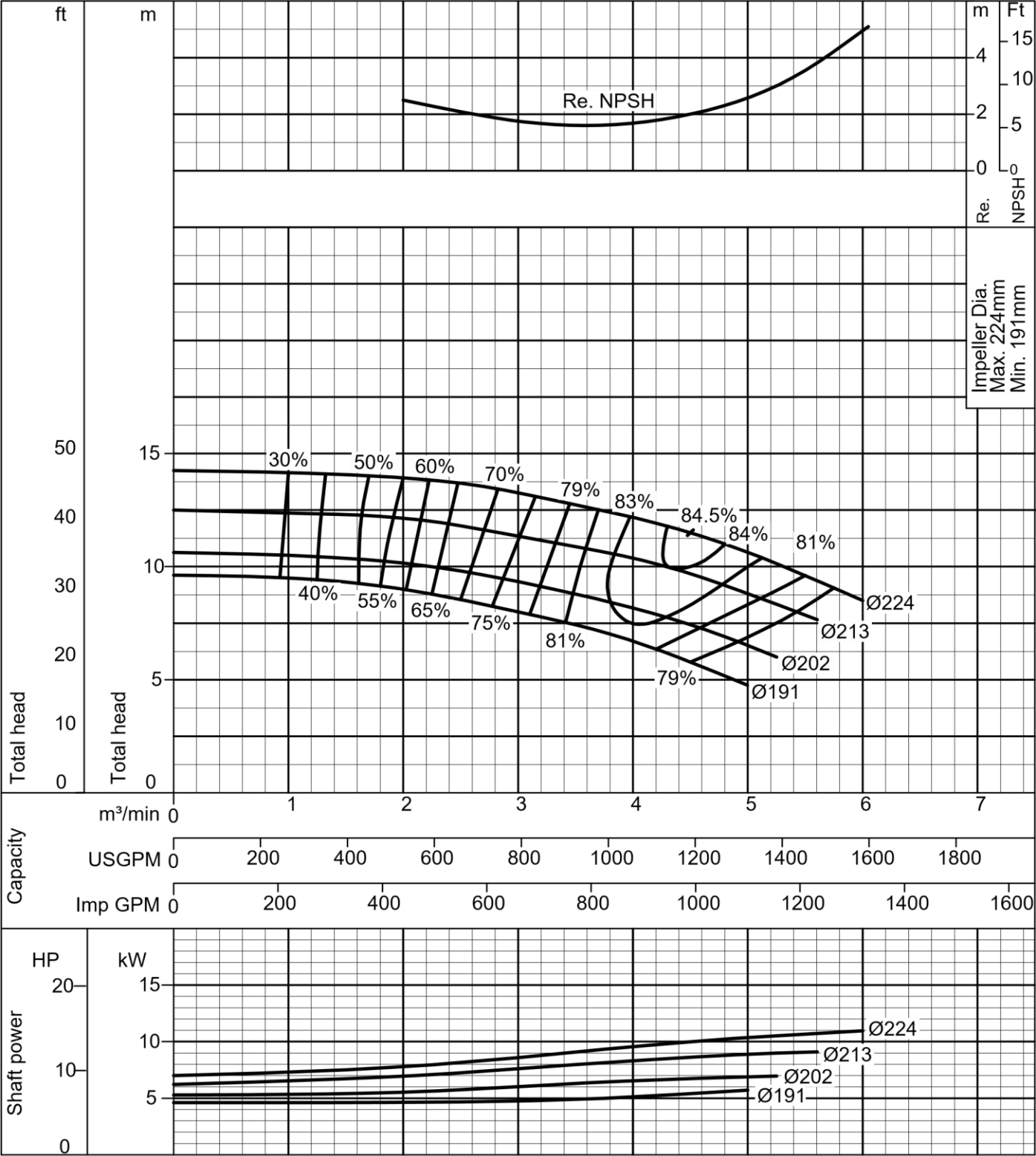
Curve No - 4 - 5FS5624R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (21/27)

200x150 FS4HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



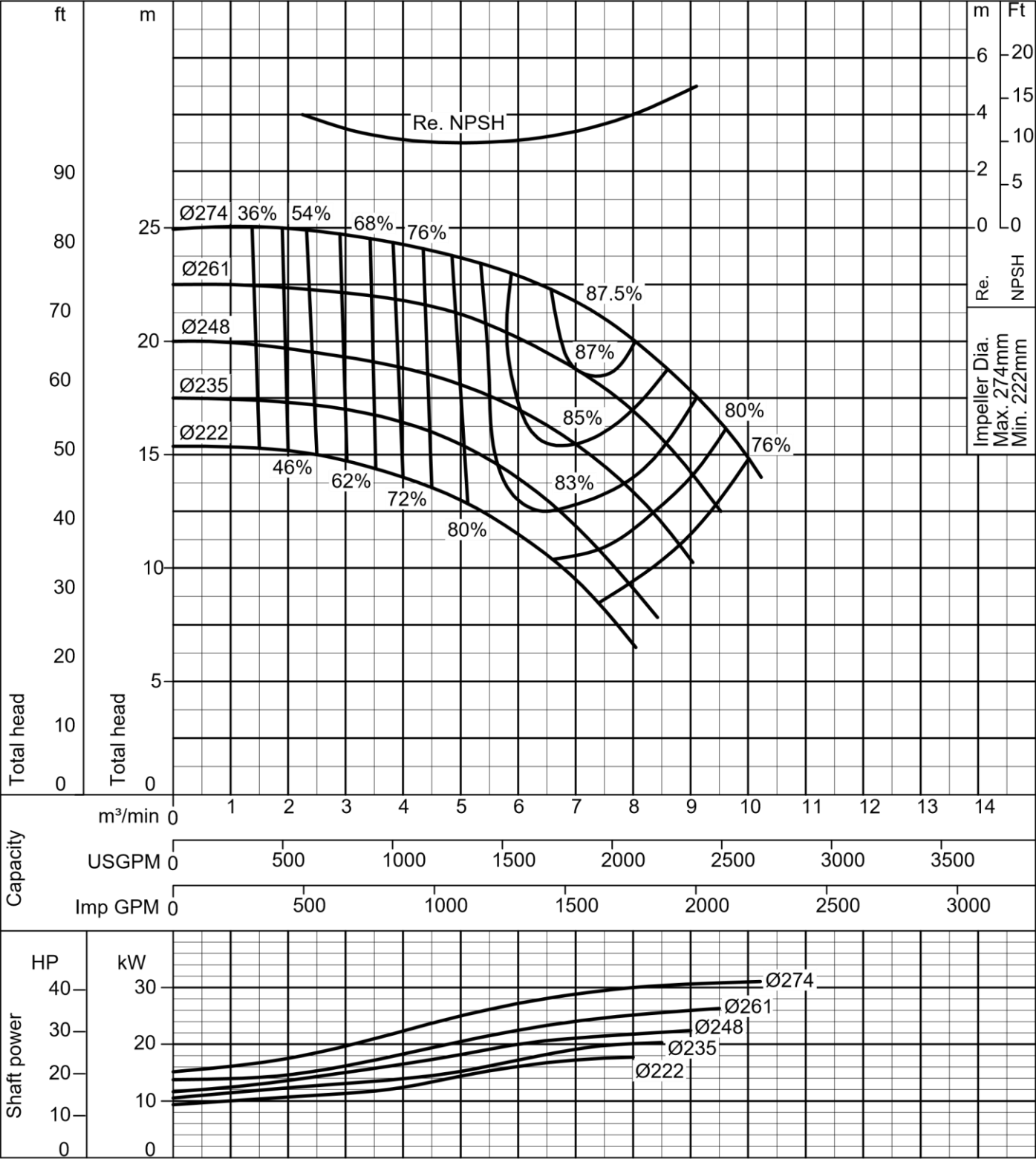
Curve No - 4 - 5FS5617R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (22/27)

200x150 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



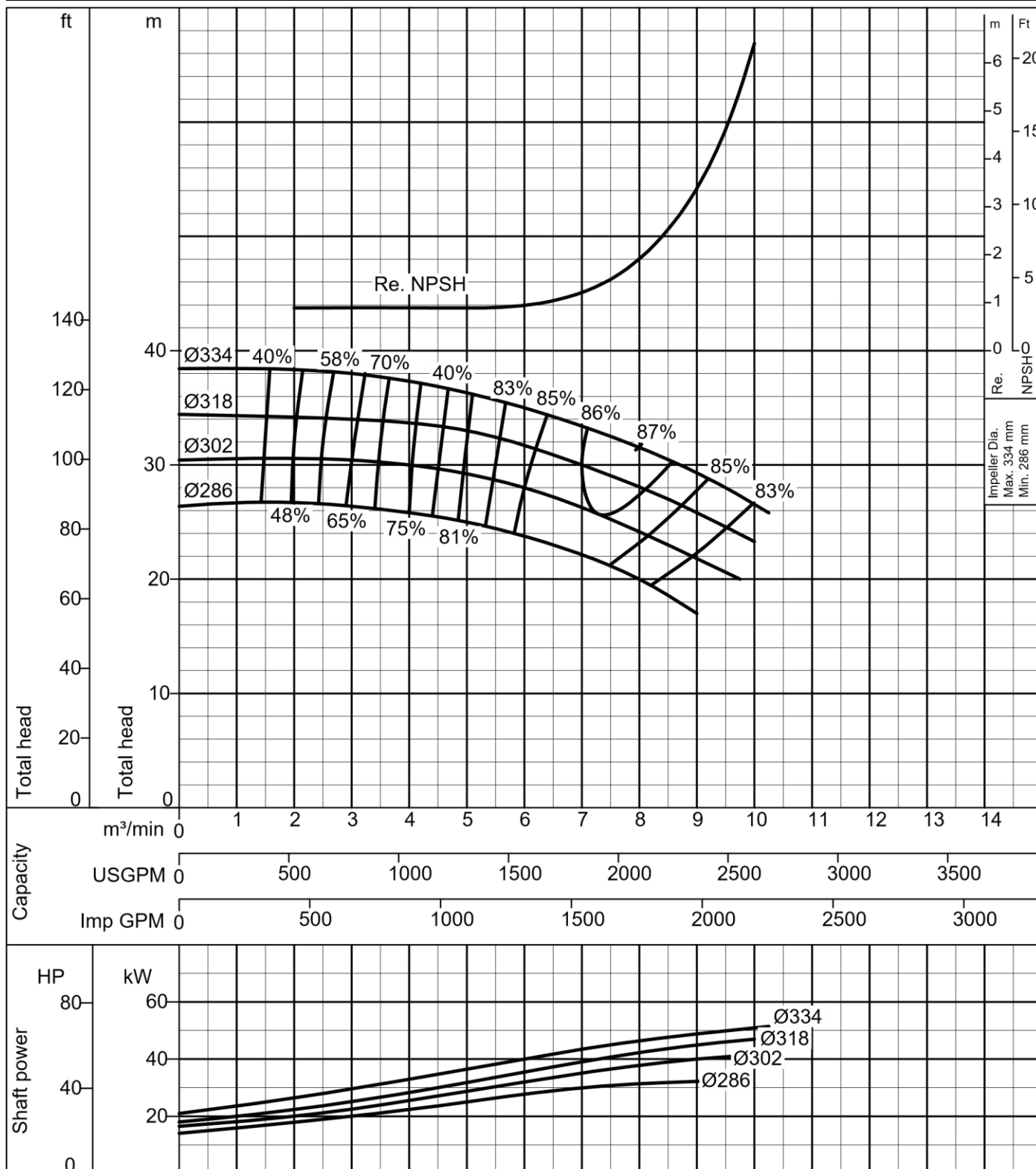
Curve No - 4 - 5FS5618R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (23/27)

200x150 FS4KA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



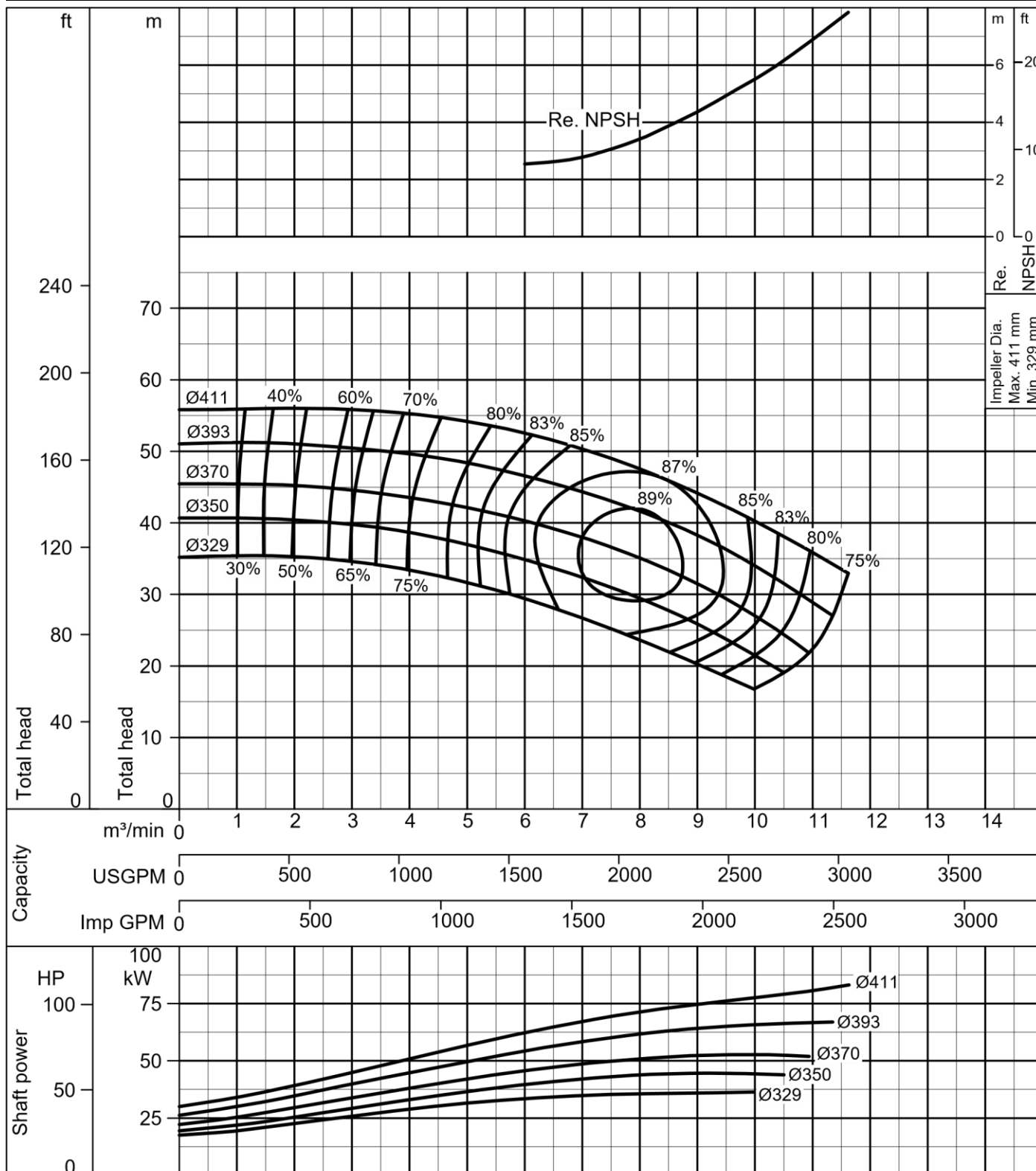
Curve No - 4 - 5FS5619R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (24/27)

200x150 FS4LA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



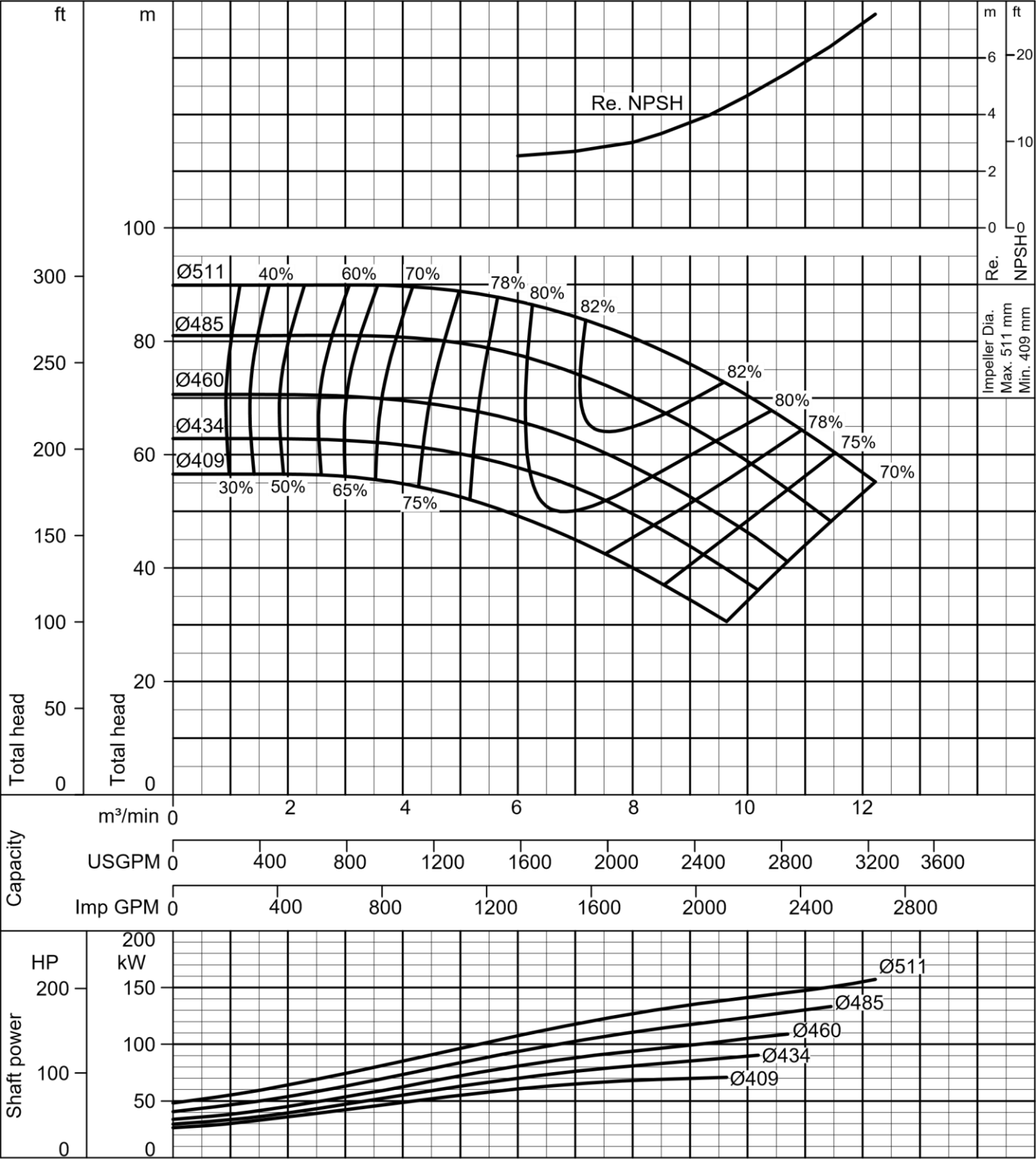
Curve No - 4 - 5FS5625R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (25/27)

200x150 FS4NA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



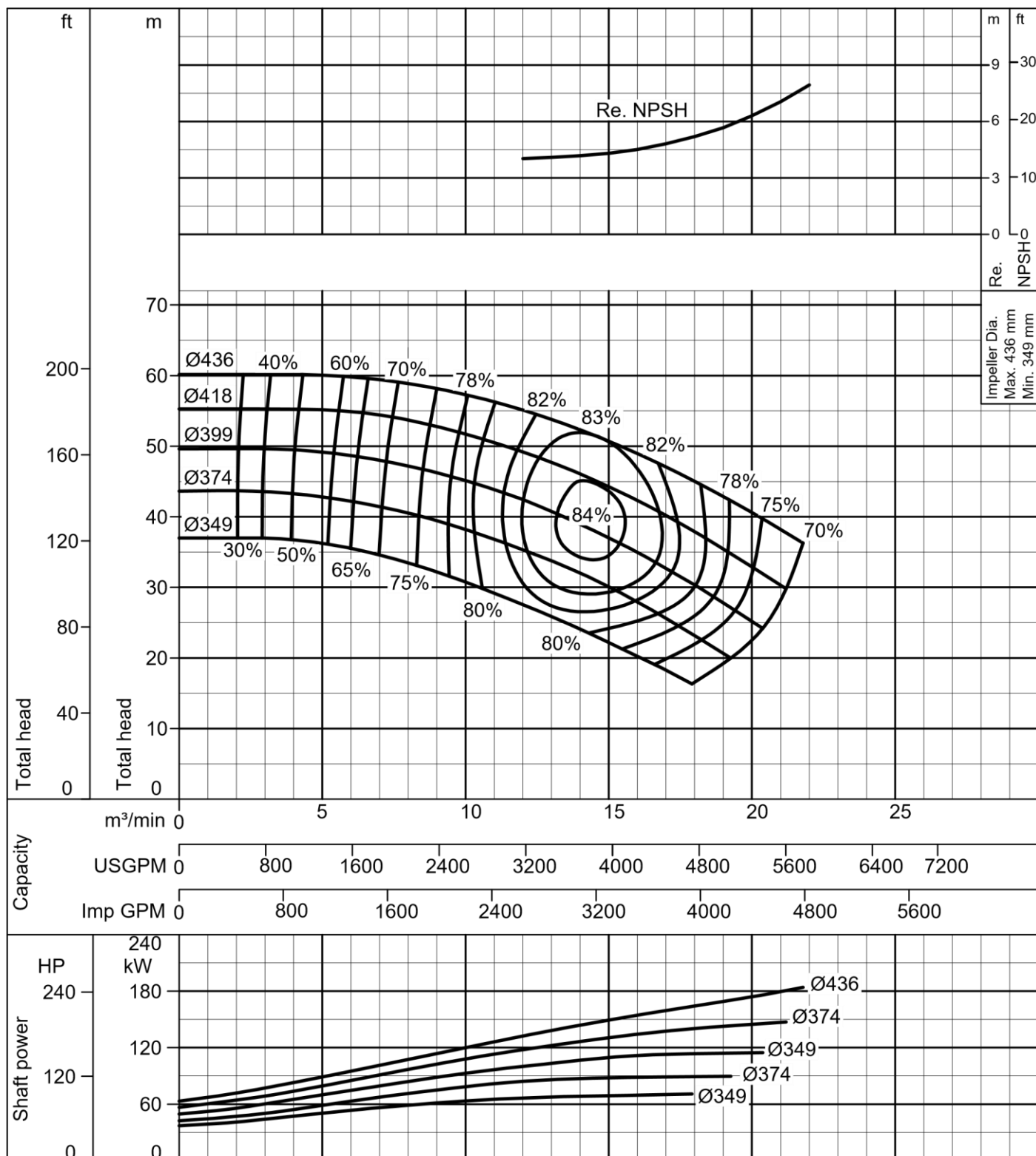
Curve No - 4 - 5FS5626R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (26/27)

250x200 FS4LA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



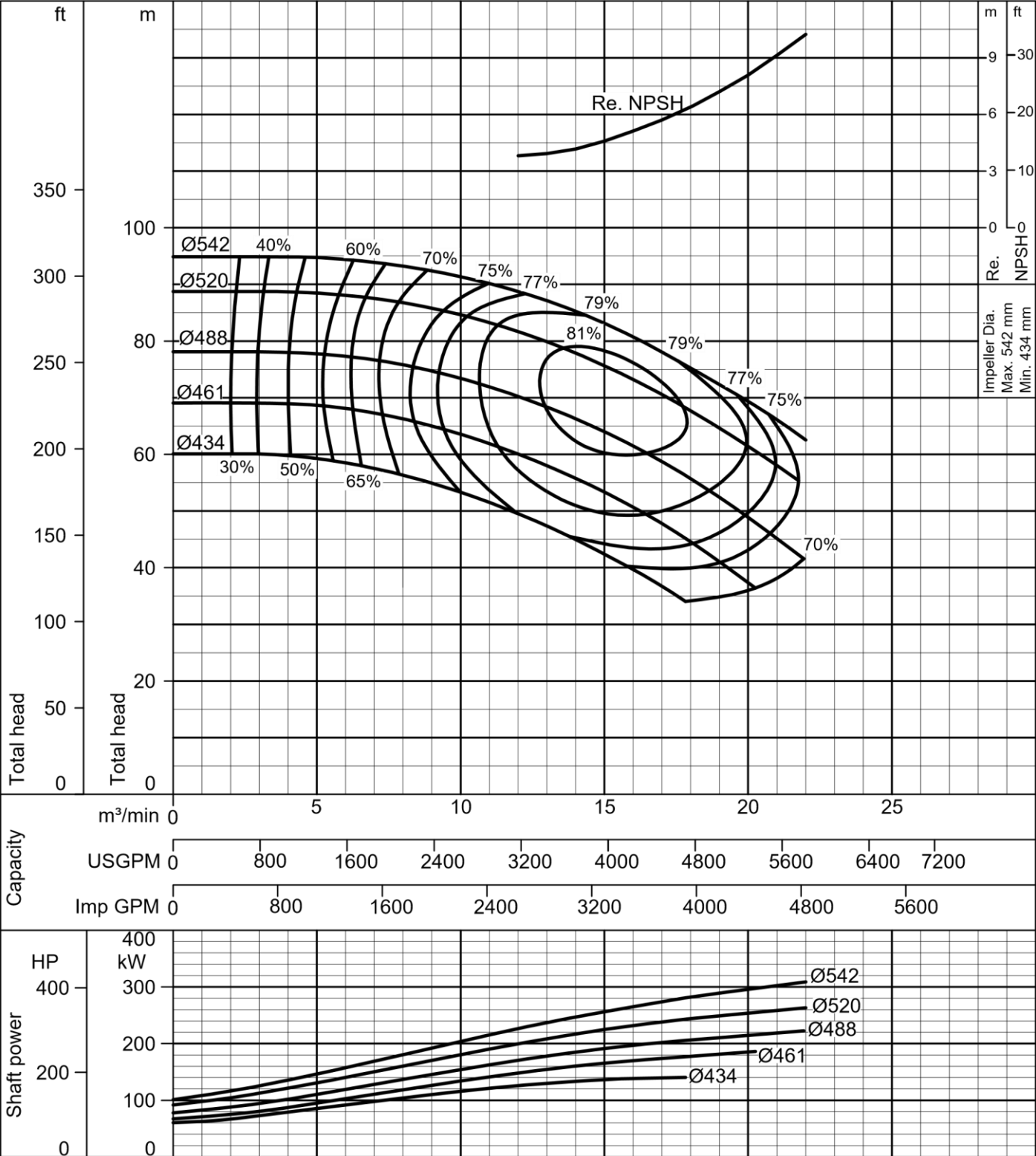
Curve No - 4 - 5FS5627R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (27/27)

250x200 FS4NA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



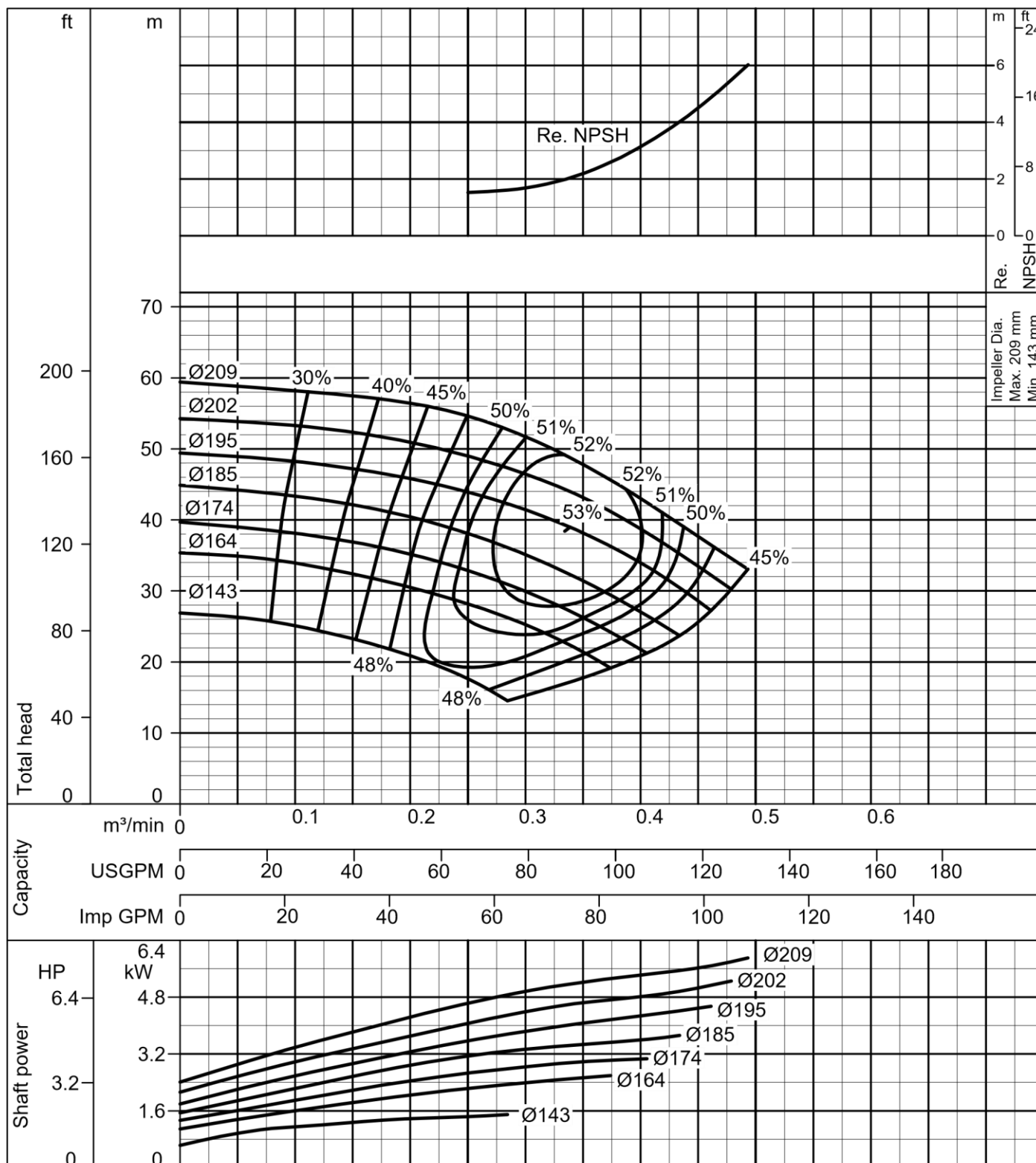
Curve No - 4 - 5FS5628R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (1/14)

50X40 FS2HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



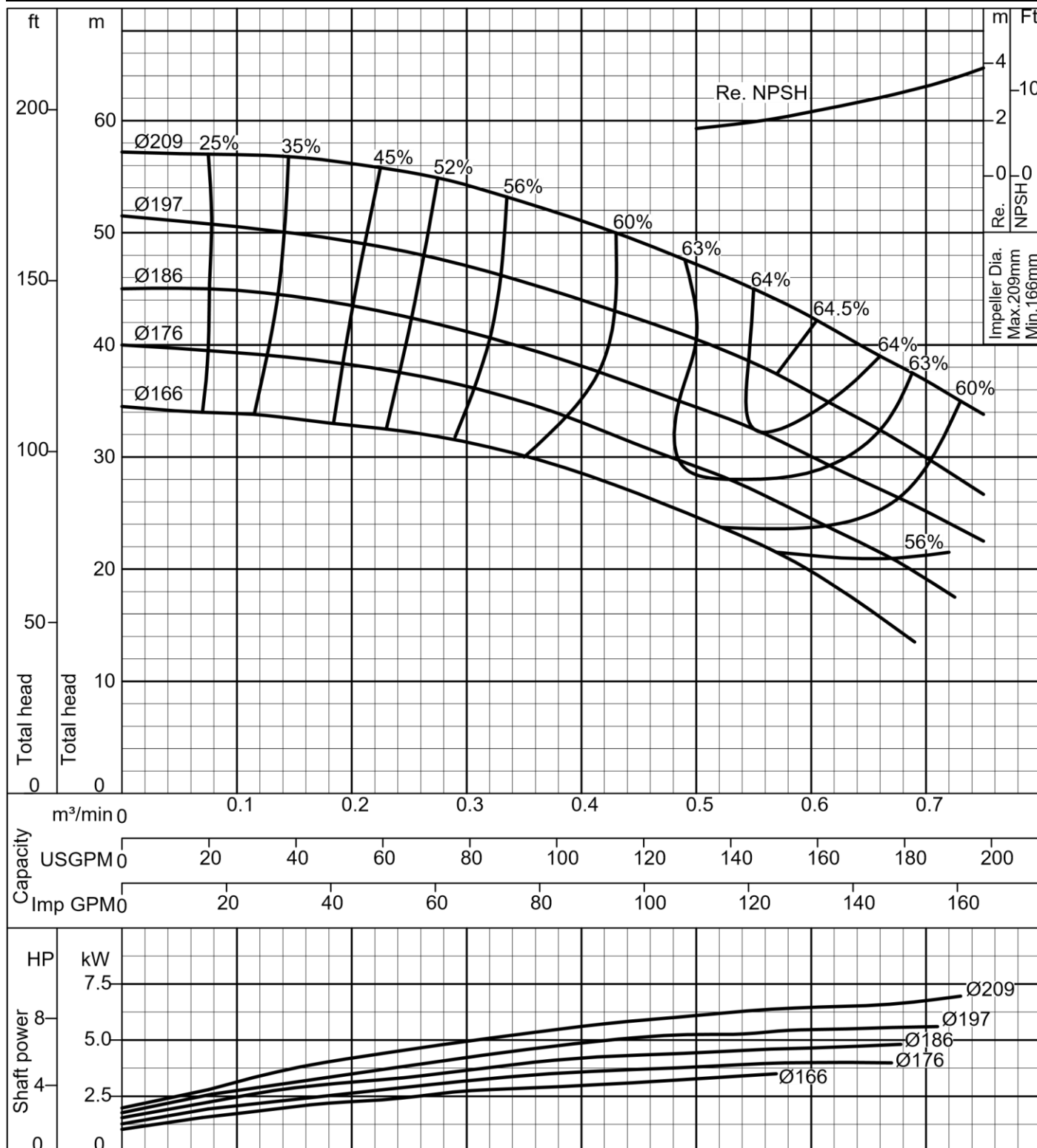
Curve No - 2 - 5FS5601R3

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (2/14)

65X50 FS2HA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



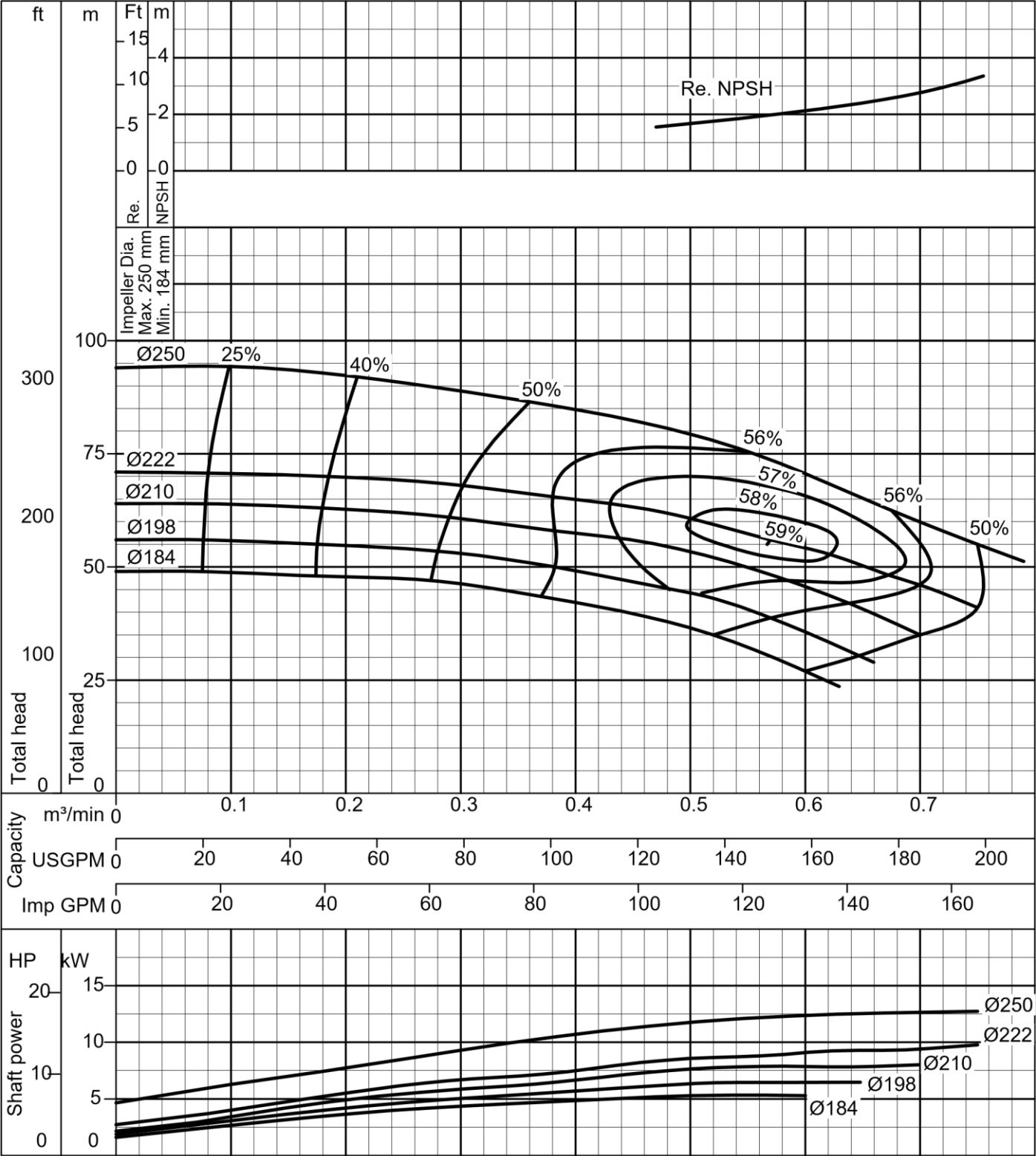
Curve No - 2 - 5FS5602R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (3/14)

65X50 FS2JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



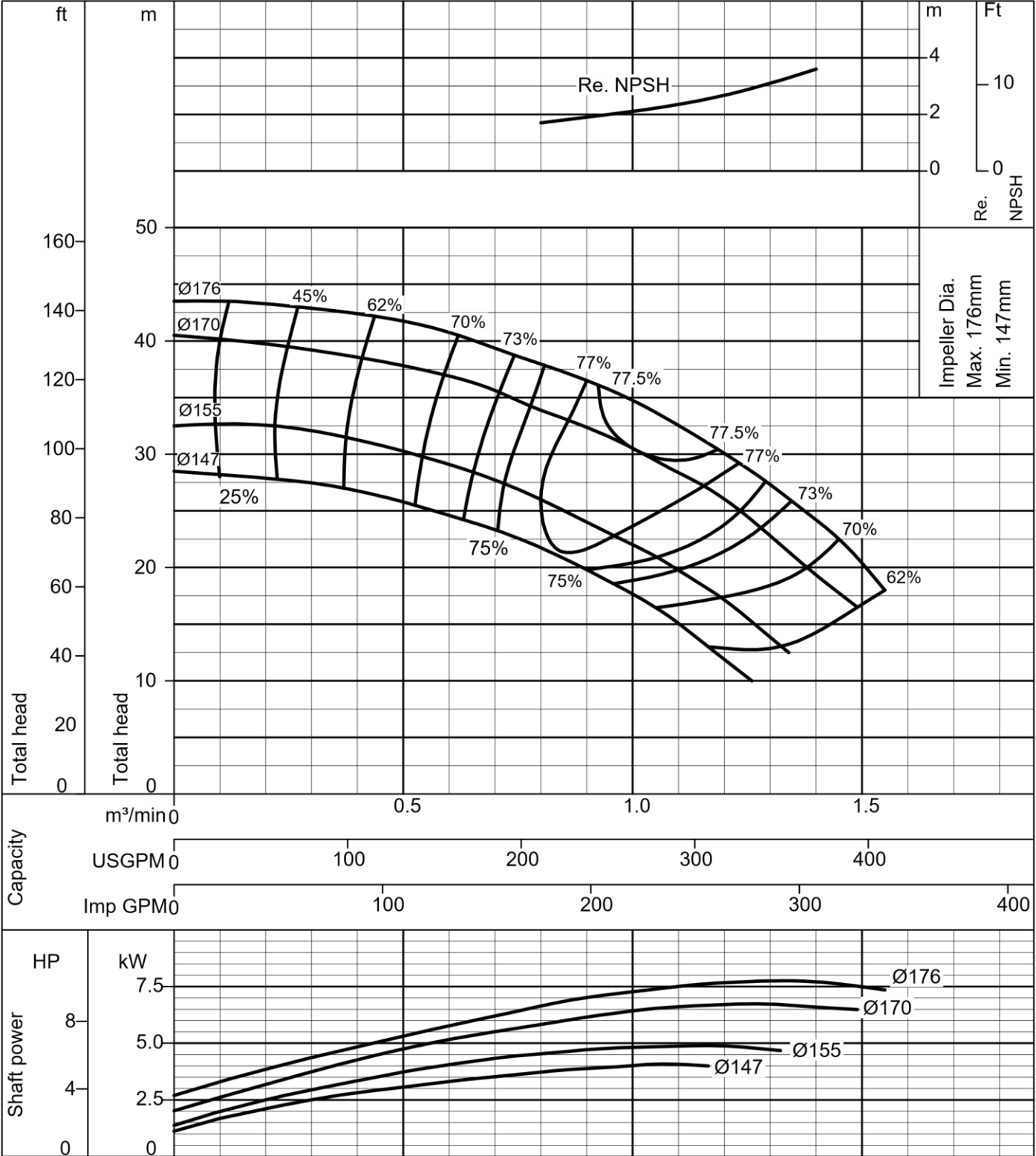
Curve No - 2 - 5FS5603R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (4/14)

80x65 FS2GA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



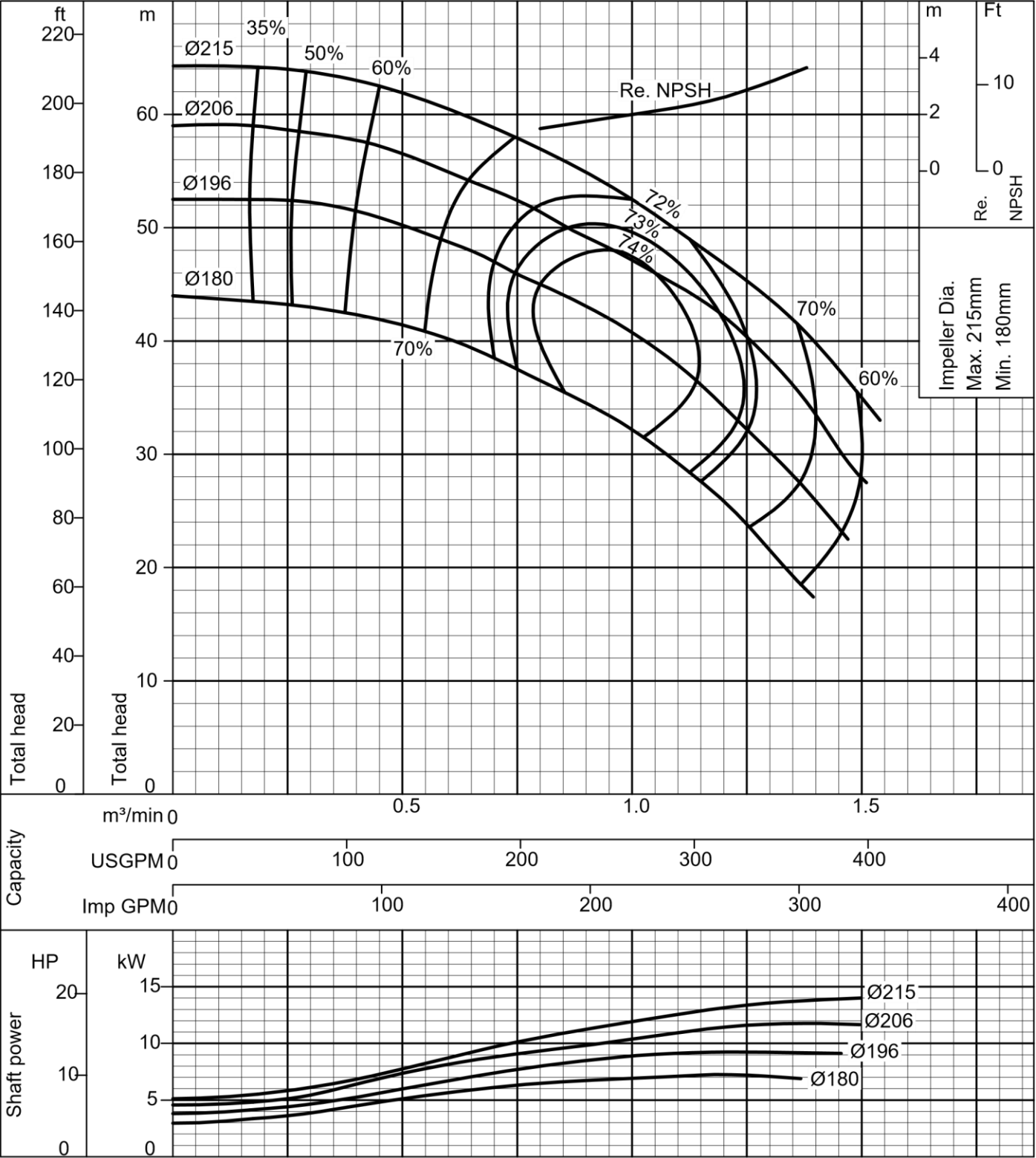
Curve No - 2 - 5FS5604R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (5/14)

80x65 FS2HA	According to ISO 9906 Grade 3B JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt

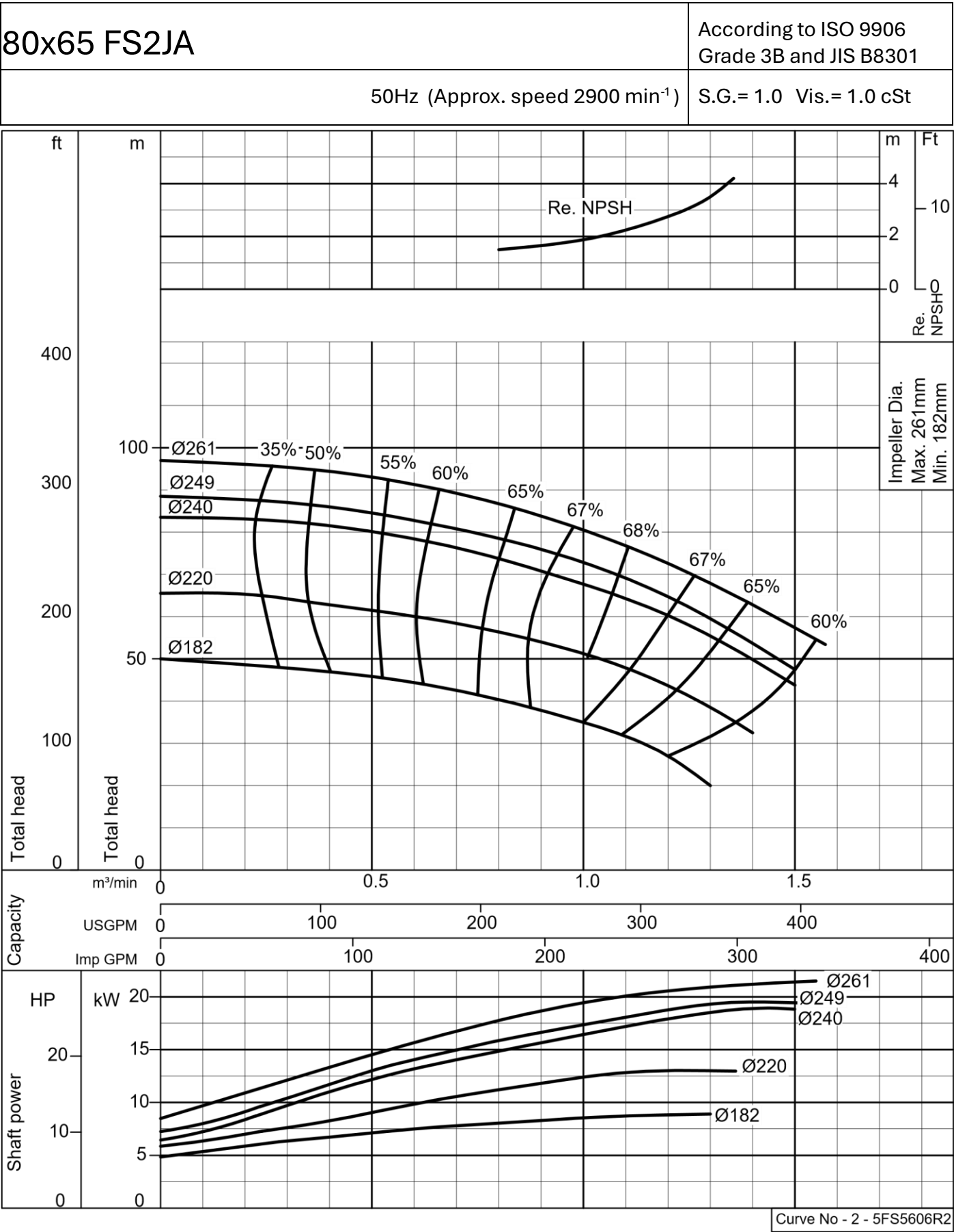


Curve No - 2 - 5FS5605R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

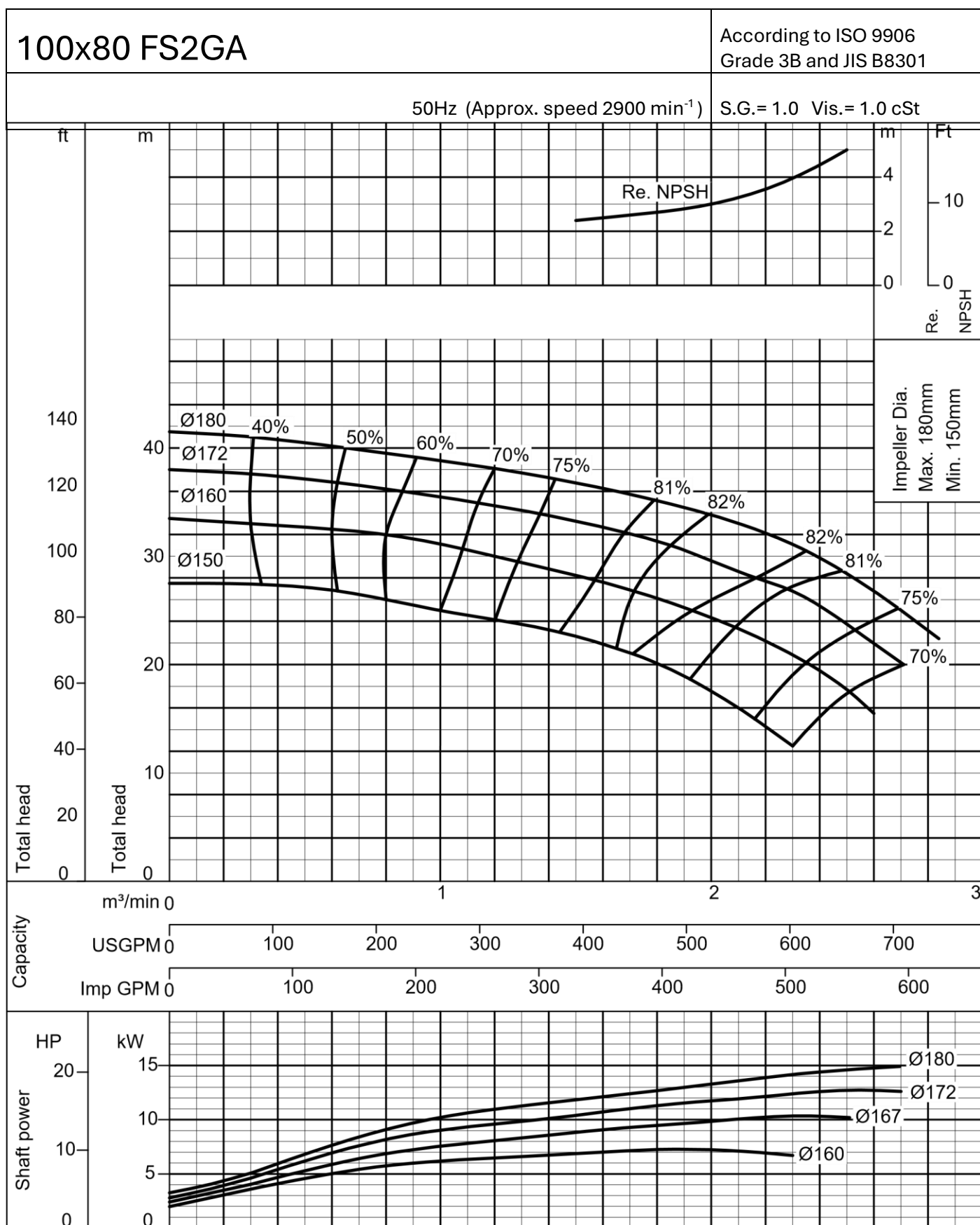
PERFORMANCE CURVE – 2 POLE (6/14)



EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (7/14)



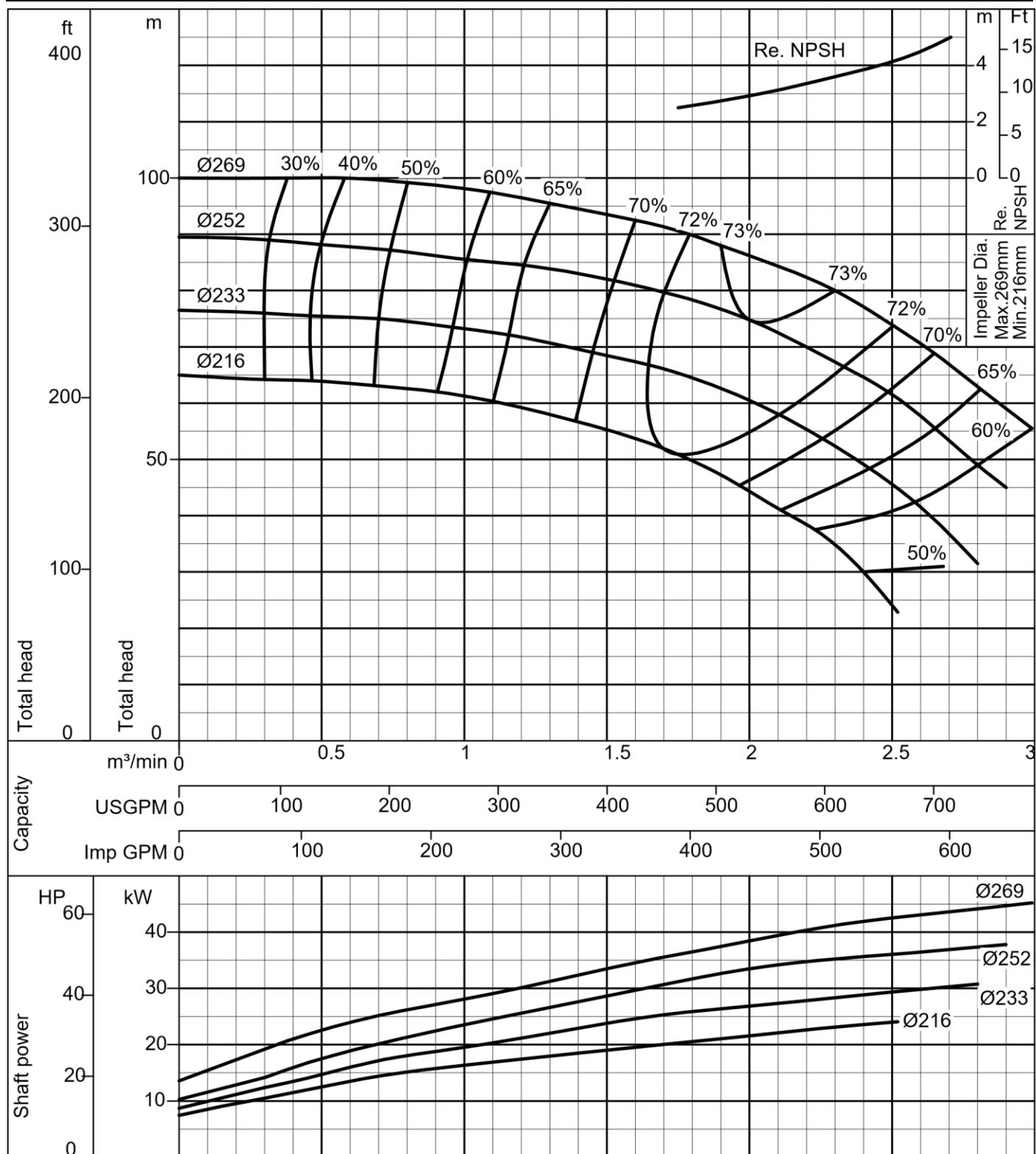
Curve No - 2 - 5FS5607R3

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (8/14)

100x80 FS2JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



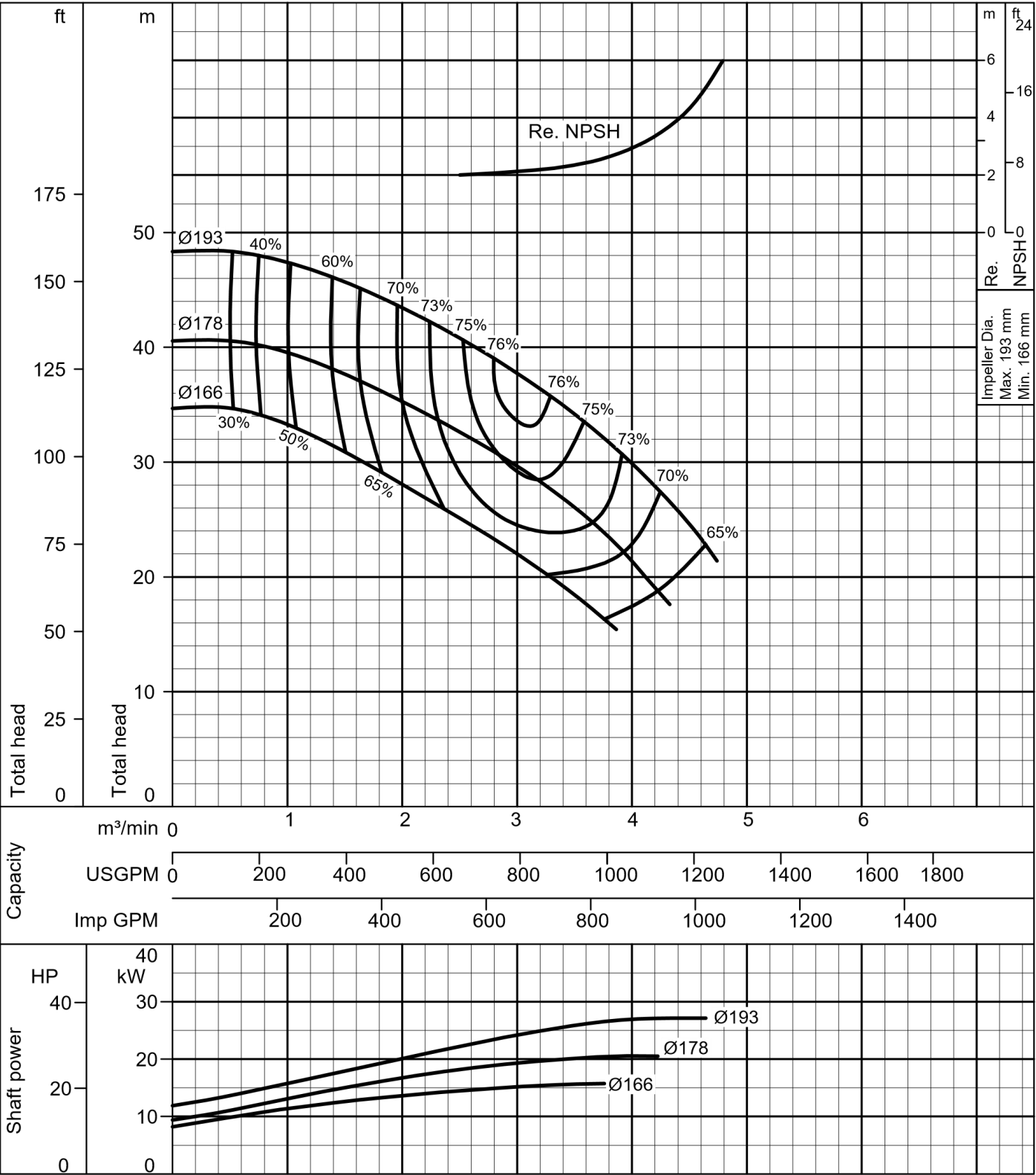
Curve No - 2 - 5FS5609R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (9/14)

100x80 FS2GCA	According to ISO 9906 Grade 3B and JIS B8031
50Hz (Approx. speed 2900 min ⁻¹) S.G.= 1.0 Vis.= 1.0 cSt	



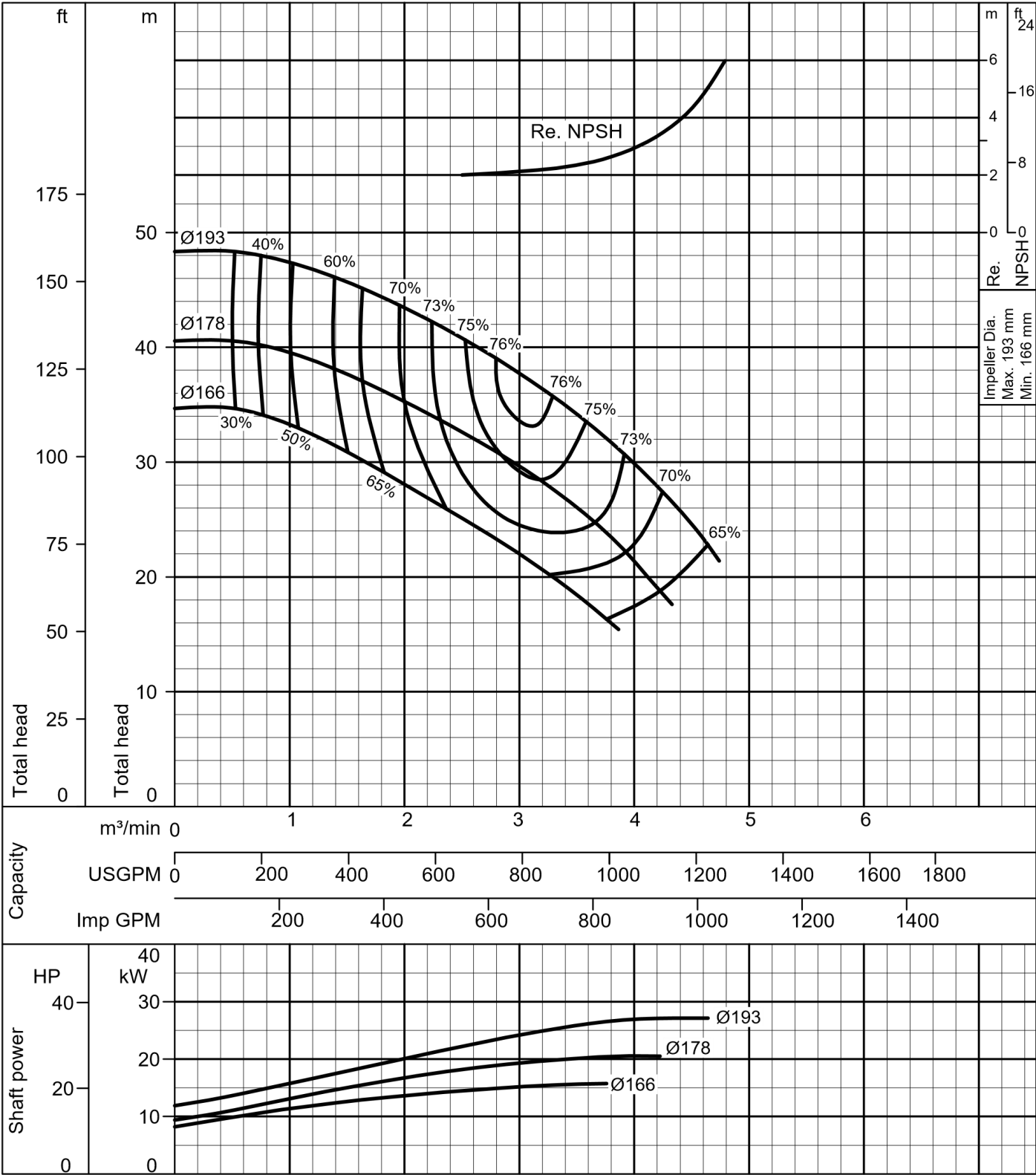
Curve No - 2 - 5FS5610R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (10/14)

100x80 FS2GCA	According to ISO 9906 Grade 3B and JIS B8031
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



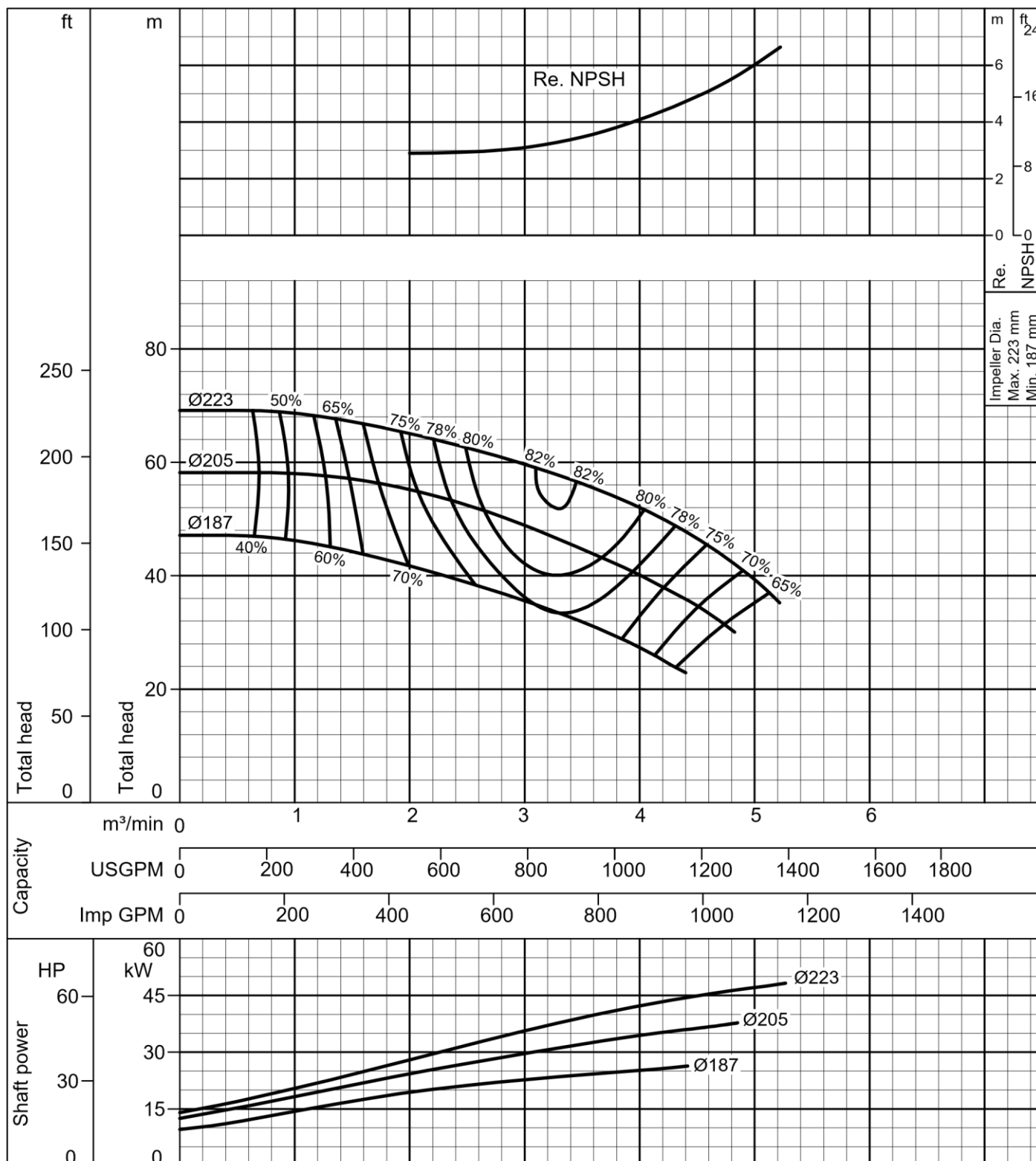
Curve No - 2 - 5FS5610R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (11/14)

100x80 FS2HCA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



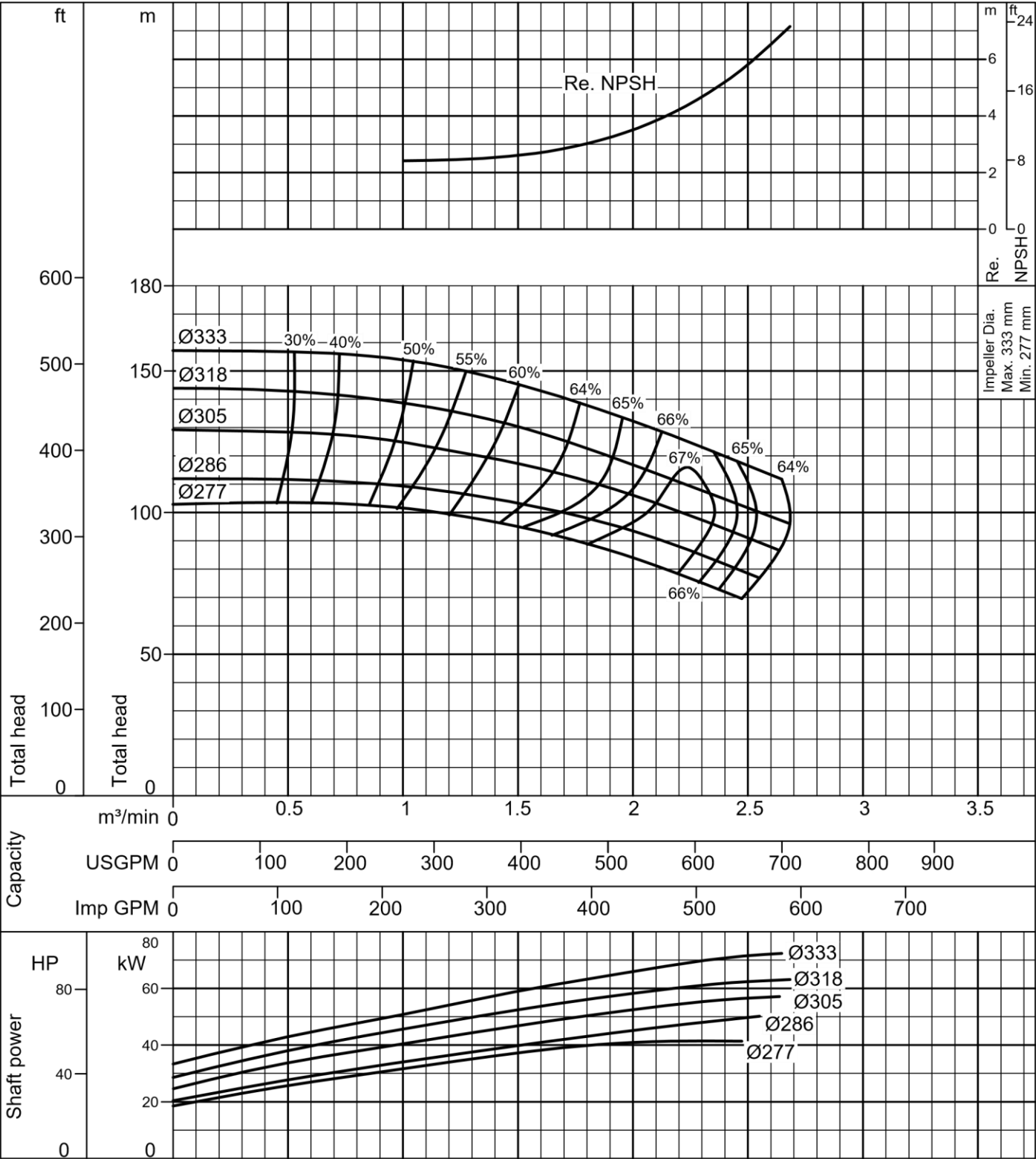
Curve No - 2 - 5FS5611R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (12/14)

100X80 FS2KA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



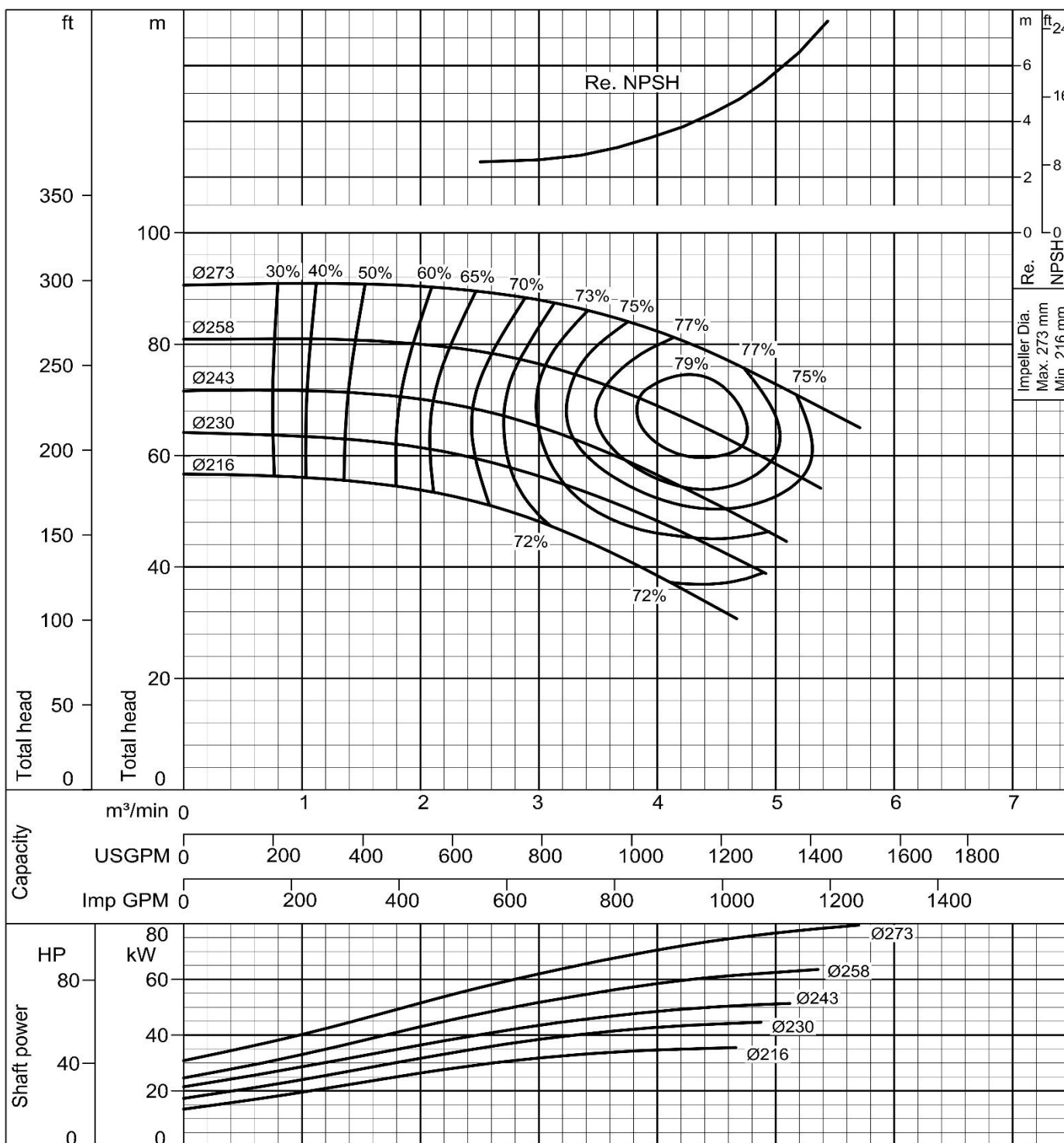
Curve No - 2 - 5FS5612R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (13/14)

125x100 FS2JCA	According to ISO 9906 and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



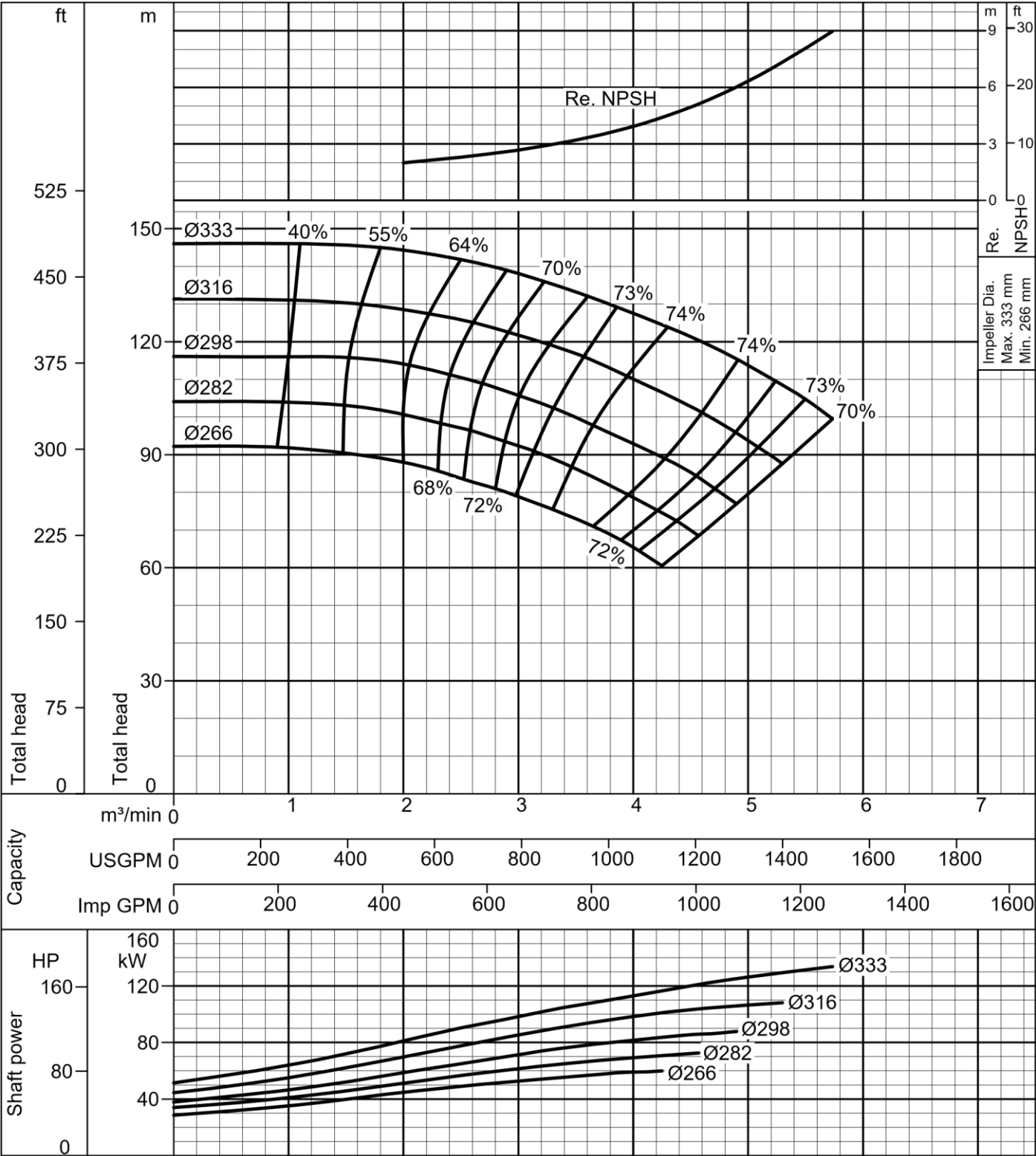
Curve No – 2 – 5FS5613R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (14/14)

150x100 FS2KA	According to ISO 9908 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



Curve No - 2 - 5FS5614R2