

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	<ul style="list-style-type: none">• 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 SPESIFICATION	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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

SPESIFICATION - 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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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			

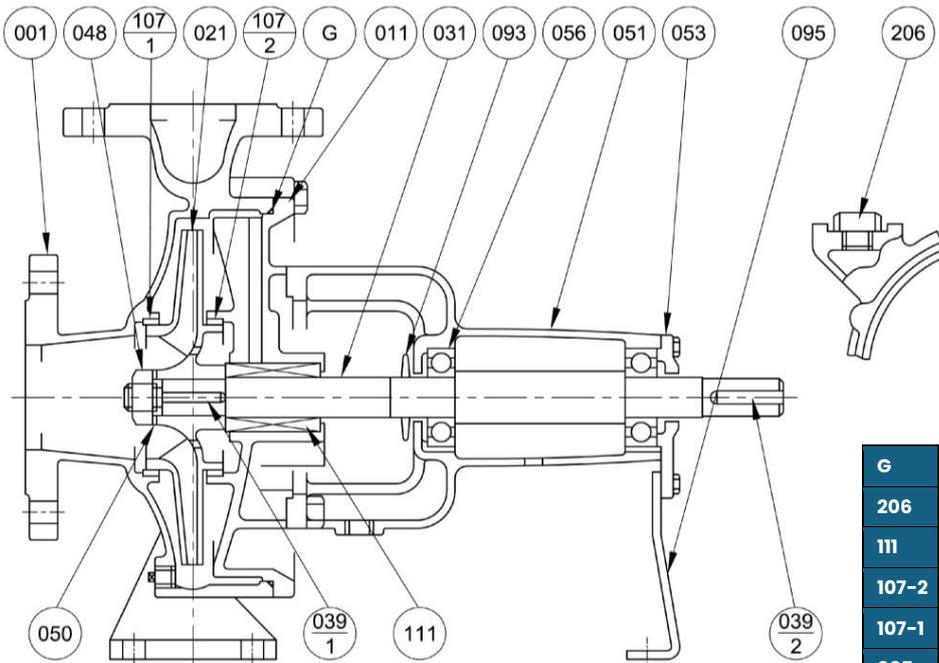
Model Code – 2 Pole – 50 Hz

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		

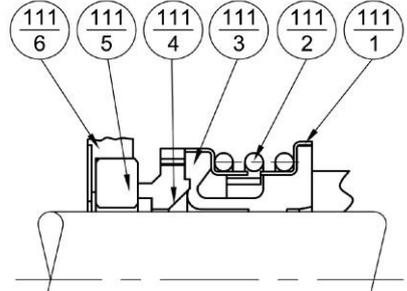
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SECTIONAL – MECHANICAL SEAL TYPE (STANDARD)



Mechanical Seal Type (Standard)
Model EA



No.	Part Name	Material	Qty
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		

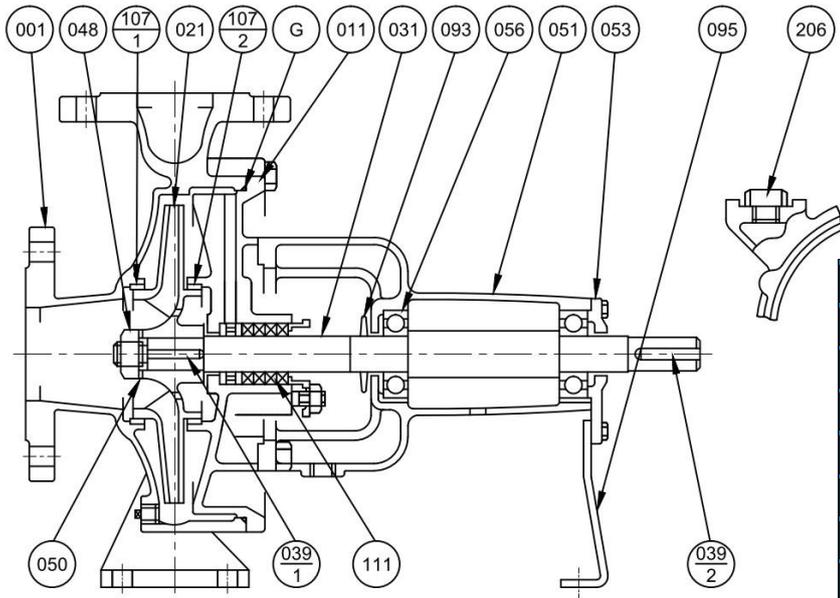
No.	Part Name	Material	Qty	
G	O-Ring	Rubber	1	
206	Plug	Steel		
111	Mechanical Seal	-		
107-2	Casing Ring	Bronze		
107-1	Casing Ring			
095	Bearing Support	Steel		
093	Deflector	Rubber		
056	Ball Bearing	-		2
053	Bearing Cover	Cast Iron		1
051	Bearing Housing			
050	Impeller Nut Washer	Brass		
048	Impeller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

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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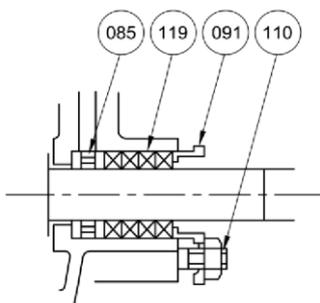
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SECTIONAL – MECHANICAL SEAL TYPE (OPTIONAL)



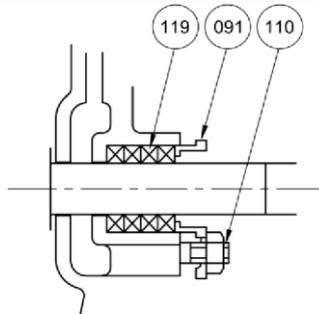
No.	Part Name	Material	Qty
G	O-Ring	Rubber	
206	Plug	Steel	
111	Gland Packing	Carbonized fiber	
107-2	Casing Ring	Bronze	1
107-1	Casing Ring		
095	Bearing Support	Steel	
093	Deflector	Rubber	
056	Ball Bearing	-	2
053	Bearing Cover	Cast Iron	
051	Bearing Housing		
050	Impeller Nut Washer	Brass	
048	Impeller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

Gland Packing with Lantern



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

Gland Packing without Lantern Ring



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

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

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.

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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	4	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	
125x100 FSKA	35	Gs-335	51x35x8	4	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	5	6313 ZZ
250x200 FSLA	65	493x440x0.8T	90x65x12.5	5	6313 ZZ
250x200 FSNA	75	615x550x0.8T	104x75x14.5		6315 ZZ

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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			
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			
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			42
	15	160L			
150x125 FSJA	15	160L	160	32	42
	18,5	180MC	180		48
	22	180LC			

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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			
	90	280SC	280		80
200x150 FSHA	5,5	132S	160	32	38
	7,5	132M			
	11	160M			42
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
	110	280MC	280		80
200x150 FSNA	132	315SC	315	60	85
	150	315MC			
	90	280SC	280		60
110	280MC				
132	315SC	315		85	
150	315MC				
250x200 FSNA	185	315MB	315	74	85
	225	315AB			
	260	315CB	355		95
	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 ϕ P (mm)	MOTOR ϕ M (mm)
		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	42
	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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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	

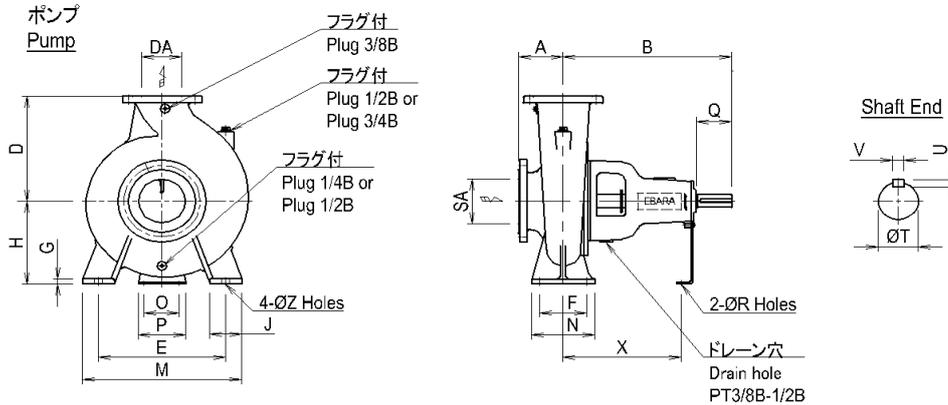
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TECHNICAL DATA – SHAFT NO. AND SHAFT DIAMETER

DIMENSION – BARE SHAFT PUMP (10 BAR MODEL) ½

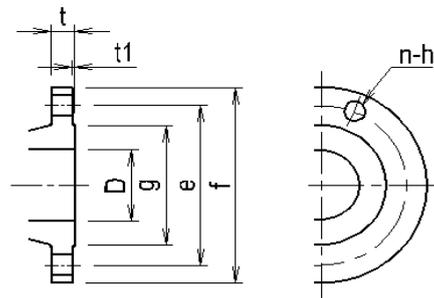
PUMP



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	t1 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	470	225	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		320											62								
100x80 FSJA					200	250	280	120	80	360	160	110										150	17	285	19	32	80	8	10	70
100x80 FSGCA					225	250	95	14	65	320	125	15										32	80	8	10	62				
100x80 FSHCA					180	250		280	14	65																345	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	120	16	80	400	160	370				19	32	80	8	10	128									
125x100 FSJA				530	280	355	400	150	20	100	500	200				24	42	110	8	12	168									
150x125 FSHA	150	125	140	470	250	315	120	16	80	400	160	110	150	17	370	19	32	80	8	10	120									
150x125 FSJA					355	120	16	80	400	160	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								

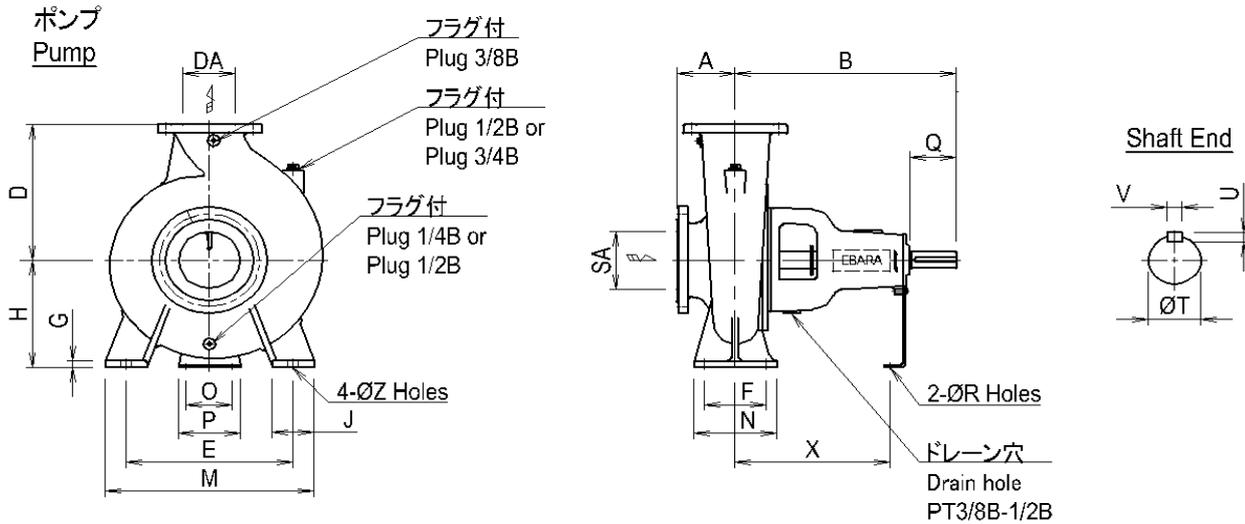
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

TECHNICAL DATA – SHAFT NO. AND SHAFT DIAMETER

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

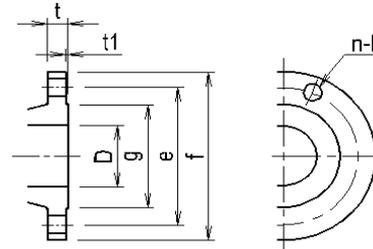
PUMP



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 kg	
	SA	DA	A	B	H	D	E	F	G	J	M	N	O	P	R	X	Z	T	Q	U		V
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
200x150 FSJA	200	150	160	530	280	375	400	150	18	100	500	200	110	150	17	370	24	42	110	8	12	183
200x150 FSKA				670	315	400																450

Unit:mm, unless otherwise stated

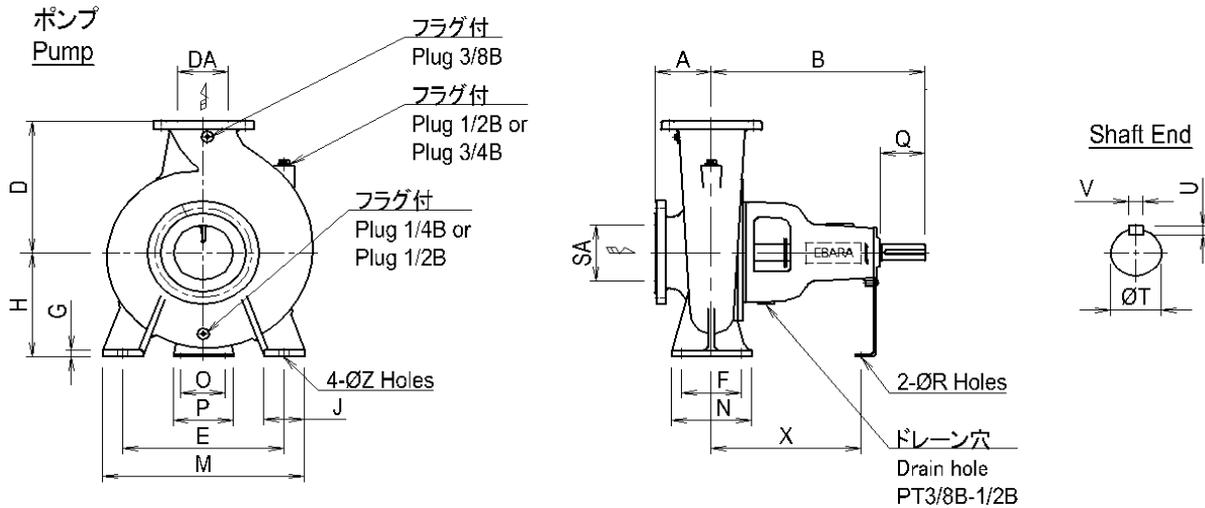
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

TECHNICAL DATA – SHAFT NO. AND SHAFT DIAMETER

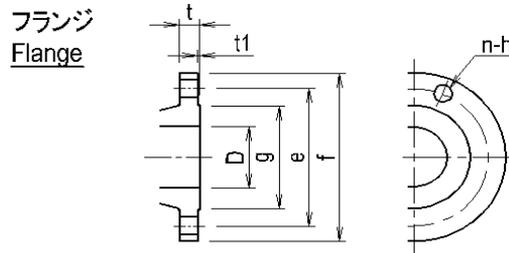
DIMENSION – BARE SHAFT PUMP (16 BAR MODEL)

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



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
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												74		125	12	20

Unit:mm, unless otherwise stated

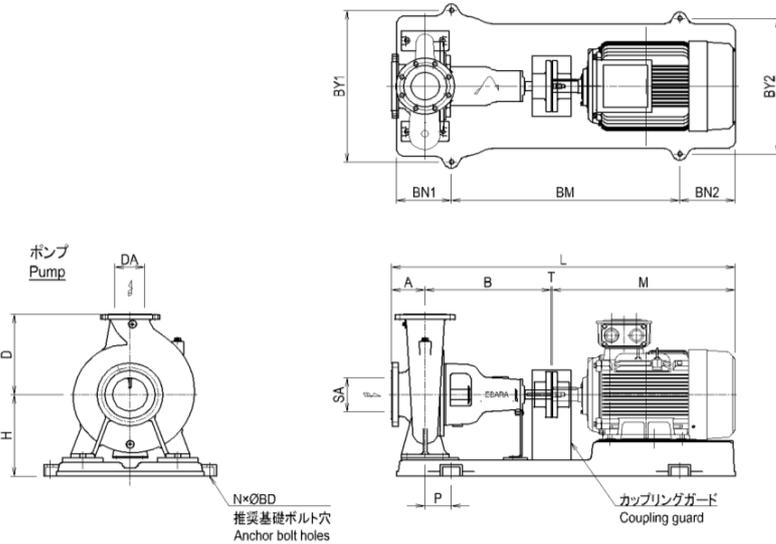
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

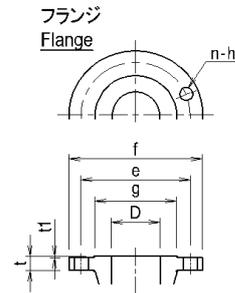
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

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	Motor r kW	Size			Pump				Motor			Common Base								Total		
		SA	D A	A	B	D	wt kg	Frame 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
	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							90L	354	23									230		40	550
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									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									49		916	183

Unit:mm, unless otherwise stated

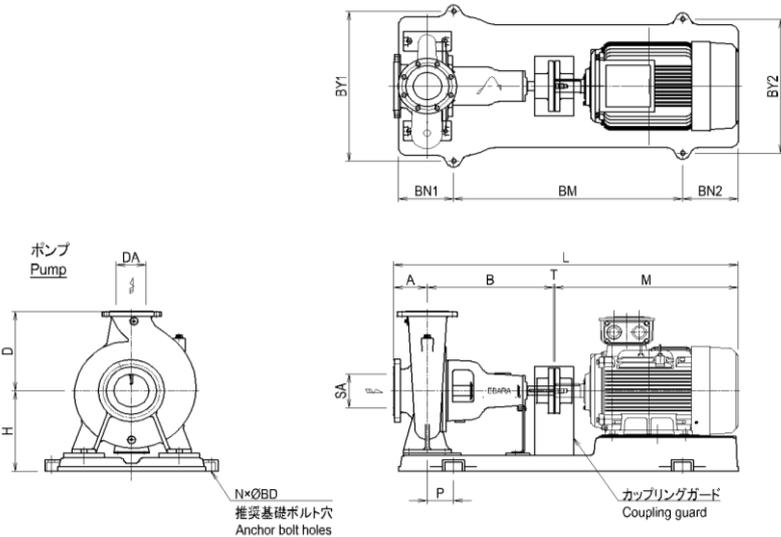
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

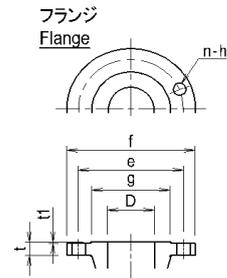
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

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	Motor	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
	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
	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
	132M							494	77	295									0		180	120
	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
	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
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
	15							160L	652	132	320	200	150	490	400	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
	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
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
	75							280S	1037,5	550	410	145	1711,5	900								

Unit:mm, unless otherwise stated

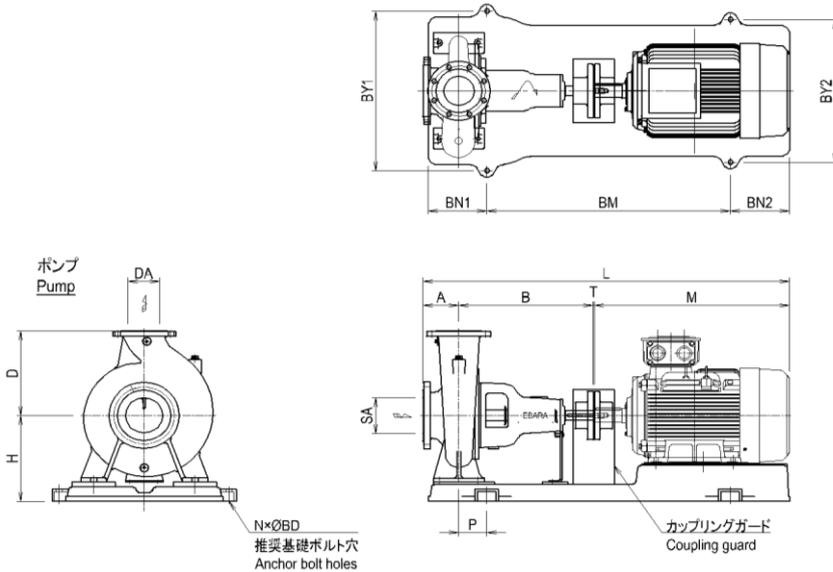
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

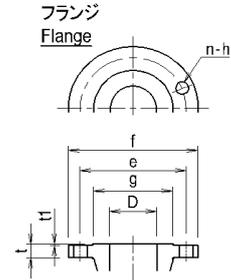
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

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									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	4	1345	432
	18.5							180M	672	172									117		1365	472
	22							180L	710	205									117		1403	505
	30							200L	770	278									120		1464	581
	37							225S	816	327									154		1510	664
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									171		1755	868

Unit:mm, unless otherwise stated

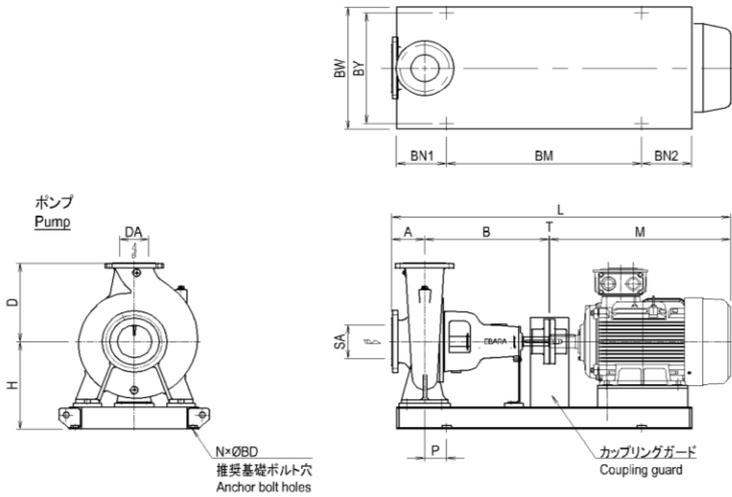
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

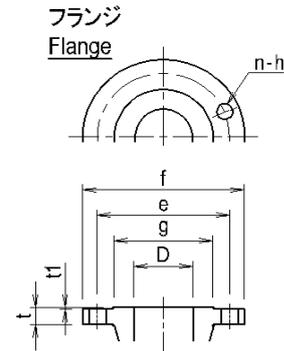
DIMENSION – PUMP WITH MOTOR (16 BAR MODEL)

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 kW	Size		Pump				Motor			Common Base							Total				
		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
	280S							1037,5	550	545	2x625		170						1893,5		1085	
	280M							1087,5	660	545	2x605		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
	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
	315M							1273	920	545	2x675		200						2131		1608	
	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
	315S							1192	720	555	2x690		255						2046		1480	
	315M							1273	920	555	2x705		235						2127		1660	
	315M							1273	920	555	2x780		240						2127		1665	
250x200 FSNA	185	250	200	200	820	630	642	315L	1376	1070	610	660	3x560	215	215	650	720	8-Ø28	342	5	2400	2054
	355M							1645	1450	3x630	374		2670						2466			
	355M							1757	1800	3x630	411		2782						2853			
	355L							1757	1800	3x630	411		2782						2853			
	355C							1835	1900	3x700	452		2860						2994			

Unit:mm, unless otherwise stated

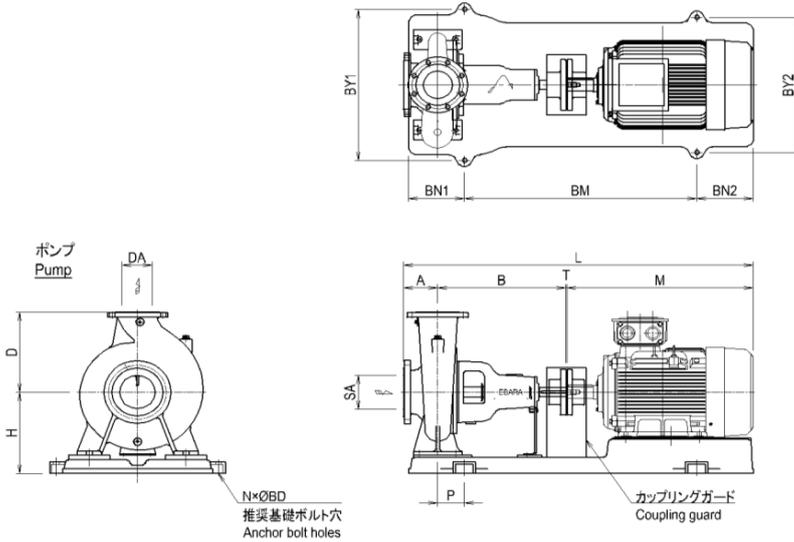
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

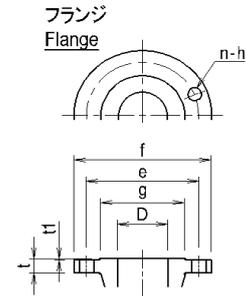
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

2 POLES DRIVE – 50 Hz (1/2)

PUMP



FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D	f	e	g	t1	t	n	h
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		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
	100L							391	32	215												
	112M							412,5	43		230	130	150	350	350	41	899		142			
	132S							456	64	230											130	150
65X50 FS2HA	3,7	65	50	100	360	180	42	112M	412,5		43	215	55	540	130	70	350	290	4-Ø15	27		
	132S							456	64	230	130										150	350
	132S							494	77			230	130	150	350	350	32	957		151		
65X50 FS2JA	11	65	50	100	360	225	49	160M	608	115	270								98		600	180
	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
	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
	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
	180M							710	205	1173	334											

Unit:mm, unless otherwise stated

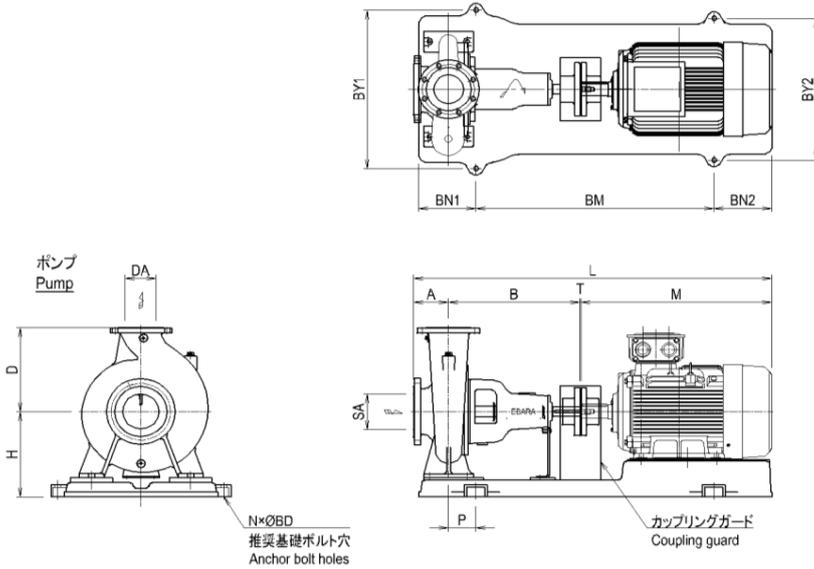
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

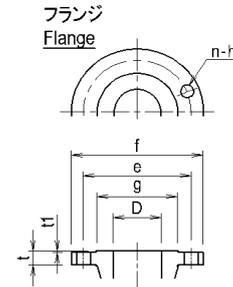
DIMENSION – PUMP WITH MOTOR (10 BAR MODEL)

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		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
100X80 FS2GA	7,5							132S	494	77	230	55	540	130	150	350	350	4-Ø15	30		957	156
	11	100	80	100	360	200	49	160M	608	115	250	98	600	180	180	400	400	4-Ø19	52	3	1071	216
	15							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
	22							180M	710	205											1173	319
100X80 FS2JA	30							200L	770	278	275	95	660	185	195	440	440	4-Ø19	65	4	1234	413
	37	100	80	100	360	250	70	200L	816	327											1280	462
	45							225M	841	351											315	80
100X80 FS2GCA	18,5							160L	672	172	270	98	600	180	180	400	400	4-Ø19	52	4	1161	286
	22	100	80	125	360	225	62	180M	710	205											1199	319
	30							200L	770	278											275	95
100X80 FS2HCA	37							200L	816	327	275	95	660	185	195	440	440	4-Ø19	65	4	1305	457
	45	100	80	125	360	250	65	225M	841	351											315	80

(* only available for Steel material of Baseplate)

Unit:mm, unless otherwise stated

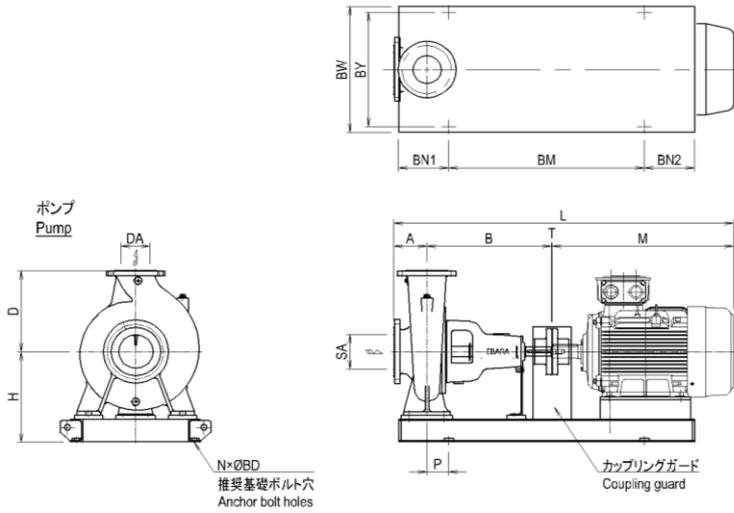
EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

DIMENSION – PUMP WITH MOTOR (16 BAR MODEL)

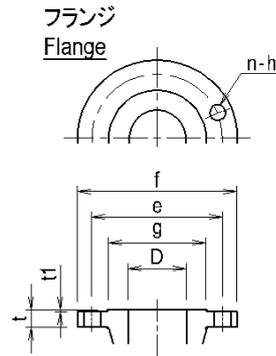
2 POLES DRIVE – 50 Hz

PUMP



DIMENSION – PUMP

FLANGE



DIMENSION – FLANGE (JIS 10K RF)

D mm	f mm	e mm	g mm	tl 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		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
	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
	315S							1192	720	490	575		720			6-Ø26	191		1866		1057	
	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)

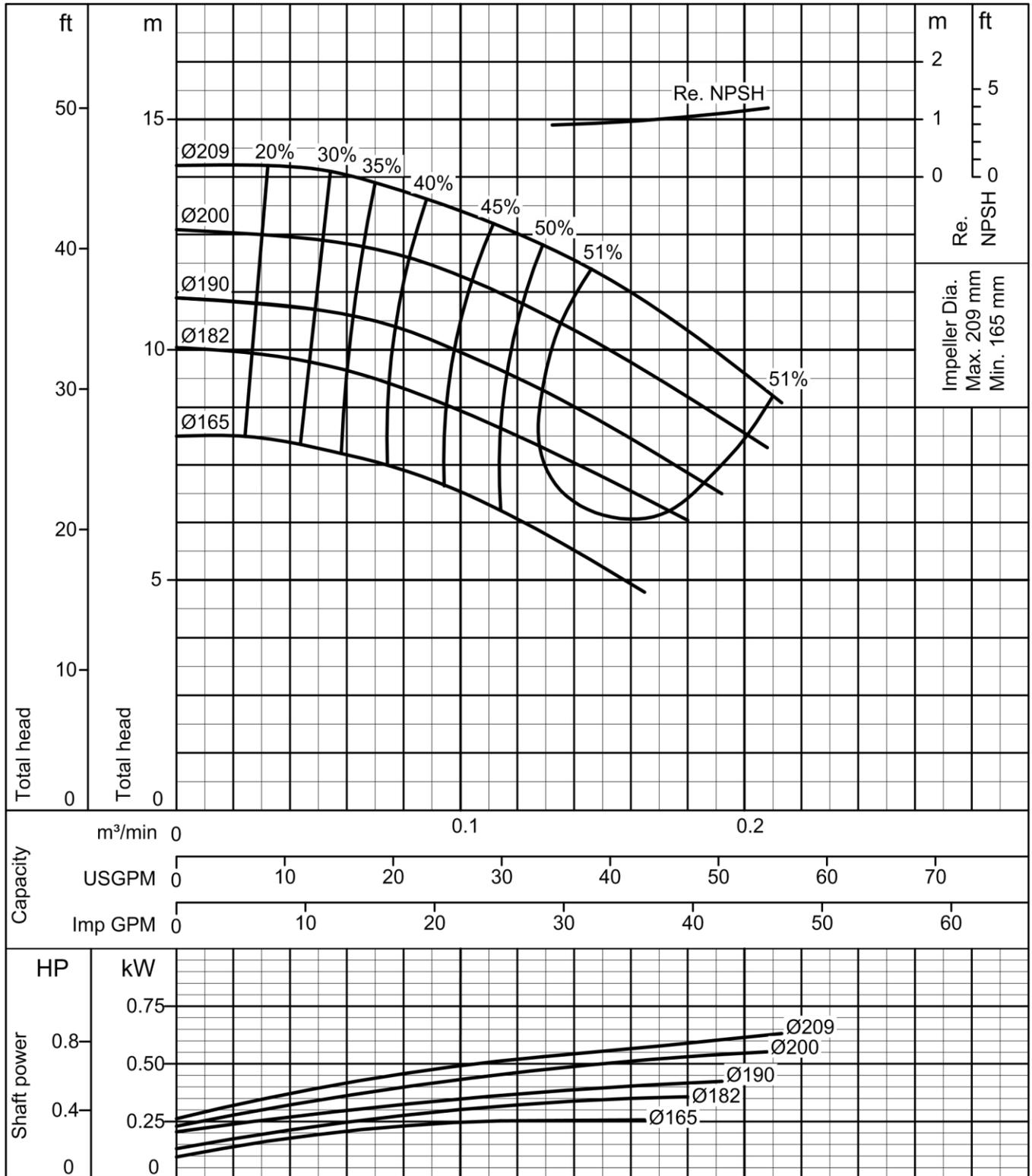
MECHANICAL SEAL APPLICATION	GLAND PACKING APPLICATION
<p>Maximum Allowable Suction Pressure (MASP) must be smaller than the difference between the Maximum Allowable Working Pressure (MAWP) and Pump Shut off Pressure (PSP), as follows. However, MASP shall not exceed 16 bars.</p> <p>$MASP < MAWP - PSP$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

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (1/27)

<h3>50X40 FS4HA</h3>	According to ISO 9906 Grade 3B and JIS B8301
	50Hz (Approx. speed 1450 min ⁻¹) S.G.= 1.0 Vis.= 1.0 cSt



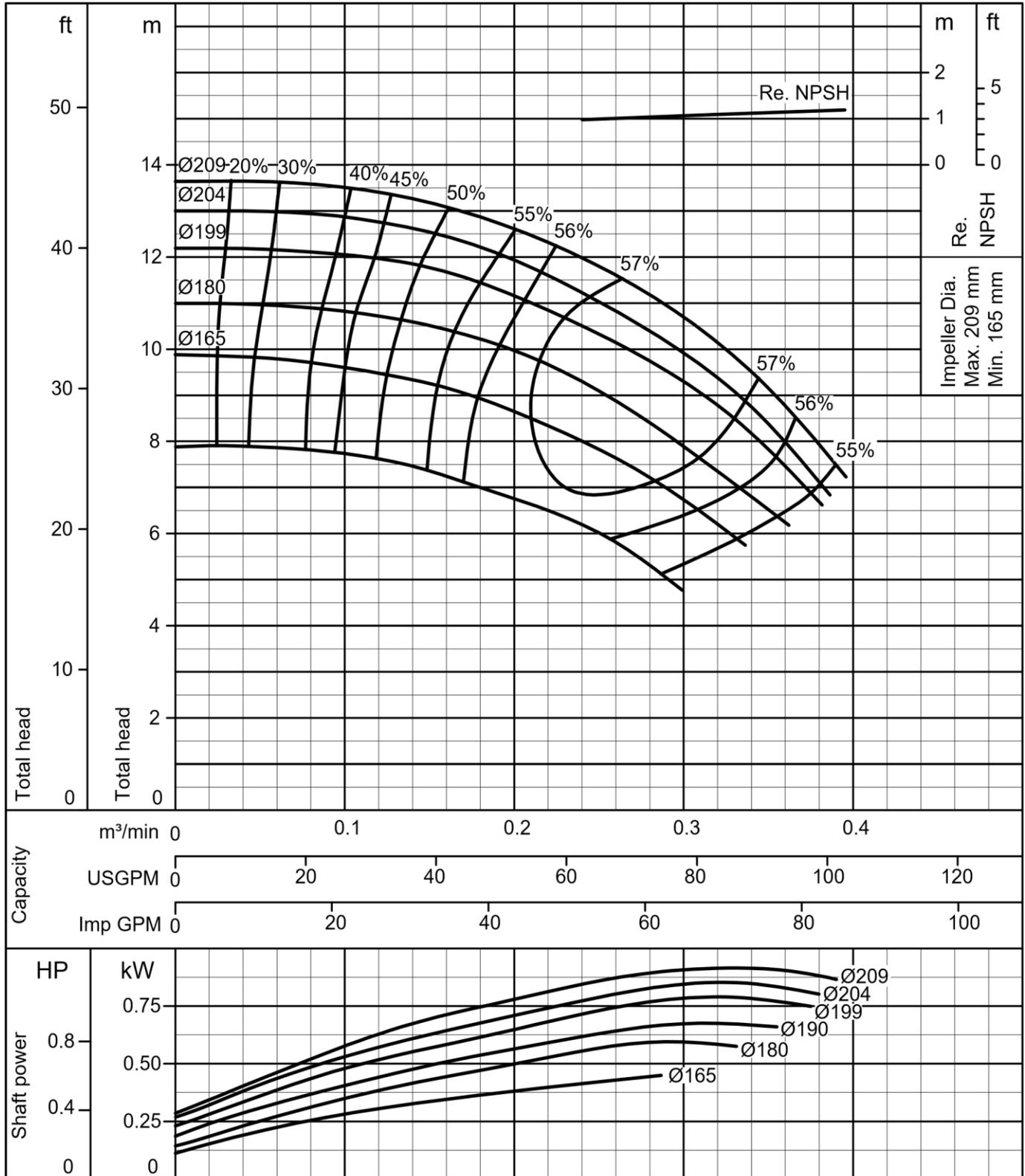
Curve No - 4 - 5FS5601R2

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



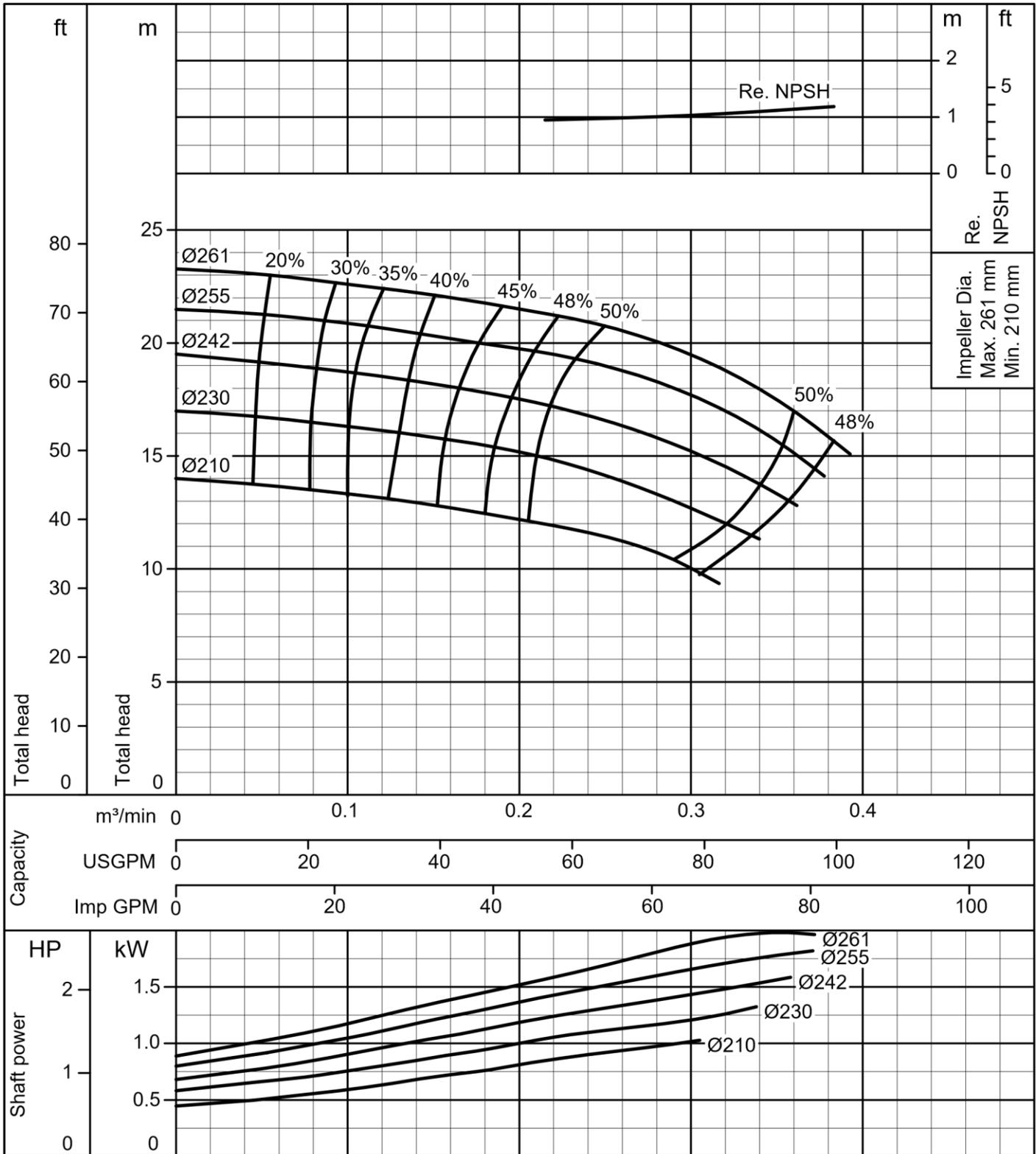
Curve No - 4 - 5FS5602R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (3/27)

65X50 FS4JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



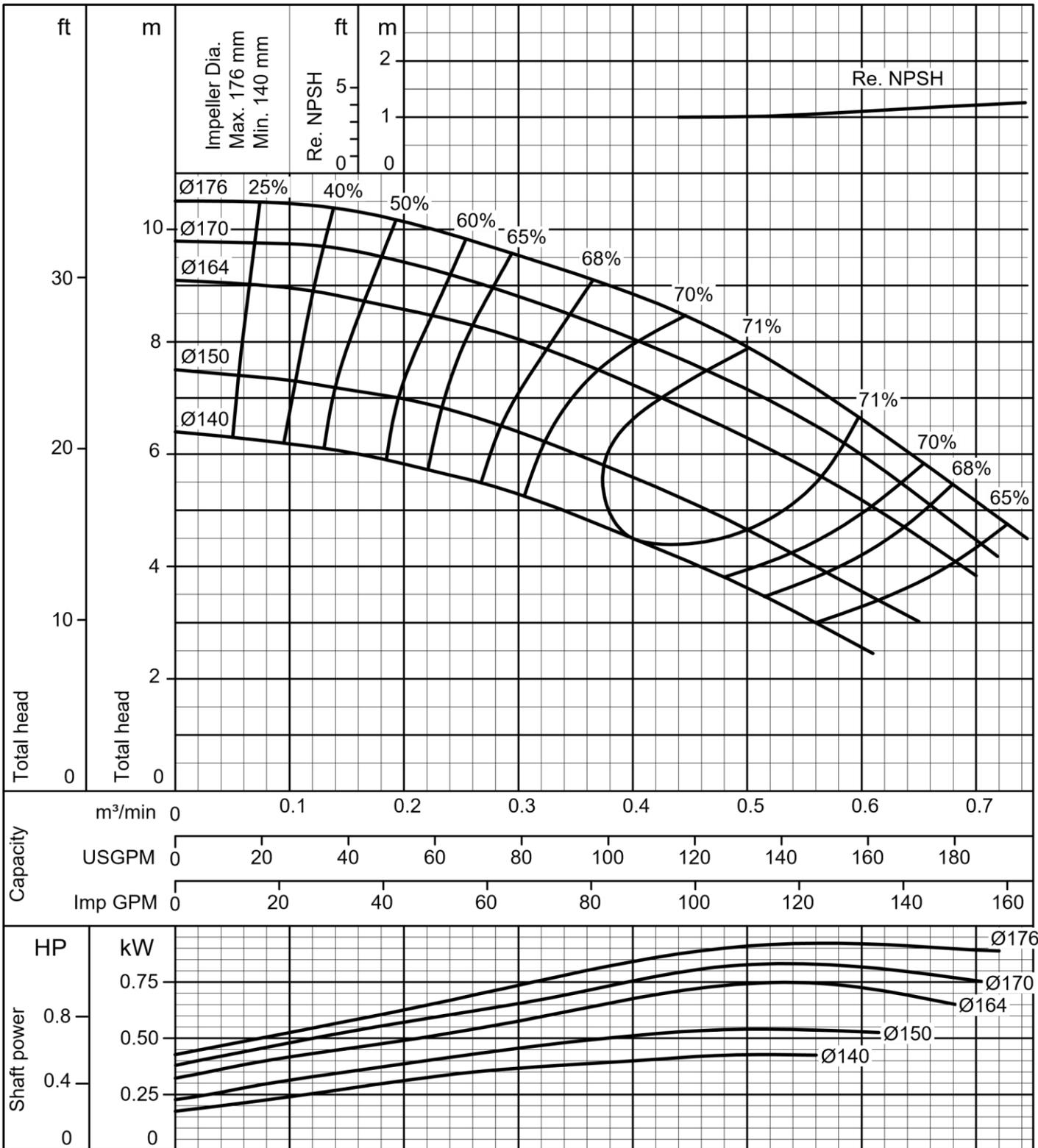
Curve No - 4 - 5FS5603R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (4/27)

80x65 FS4GA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt

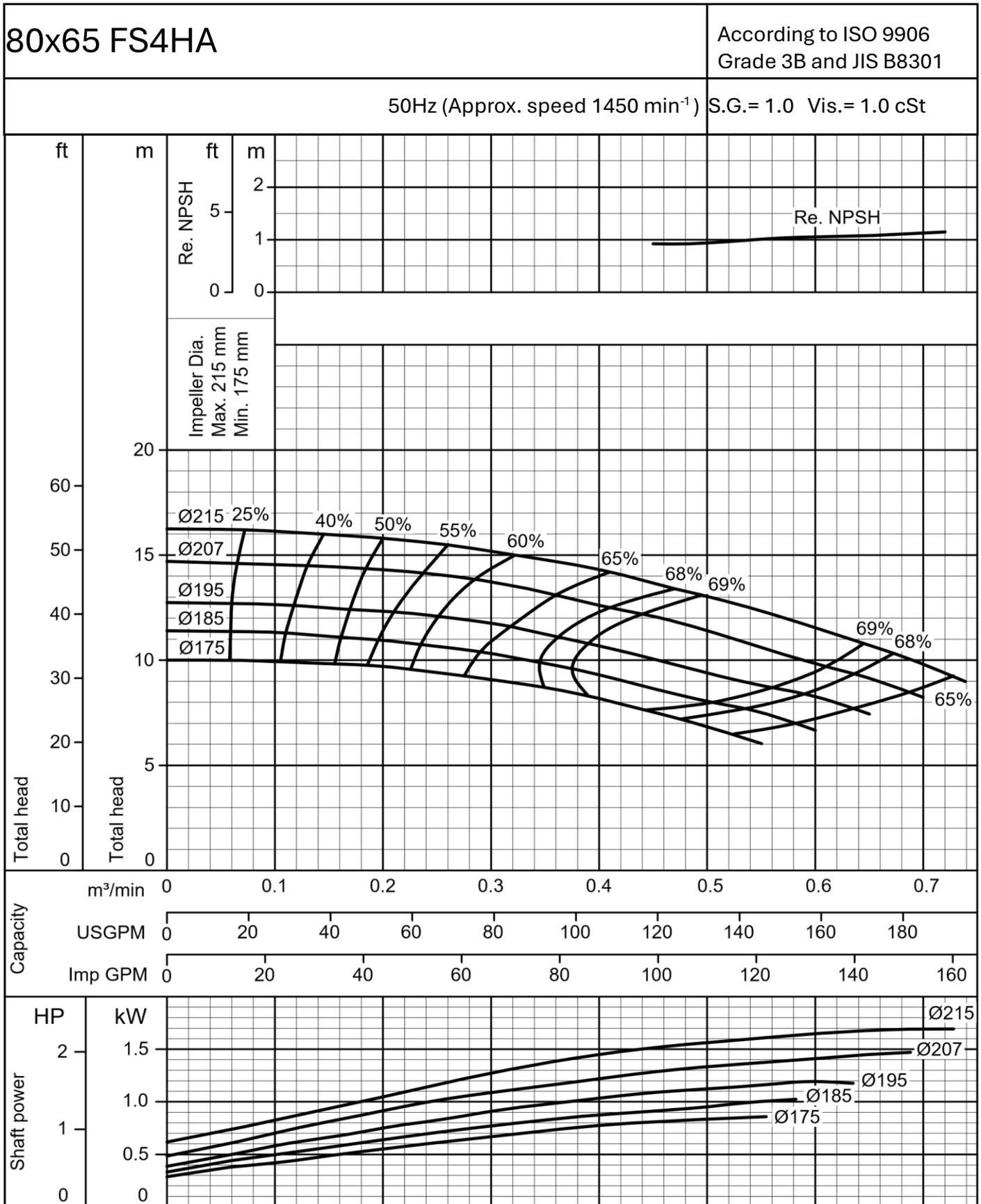


Curve No - 4 - 5FS5604R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (5/27)



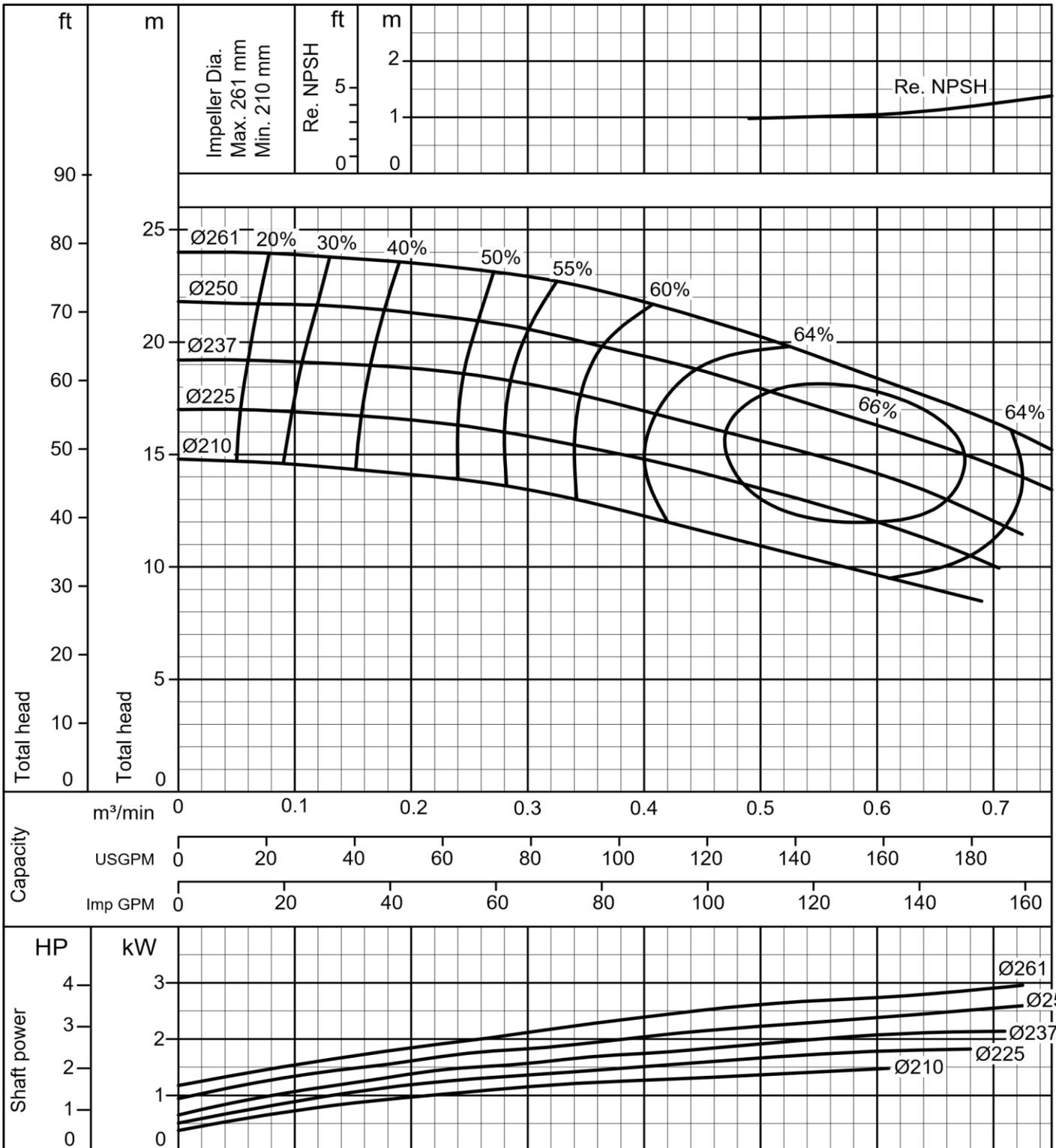
Curve No - 4 - 5FS5605R2

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



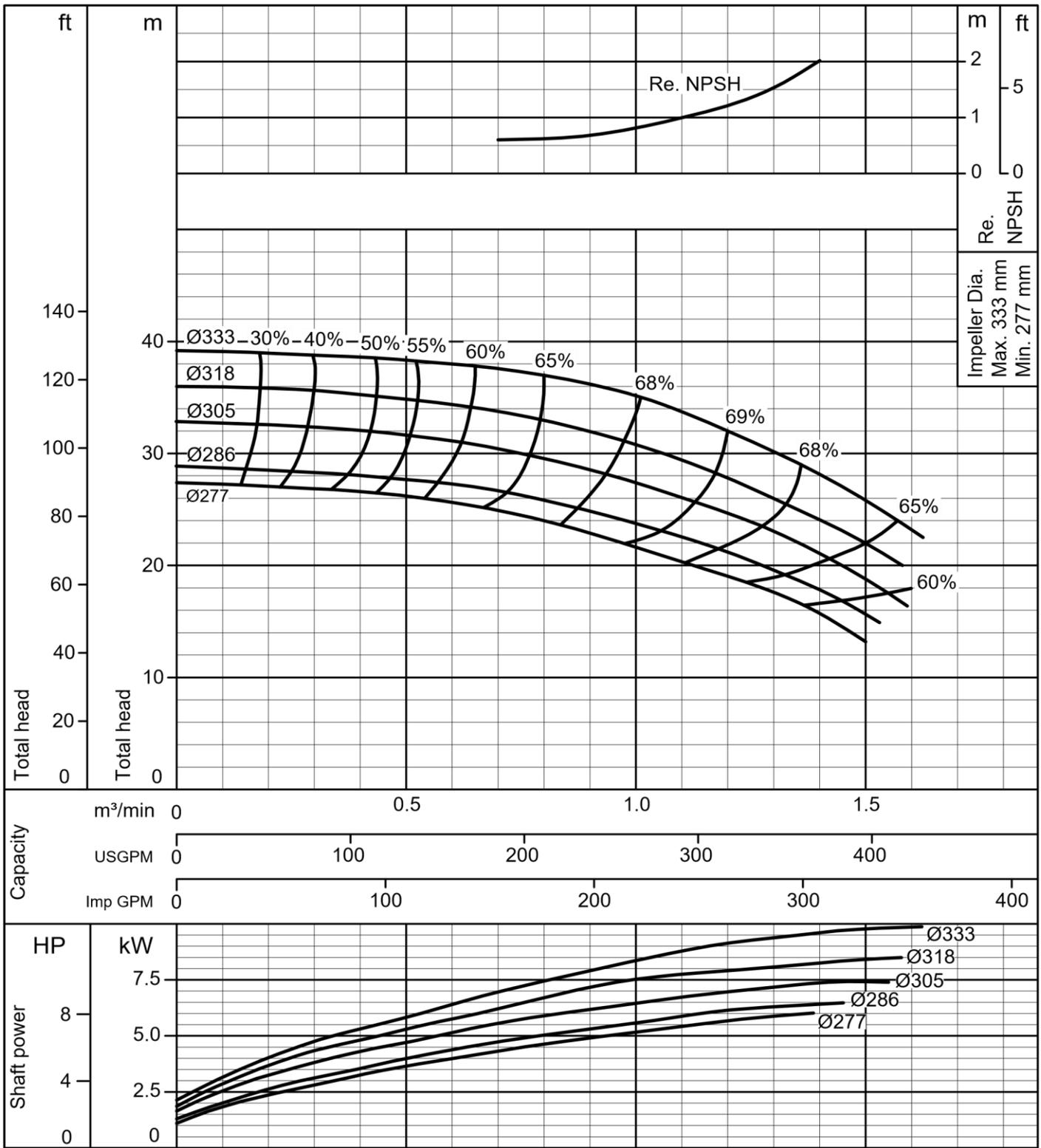
Curve No - 4 - 5FS5606R2

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

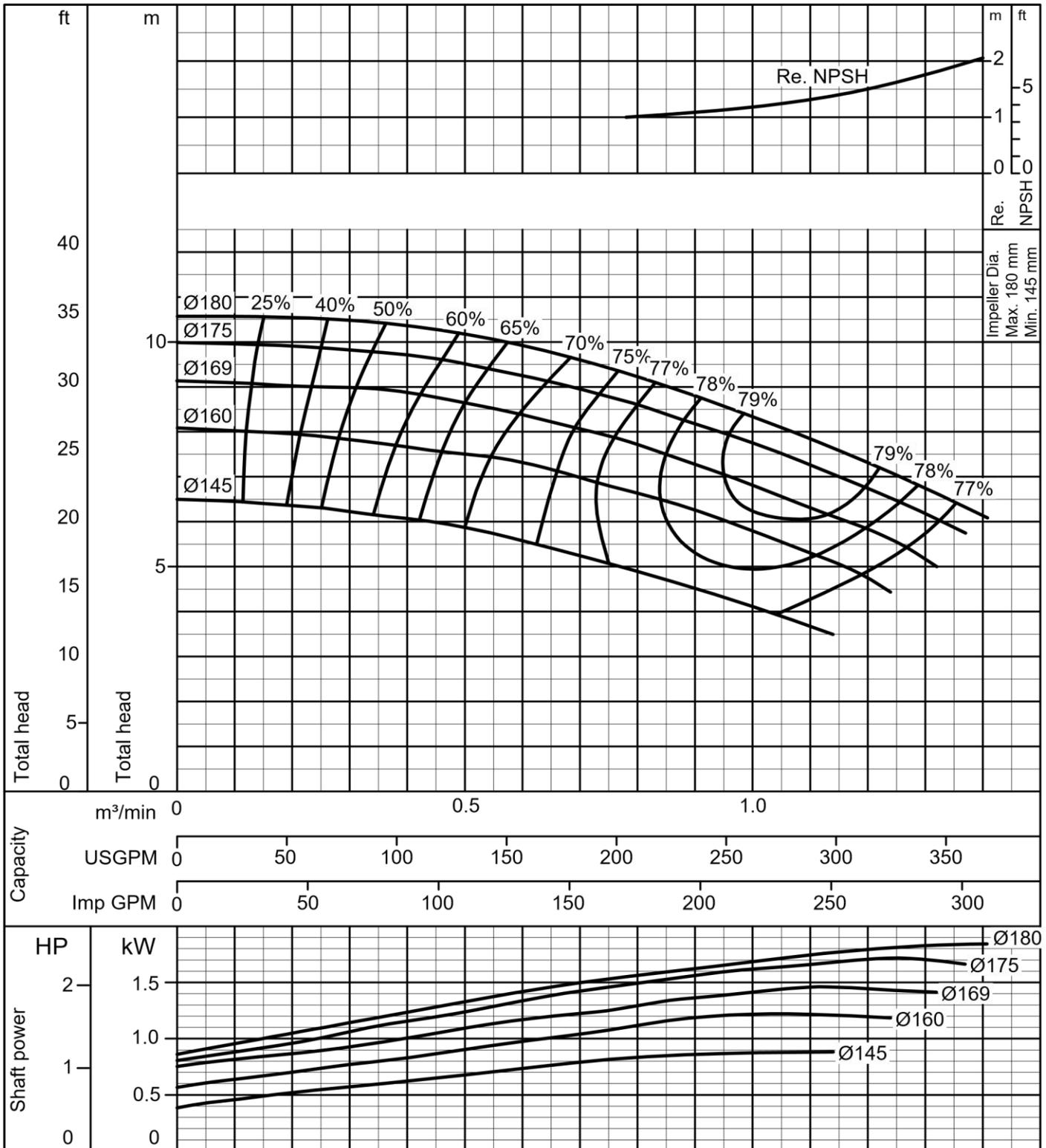


EBARA END SUCTION VOLUTE

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



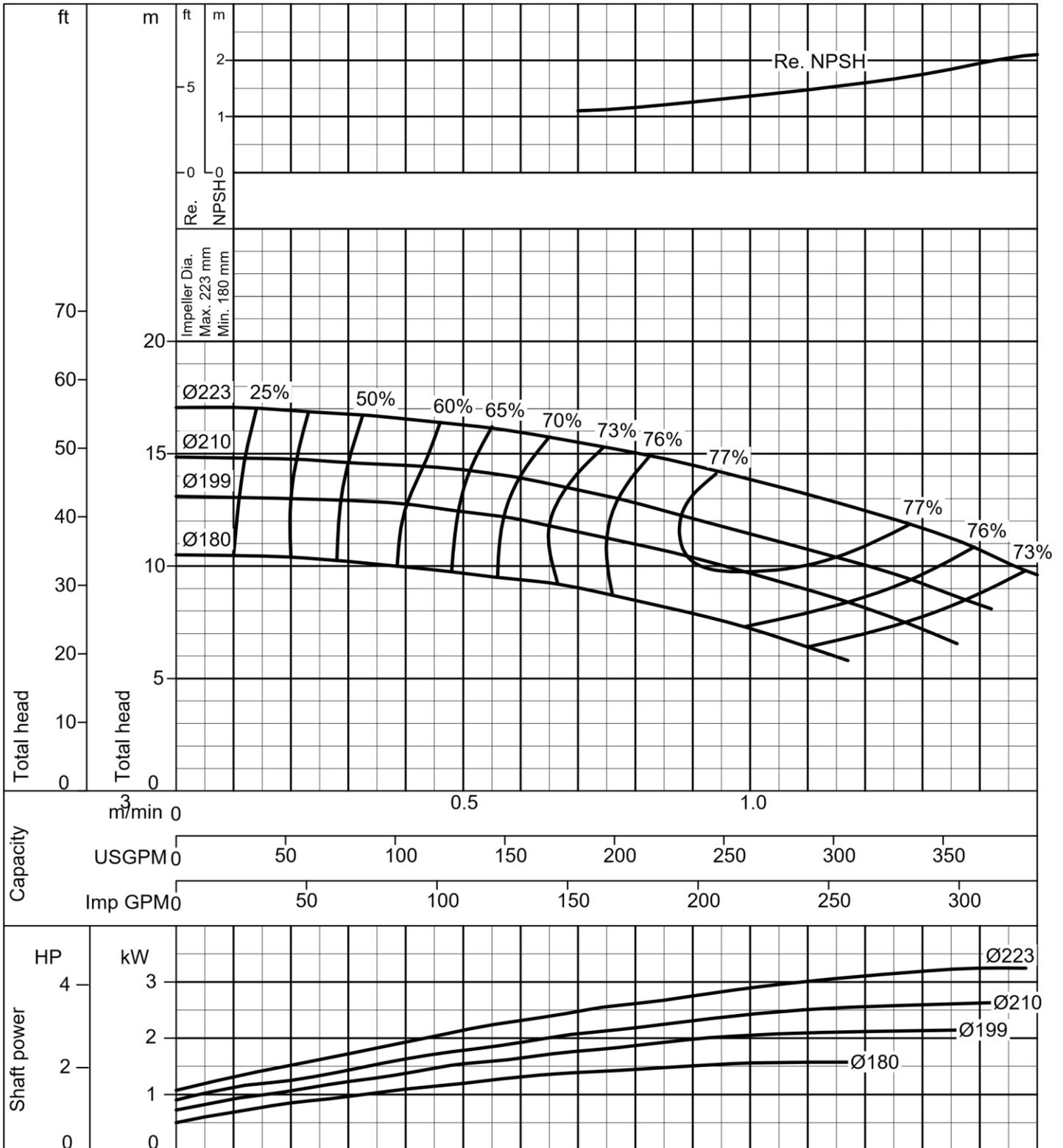
Curve No - 4 - 5FS5608R2

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



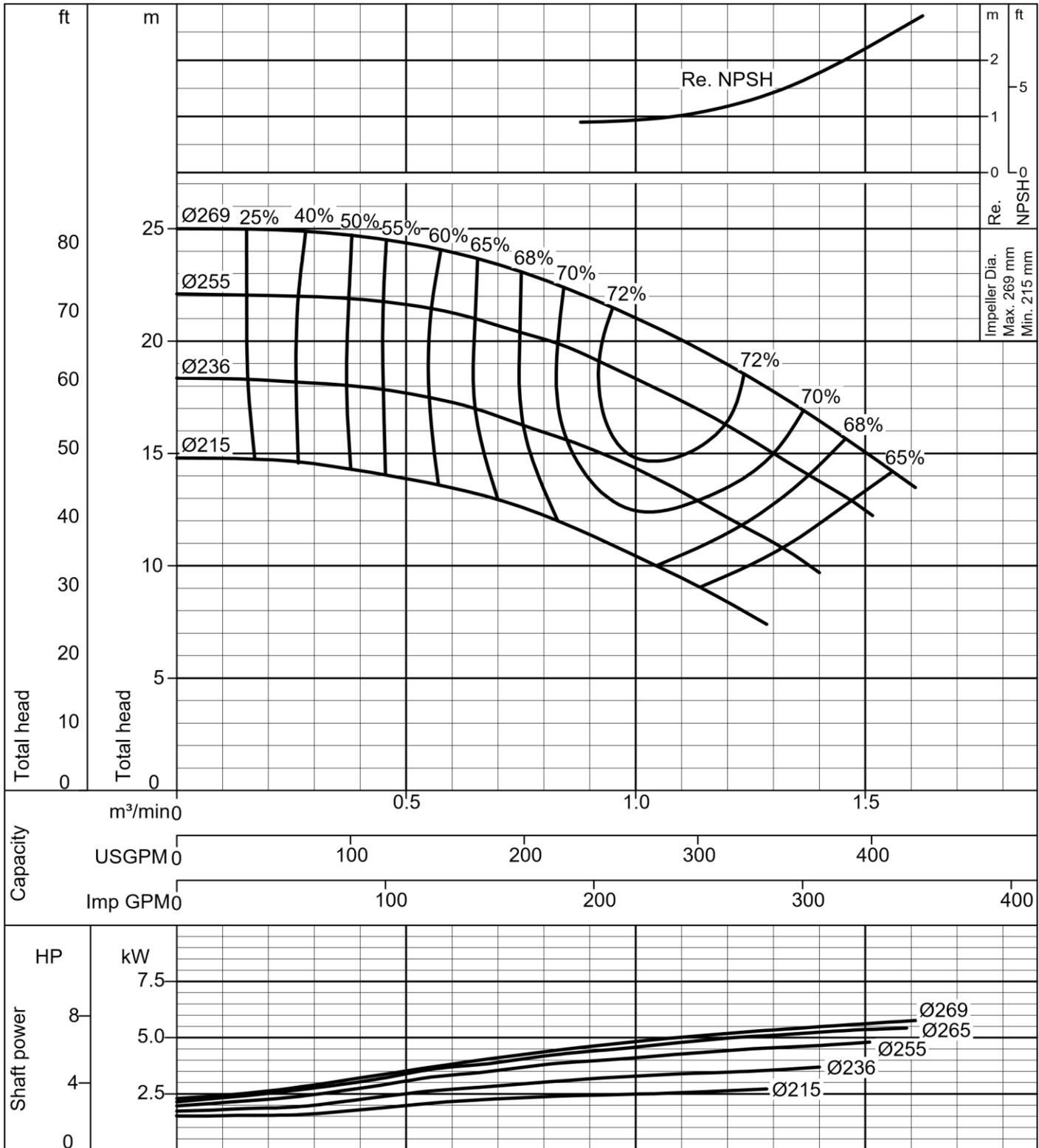
Curve No - 4 - 5FS5609R2

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



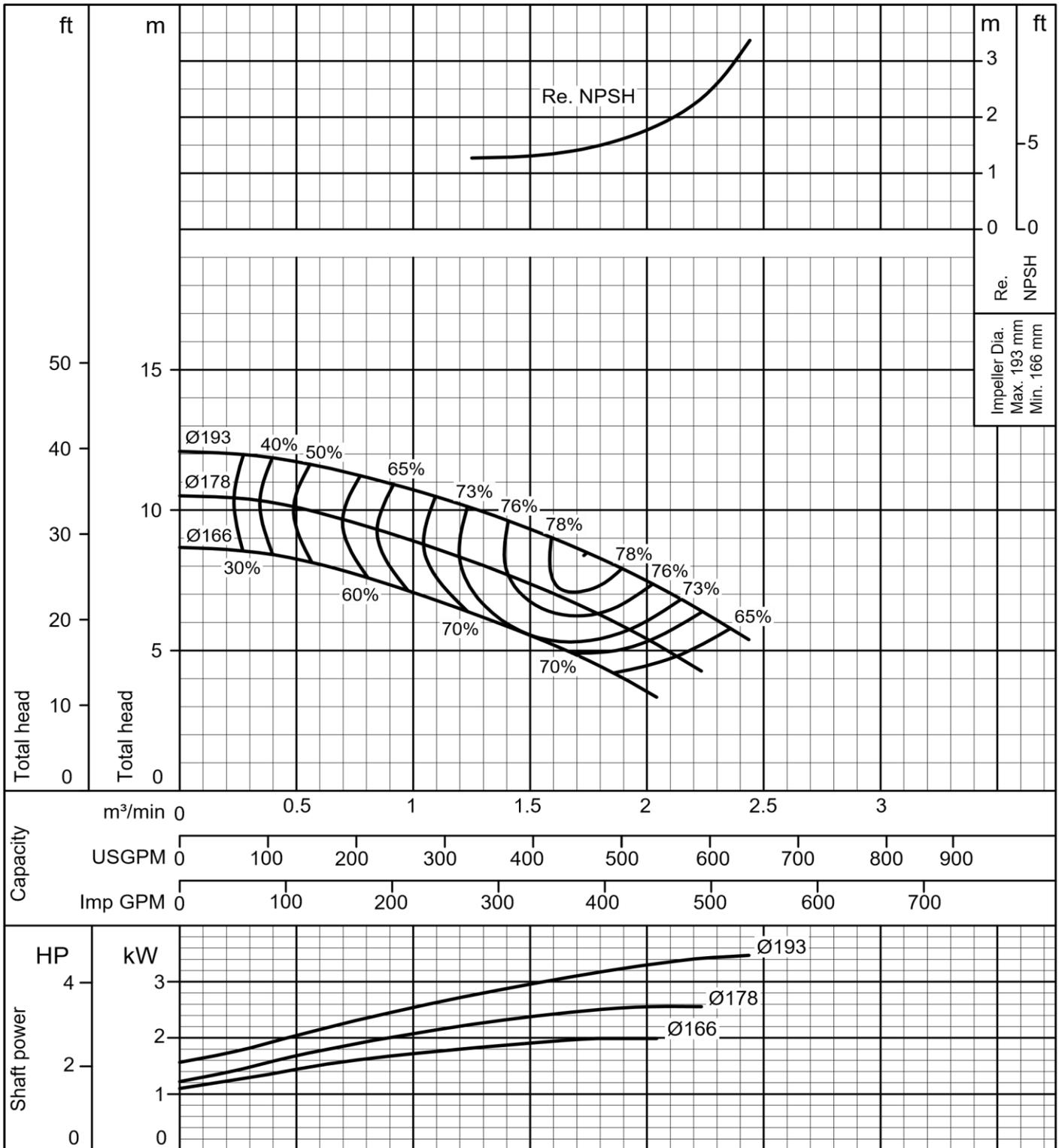
Curve No - 4 - 5FS5610R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (11/27)

100x80 FS4GCA	According to ISO 9906 Grade 3B and JIS B9301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



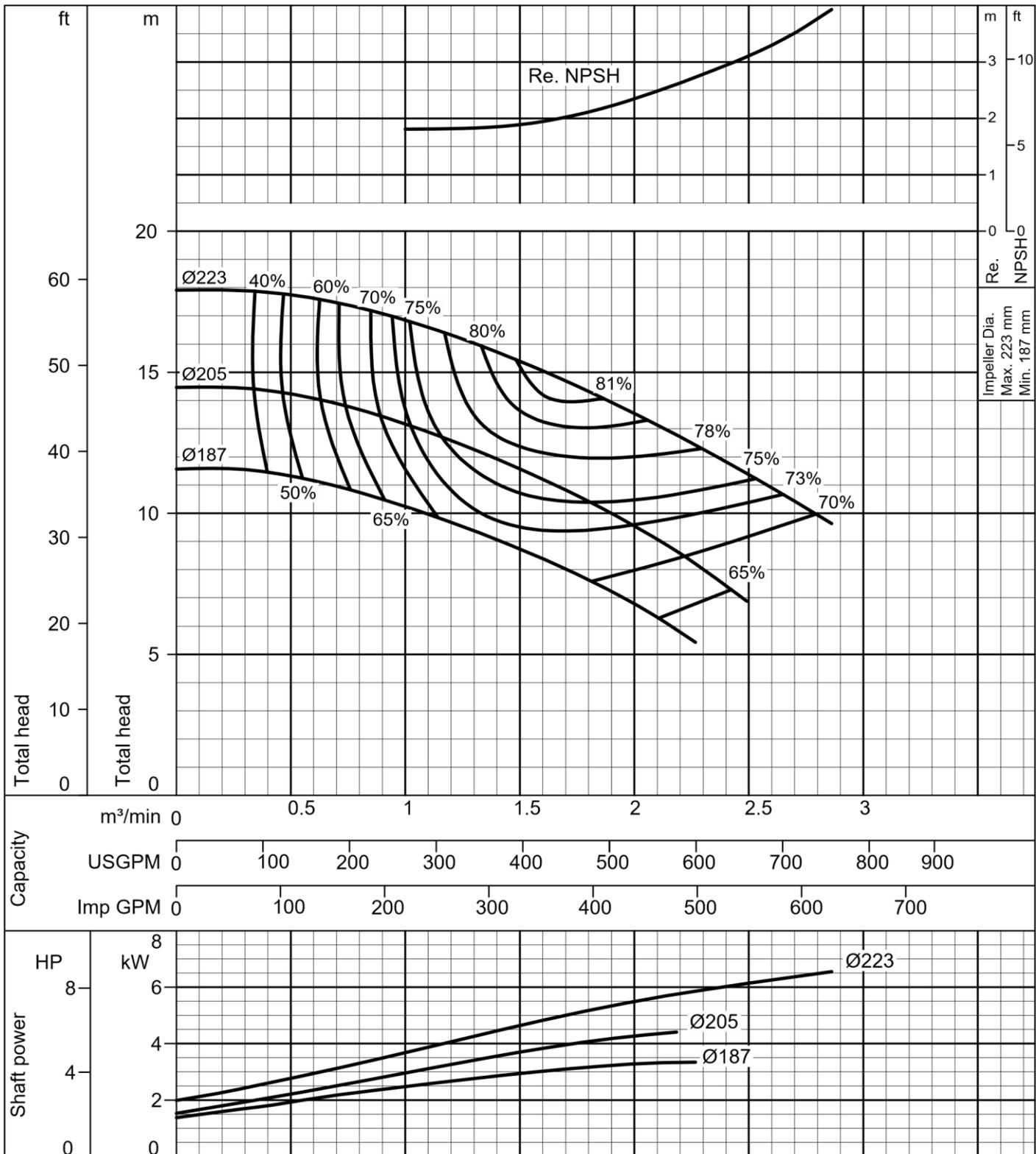
Curve No - 4 - 5FS5620R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (12/27)

100x80 FS4HCA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



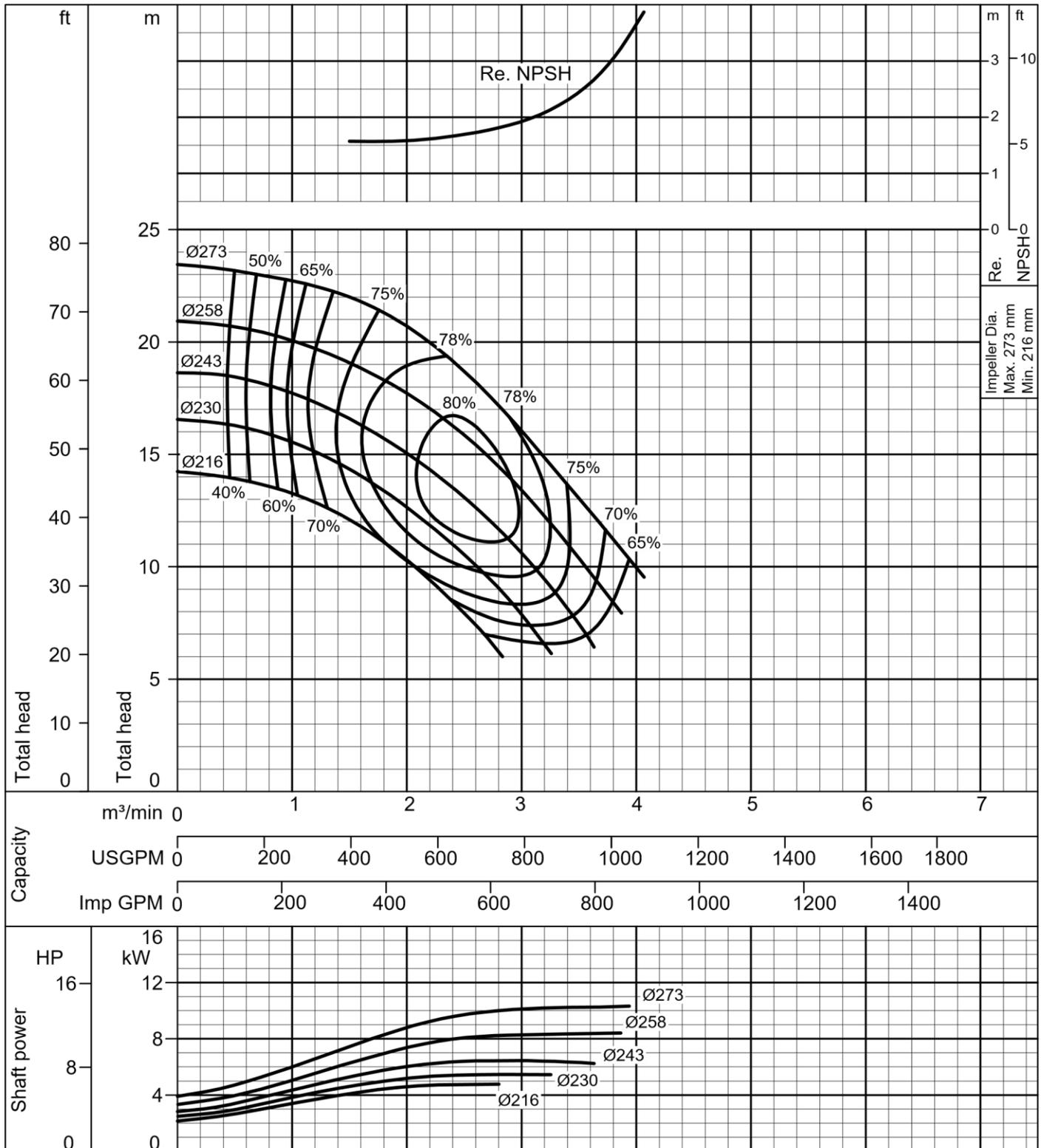
Curve No - 4 - 5FS5621R2

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



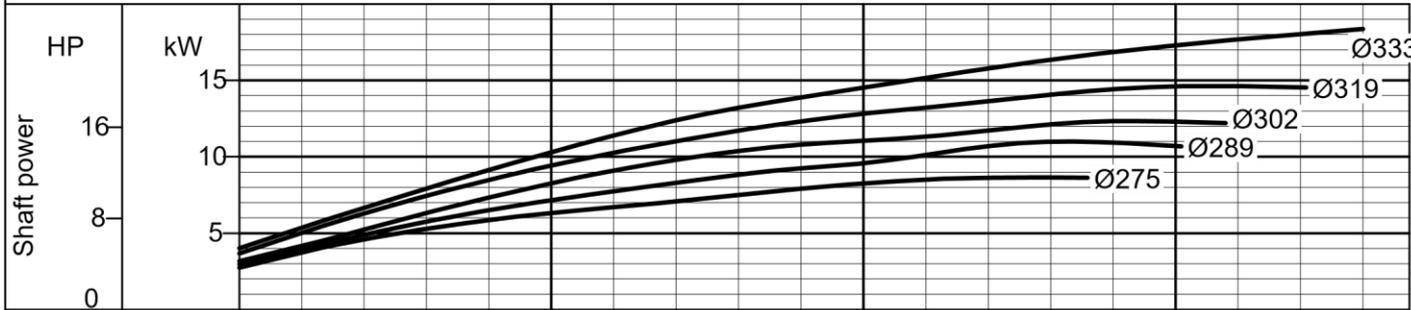
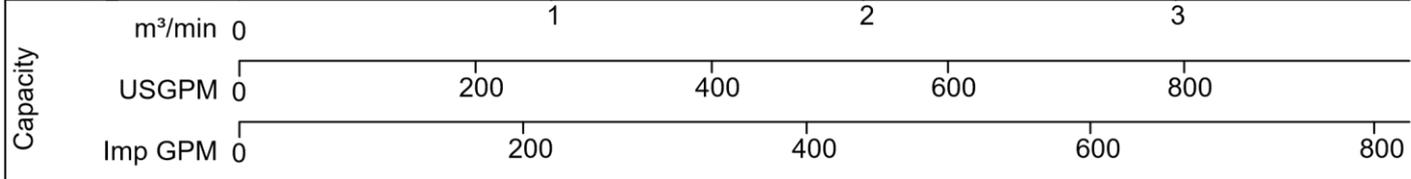
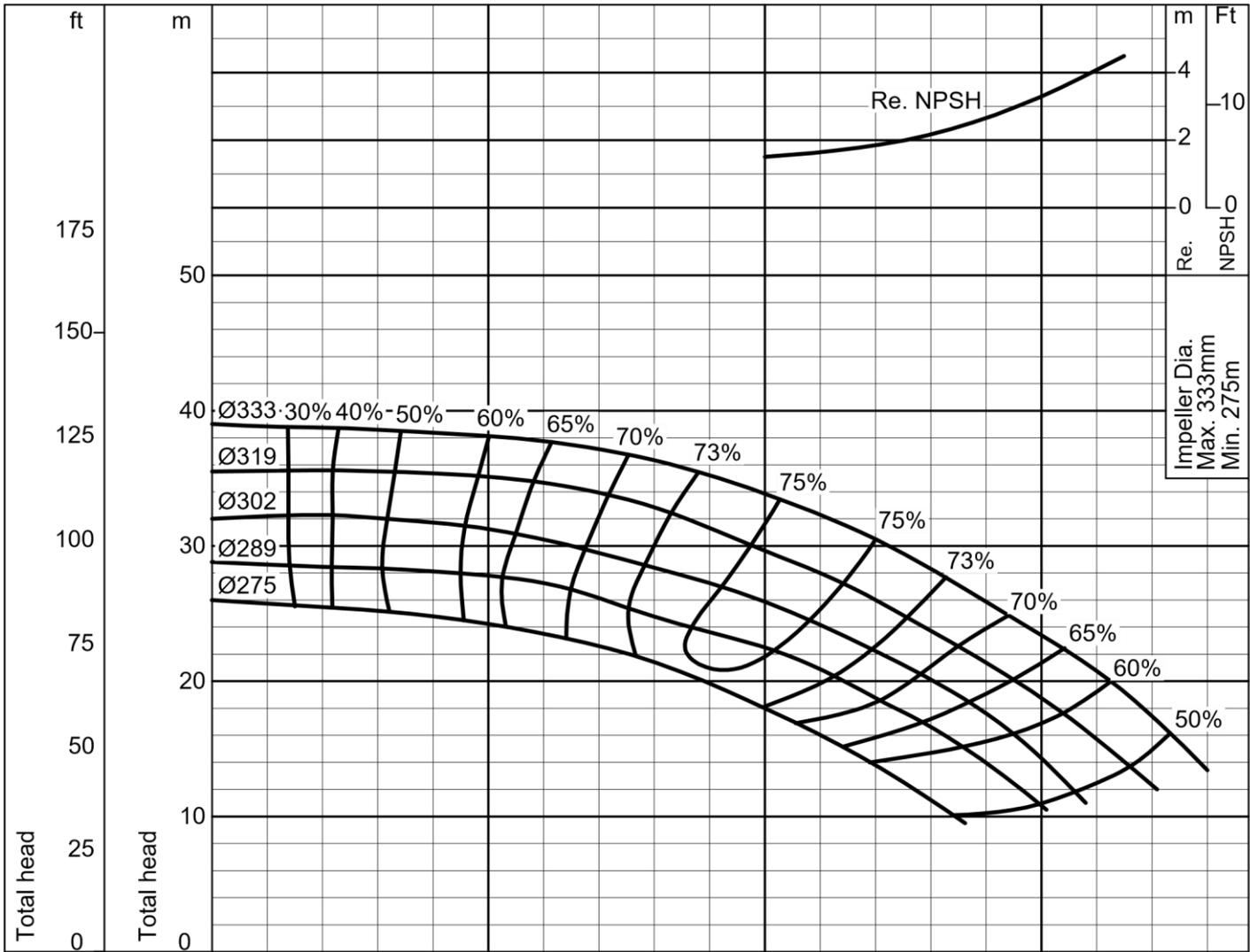
Curve No - 4 - 5FS5622R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (14/27)

125x100 FS4KA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 1450 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



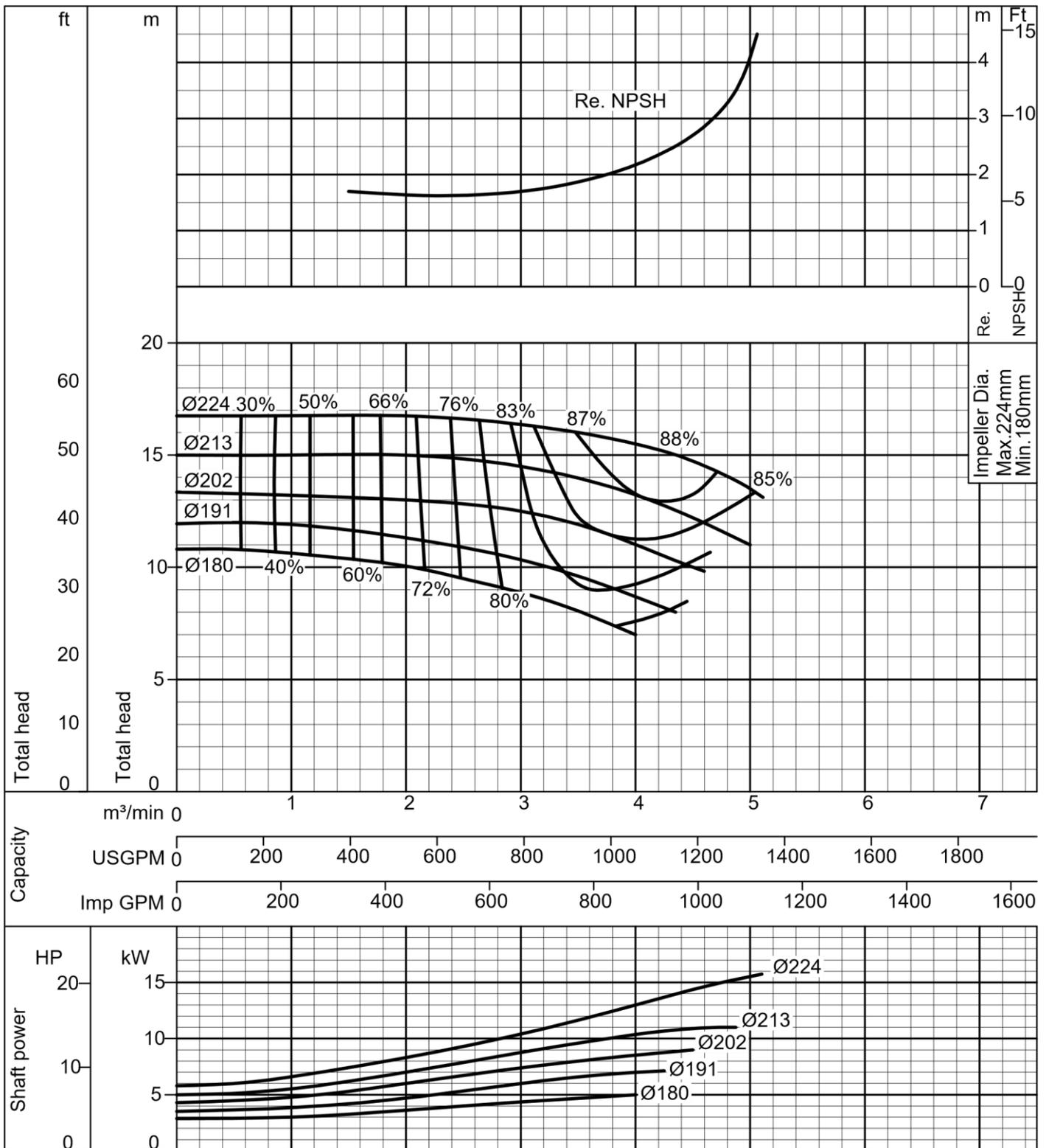
Curve No - 4 - 5FS5611R2

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



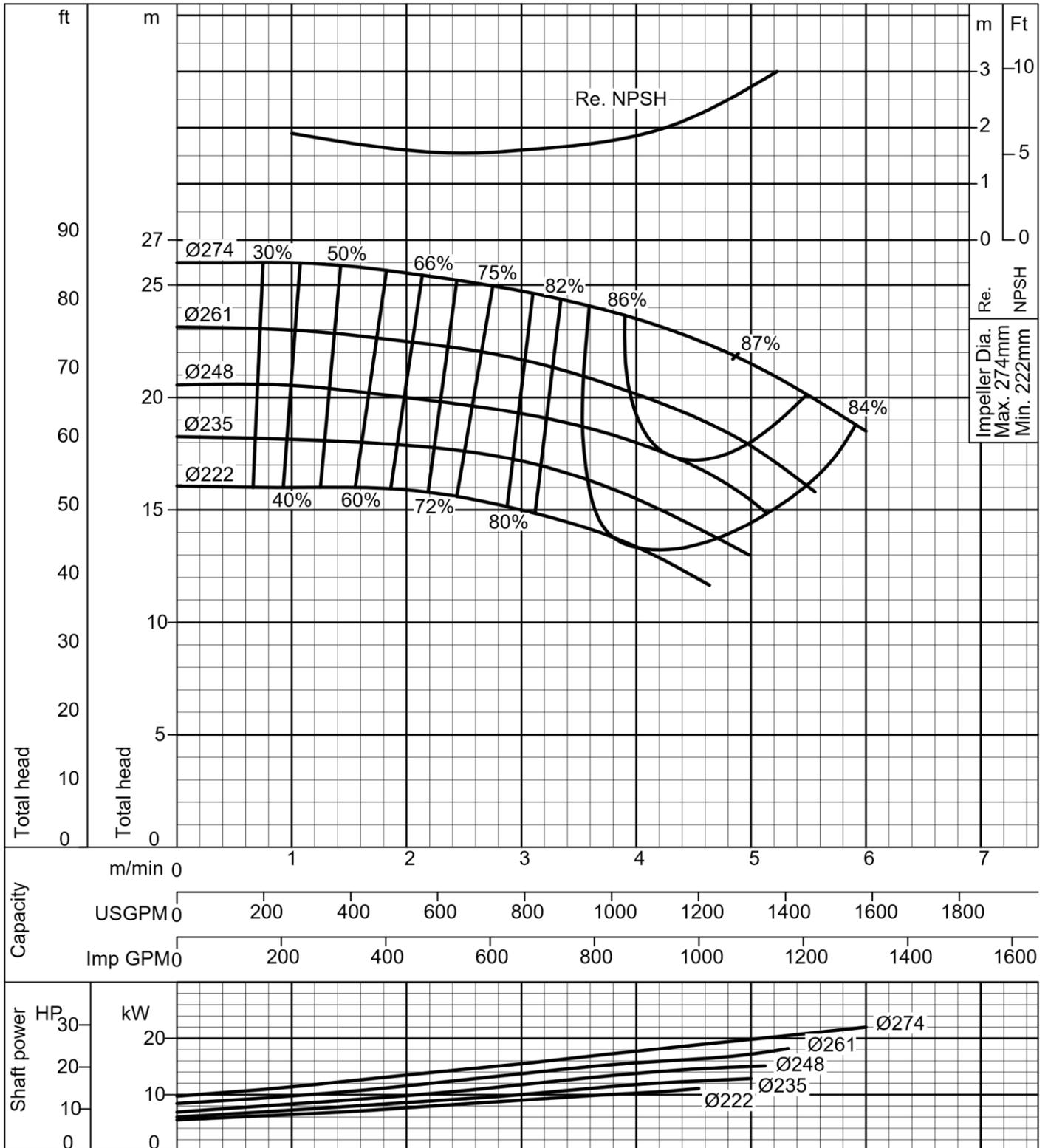
Curve No - 4 - 5FS5613R2

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



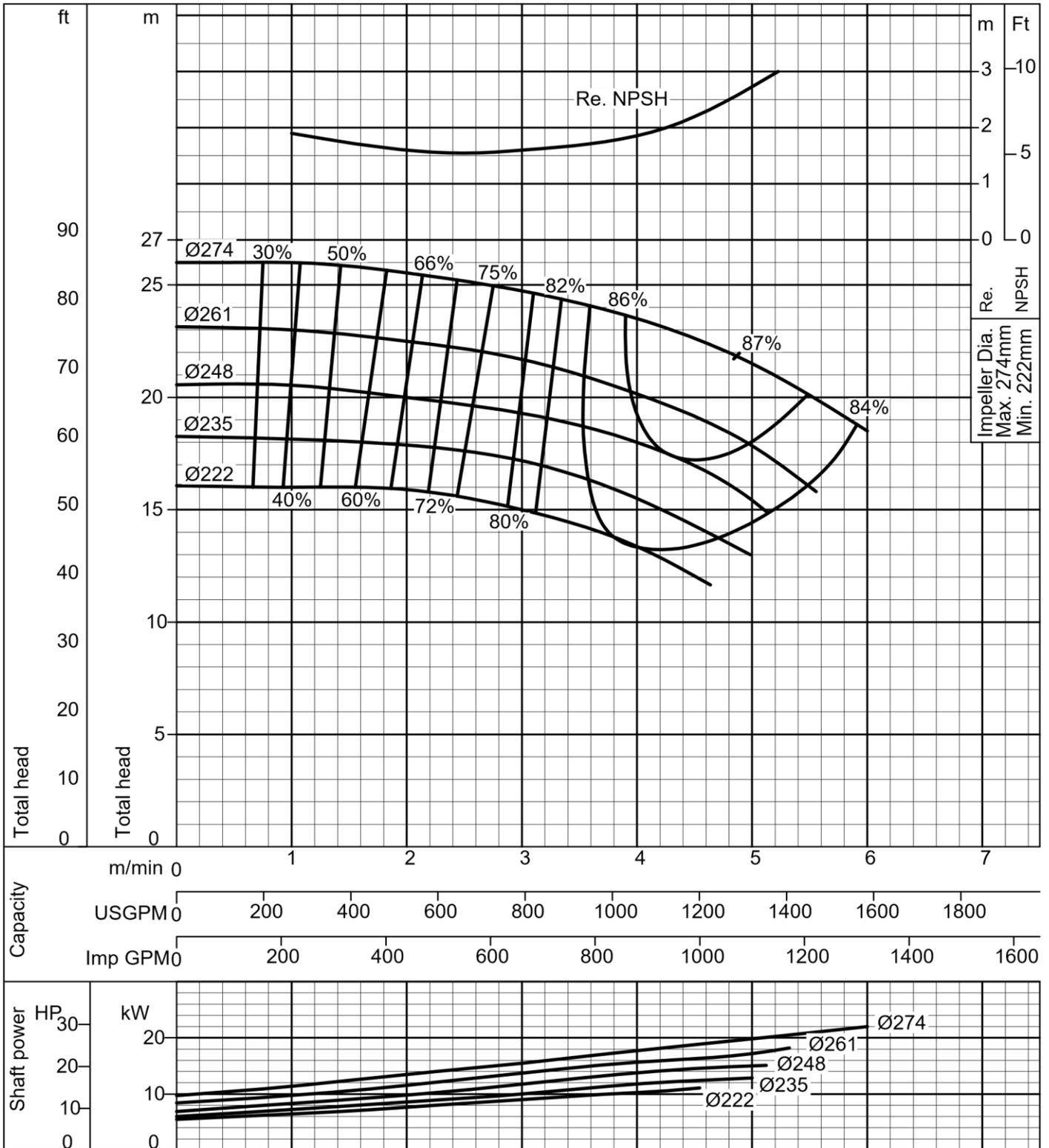
Curve No - 4 - 5FS5614R2

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



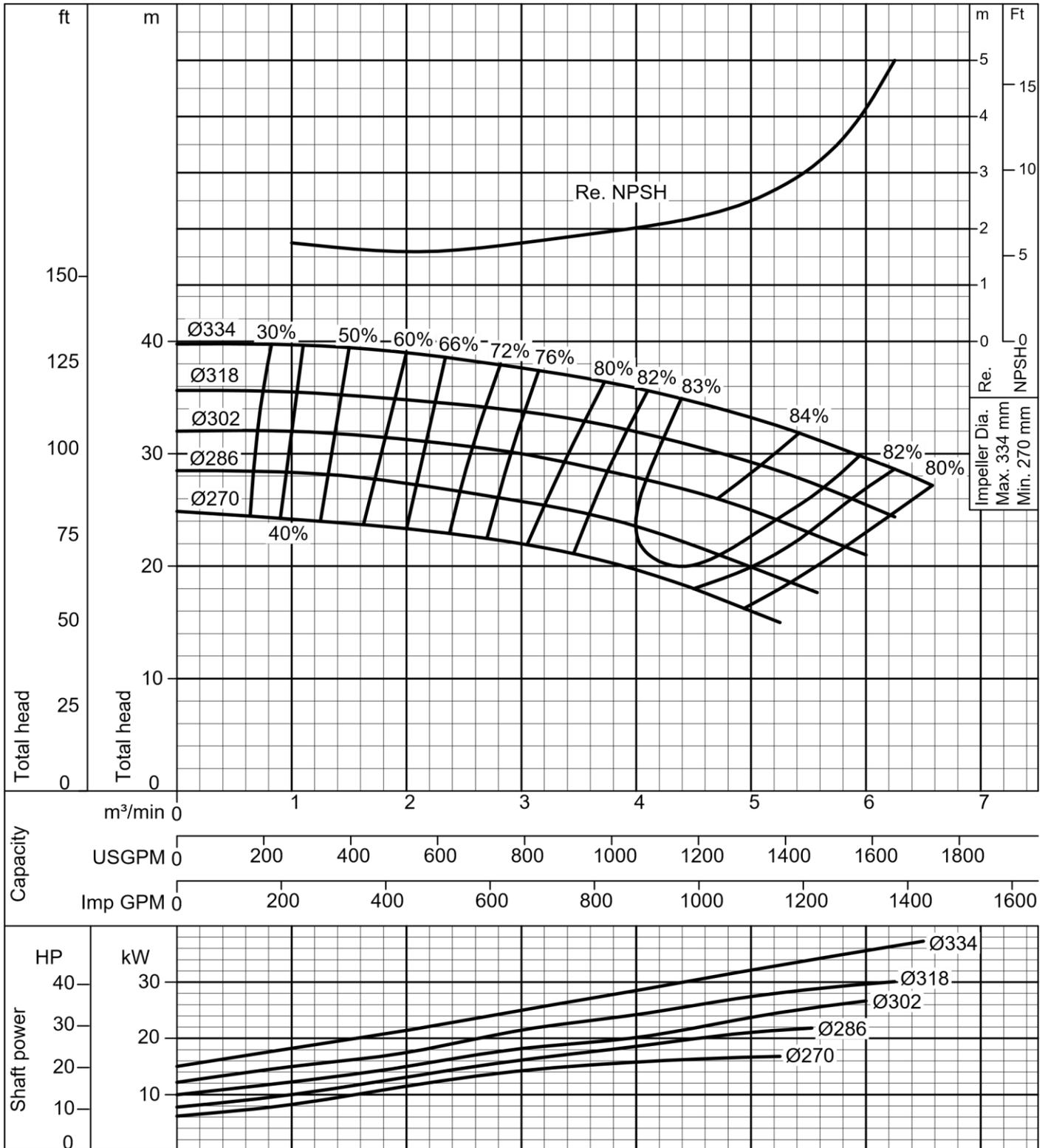
Curve No - 4 - 5FS5614R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 4 POLE (18/27)

<h3>150x125 FS4KA</h3>	According to ISO 9906 Grade 3B and JIS B8301
	50Hz (Approx. speed 1450 min ⁻¹) S.G.= 1.0 Vis.= 1.0 cSt



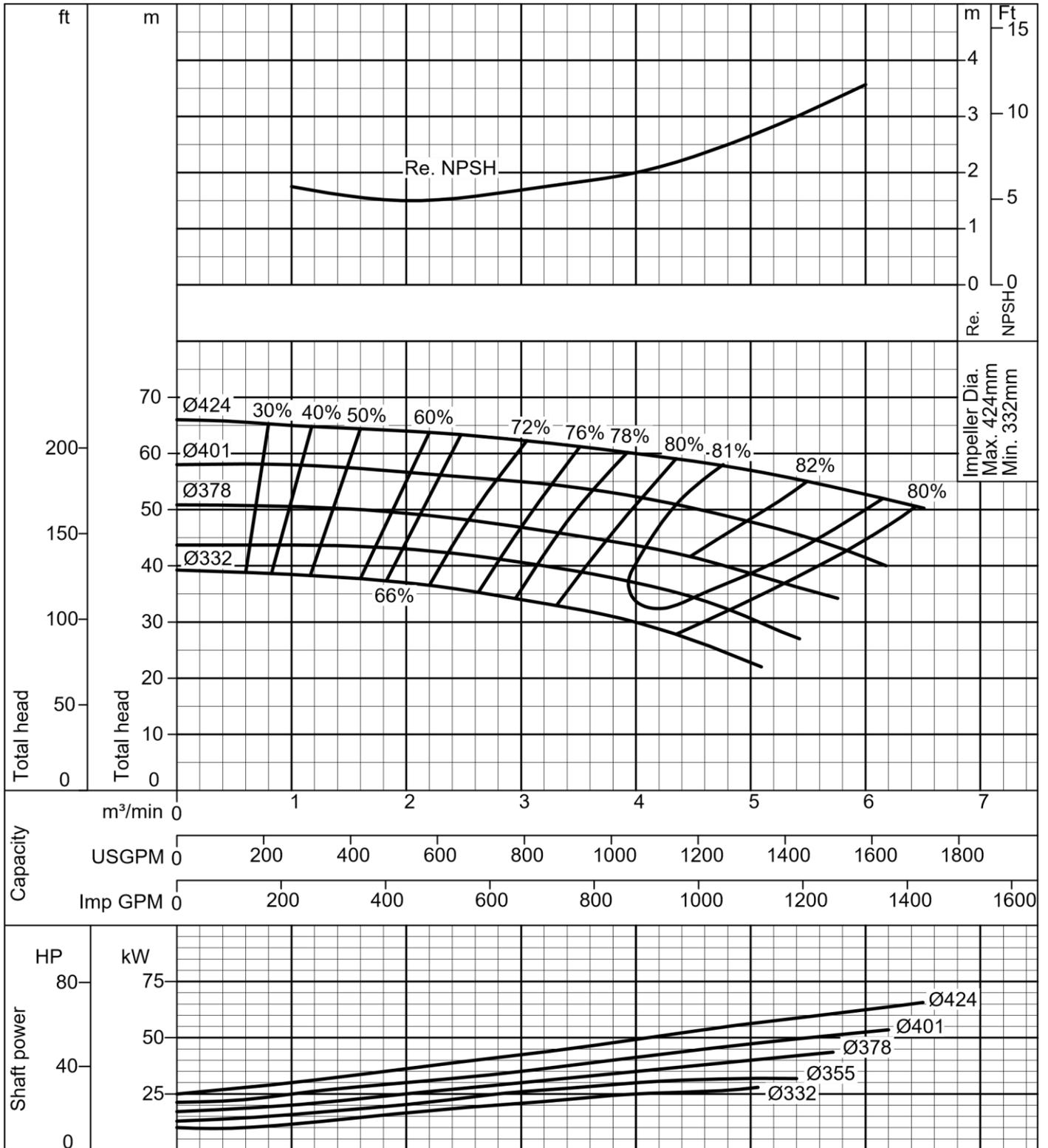
Curve No - 4 - 5FS5615R2

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



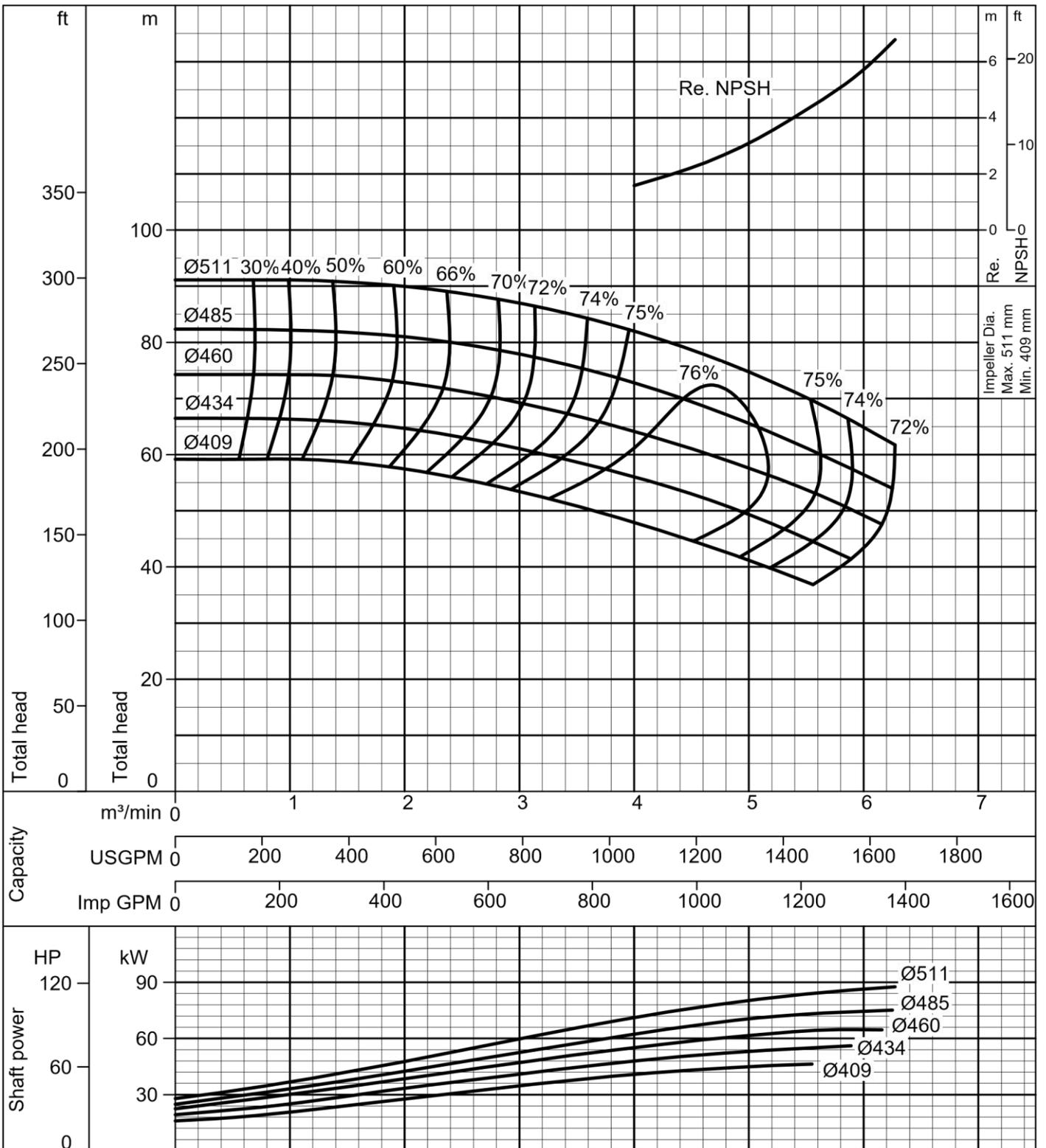
Curve No - 4 - 5FS5616R2

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



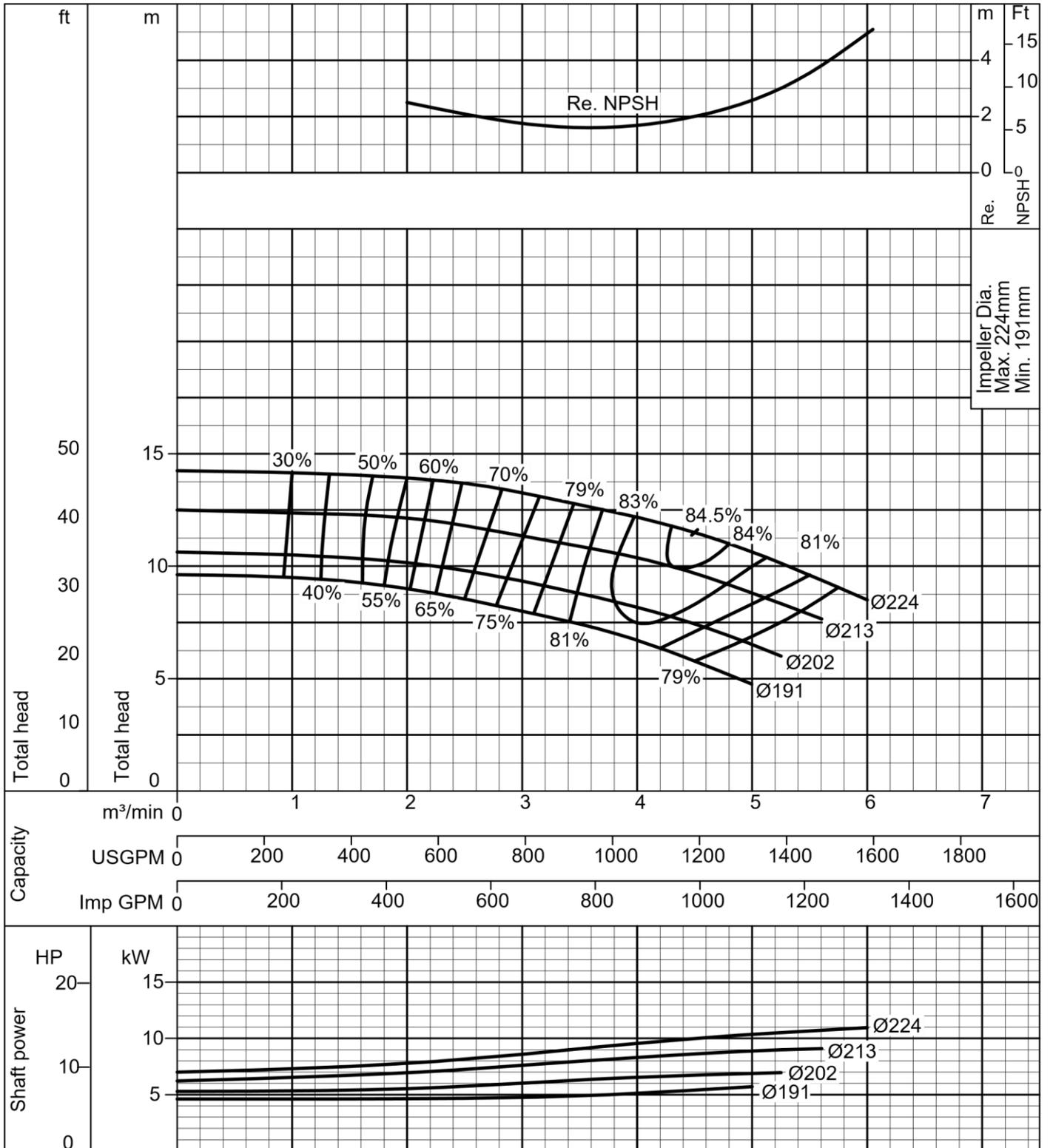
Curve No - 4 - 5FS5624R2

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



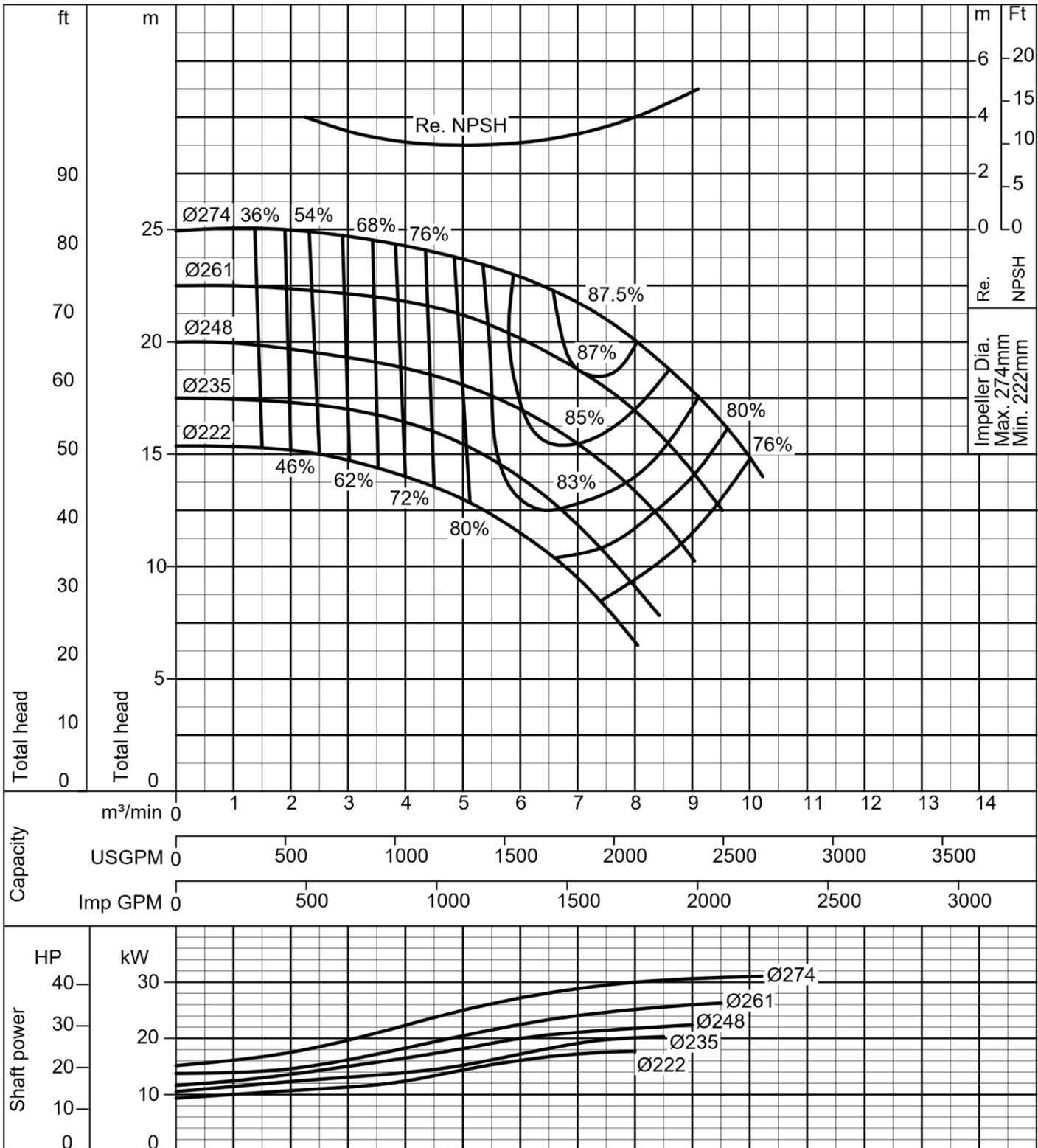
Curve No - 4 - 5FS5617R2

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



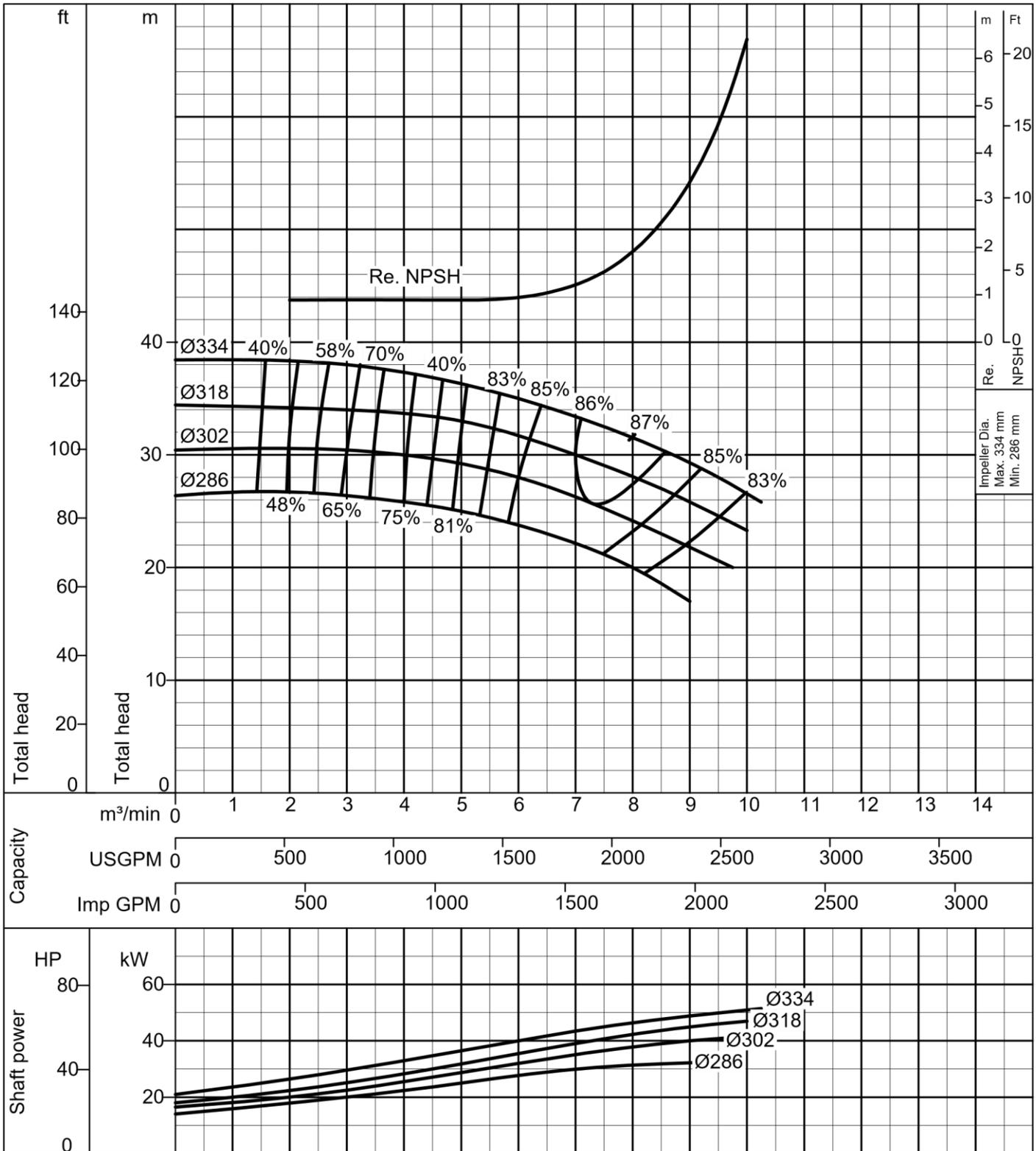
Curve No - 4 - 5FS5618R2

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



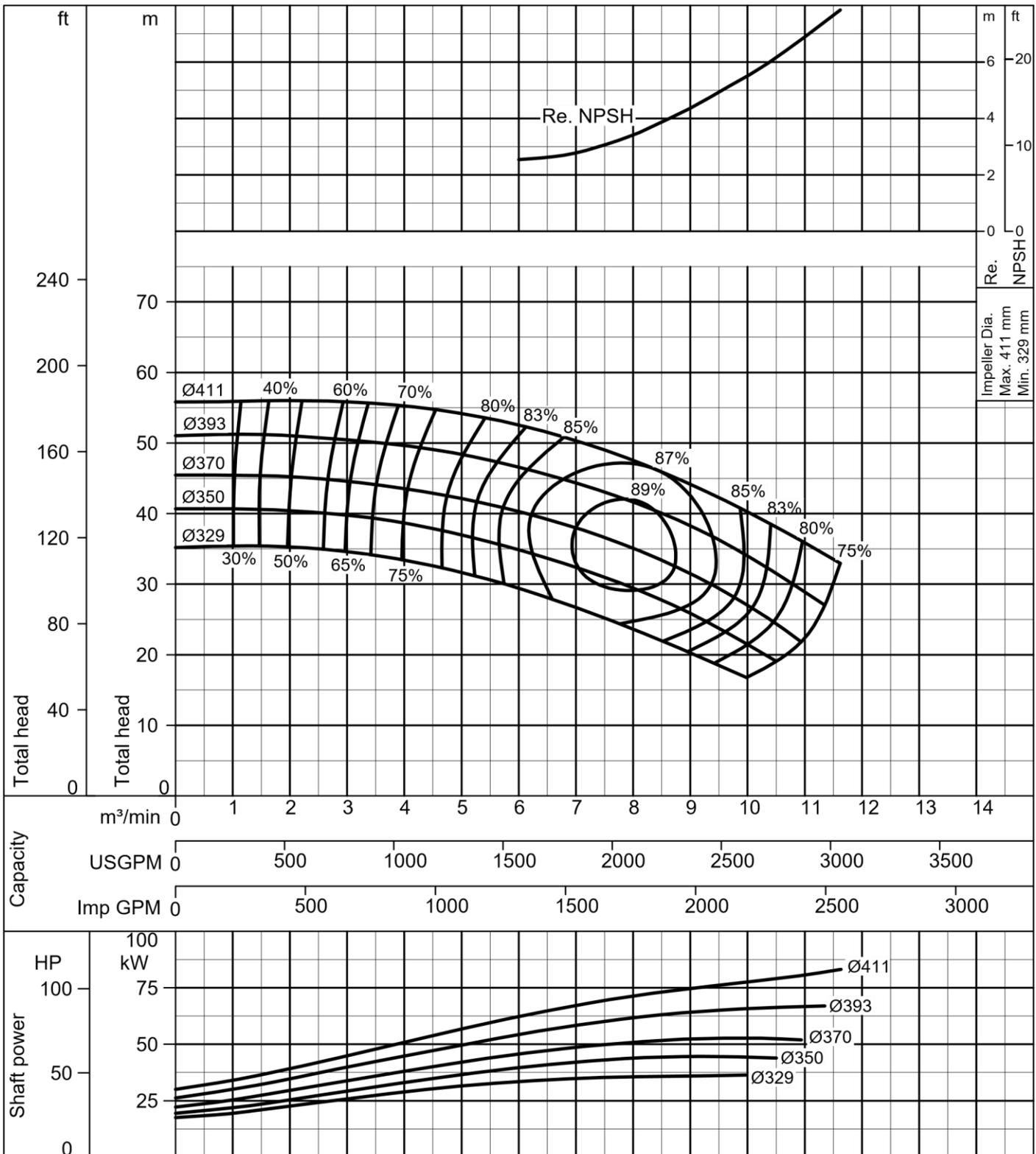
Curve No - 4 - 5FS5619R2

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



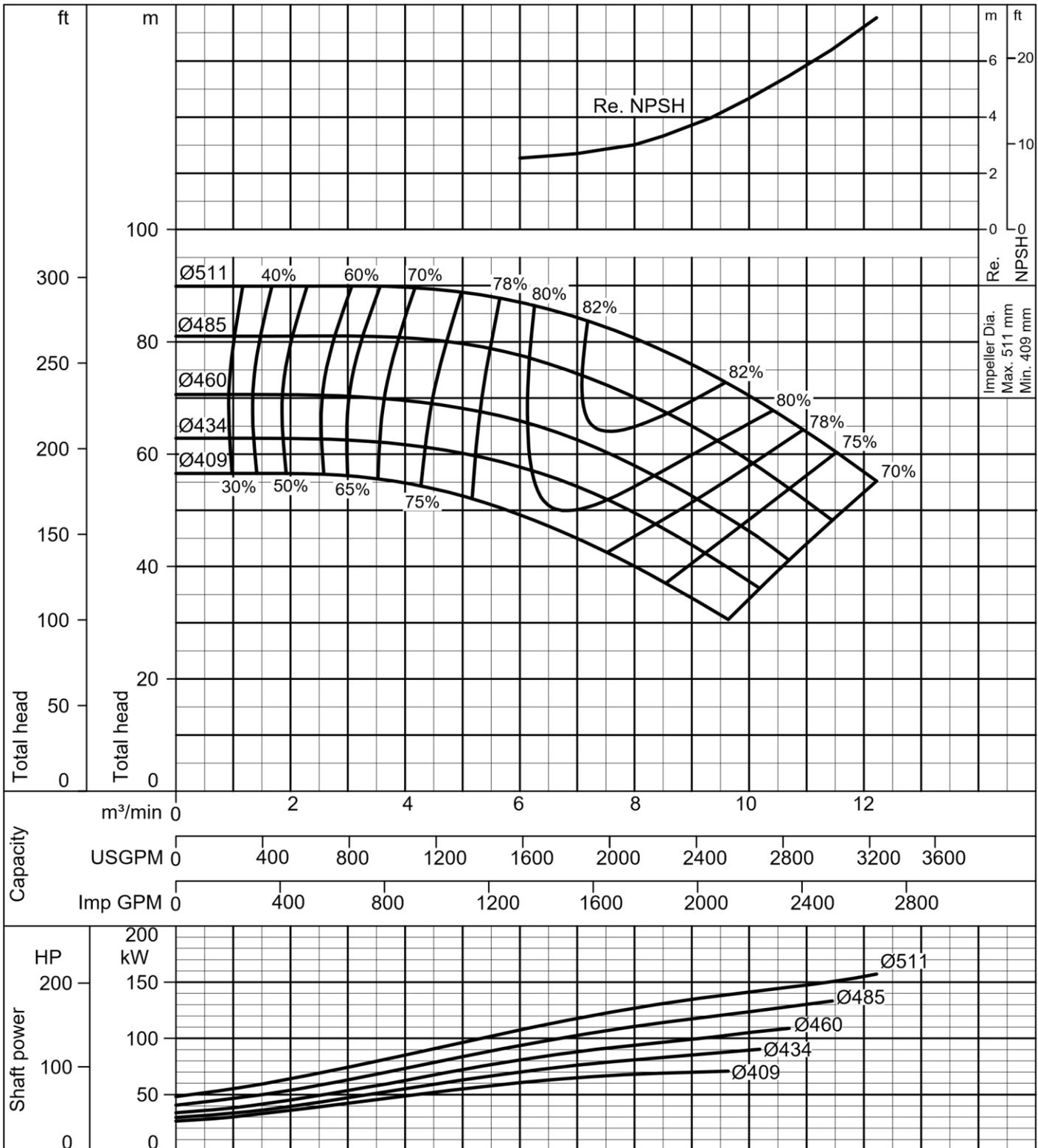
Curve No - 4 - 5FS5625R2

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



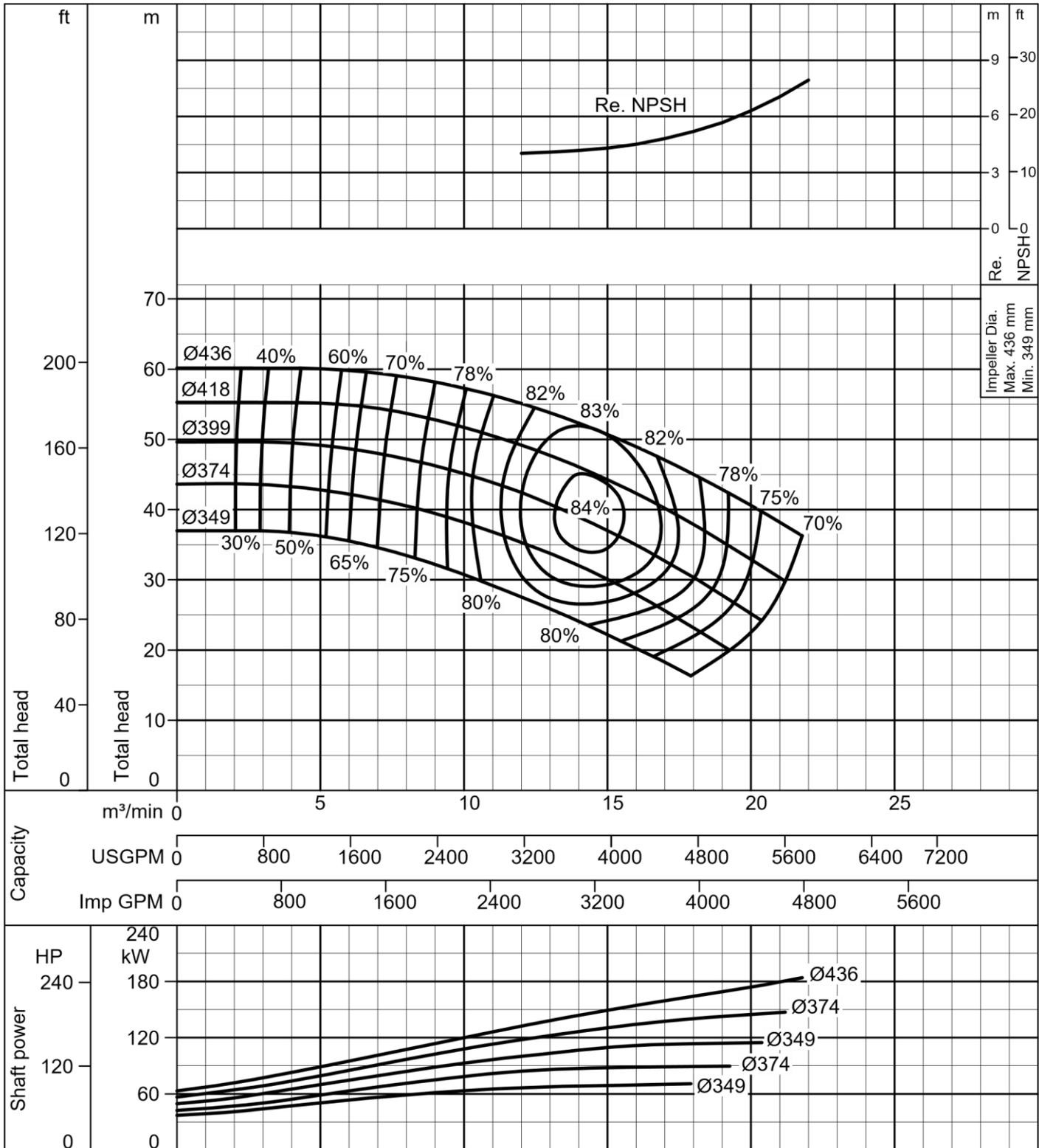
Curve No - 4 - 5FS5626R2

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



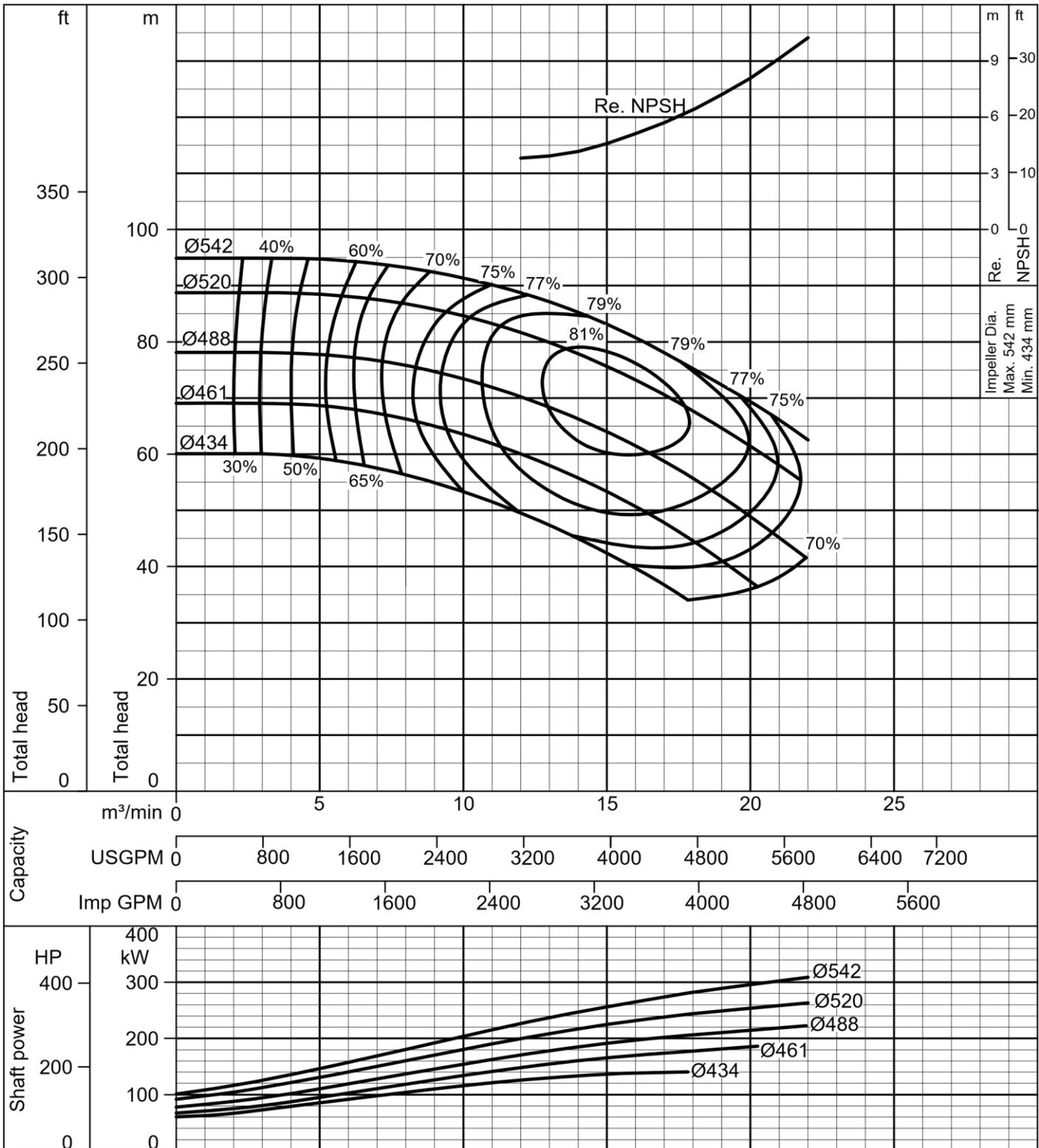
Curve No - 4 - 5FS5627R2

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



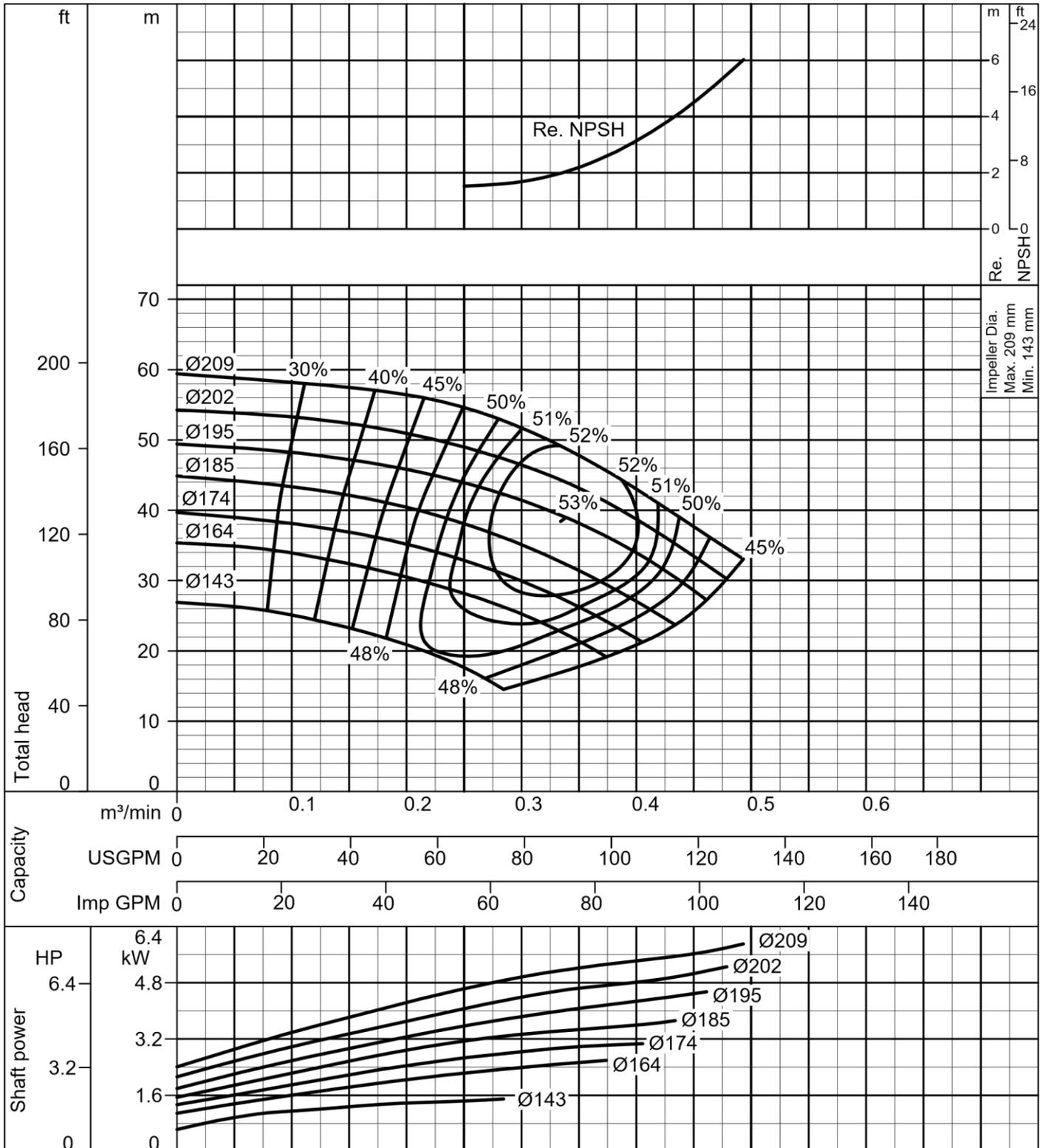
Curve No - 4 - 5FS5628R2

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



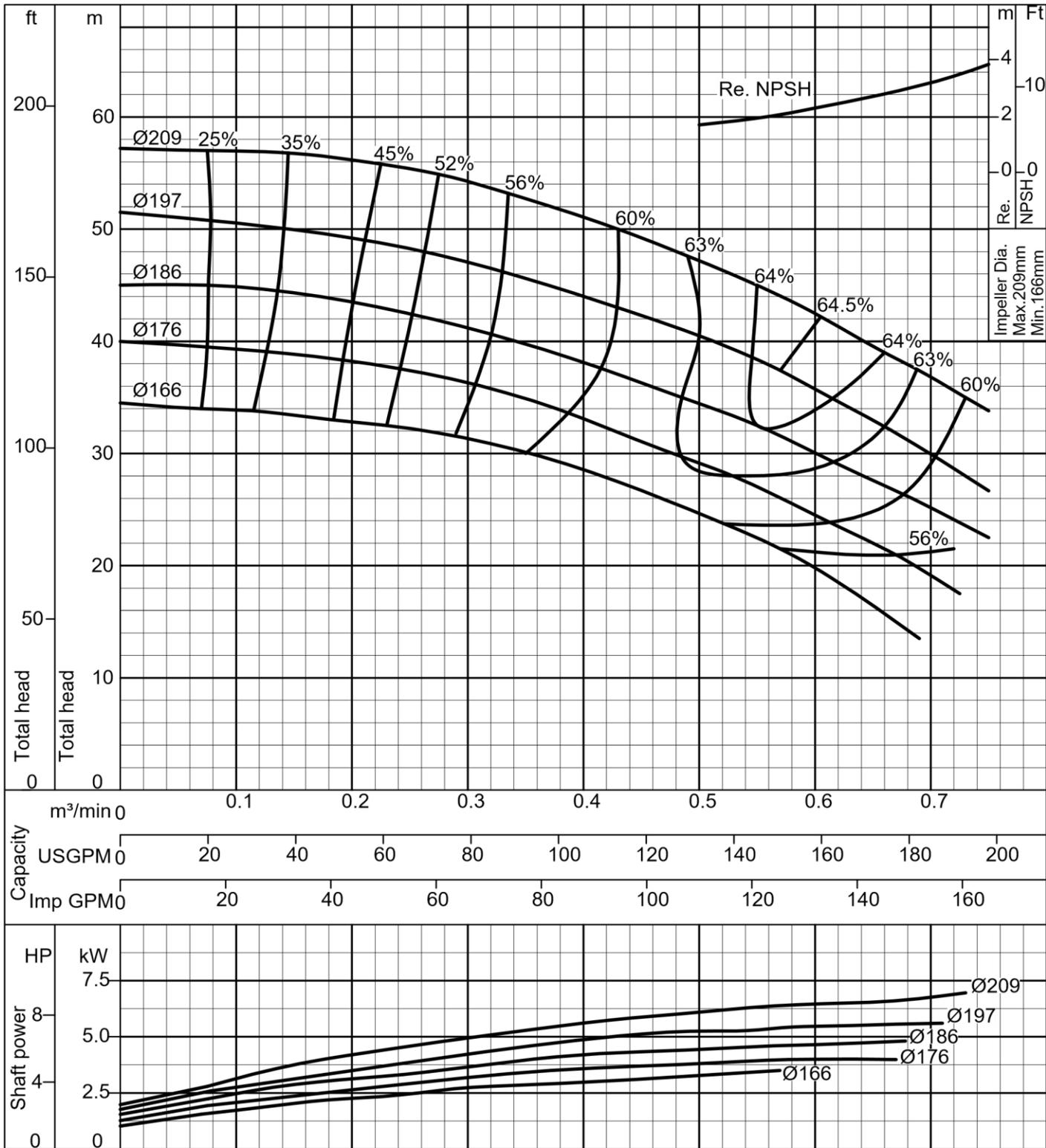
Curve No - 2 - 5FS5601R3

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

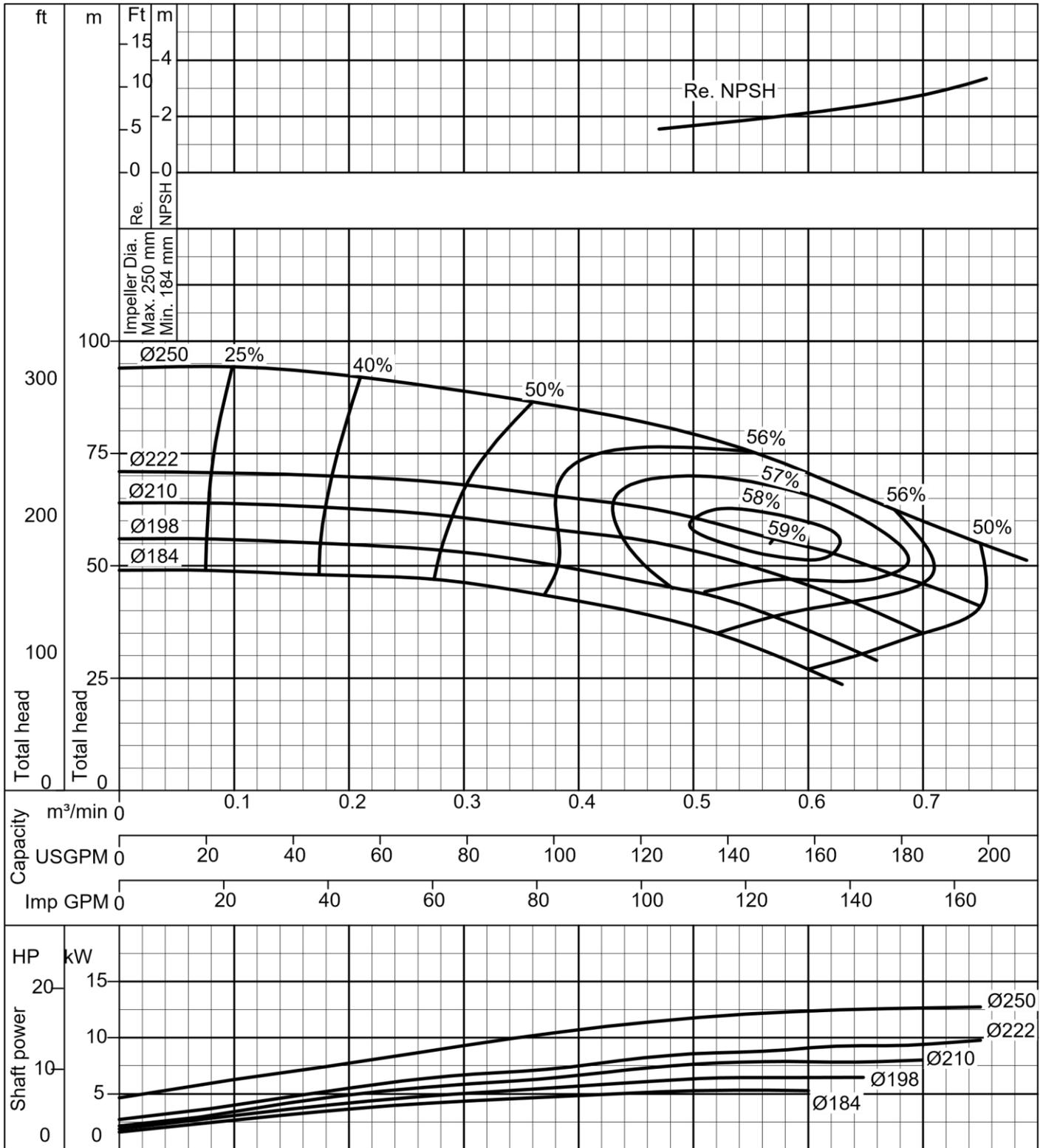


EBARA END SUCTION VOLUTE

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

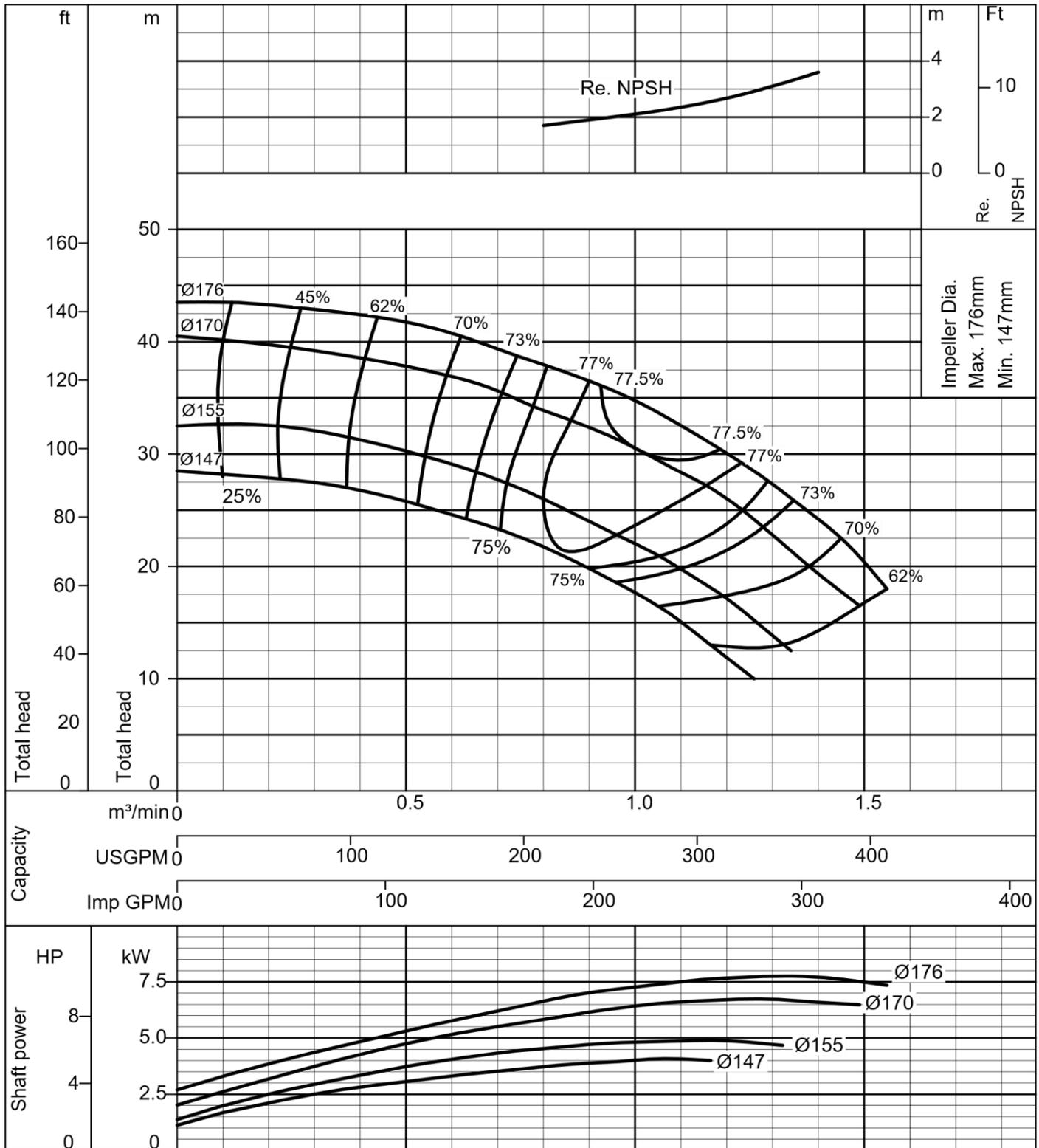


EBARA END SUCTION VOLUTE

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



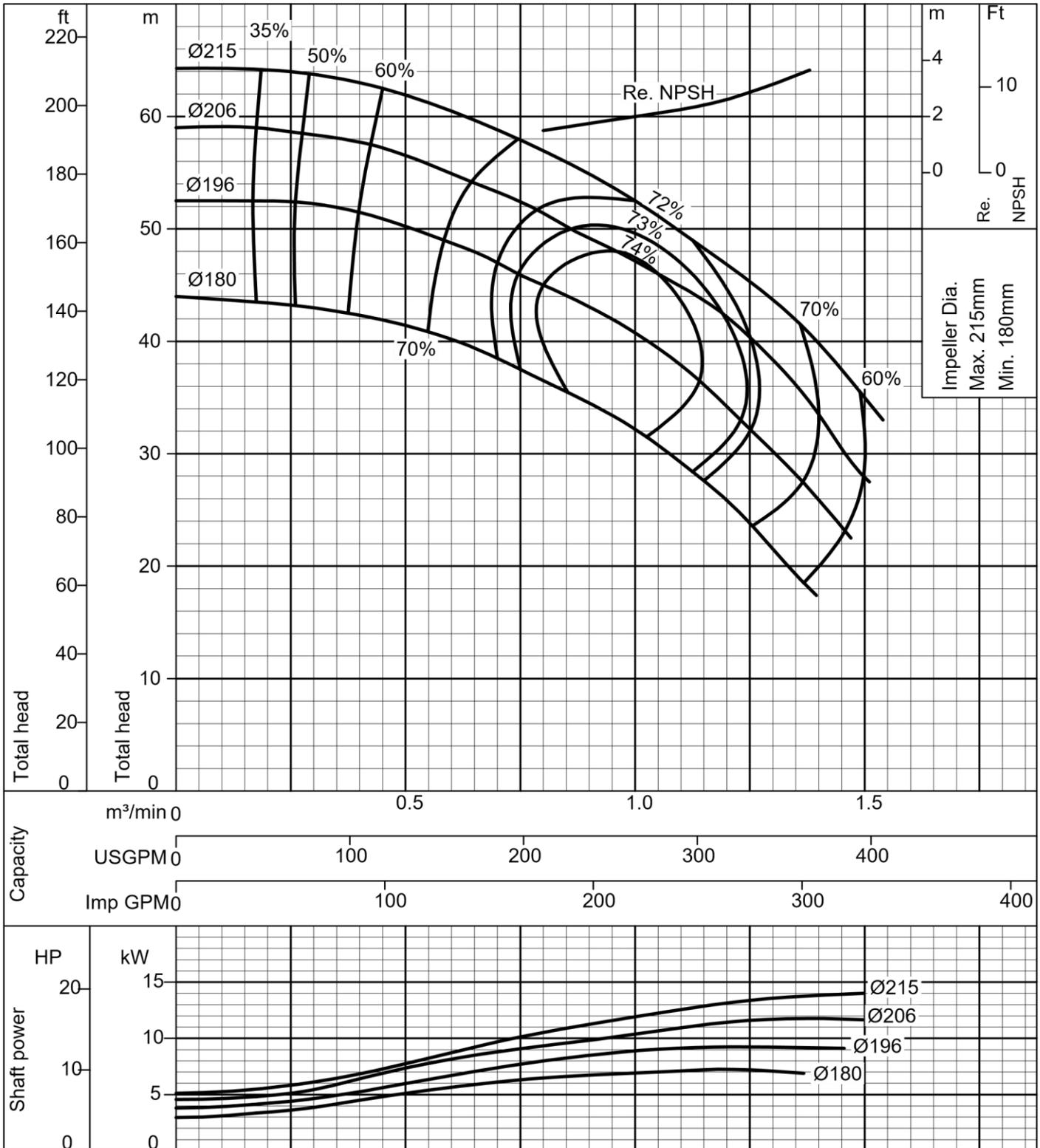
Curve No - 2 - 5FS5604R2

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



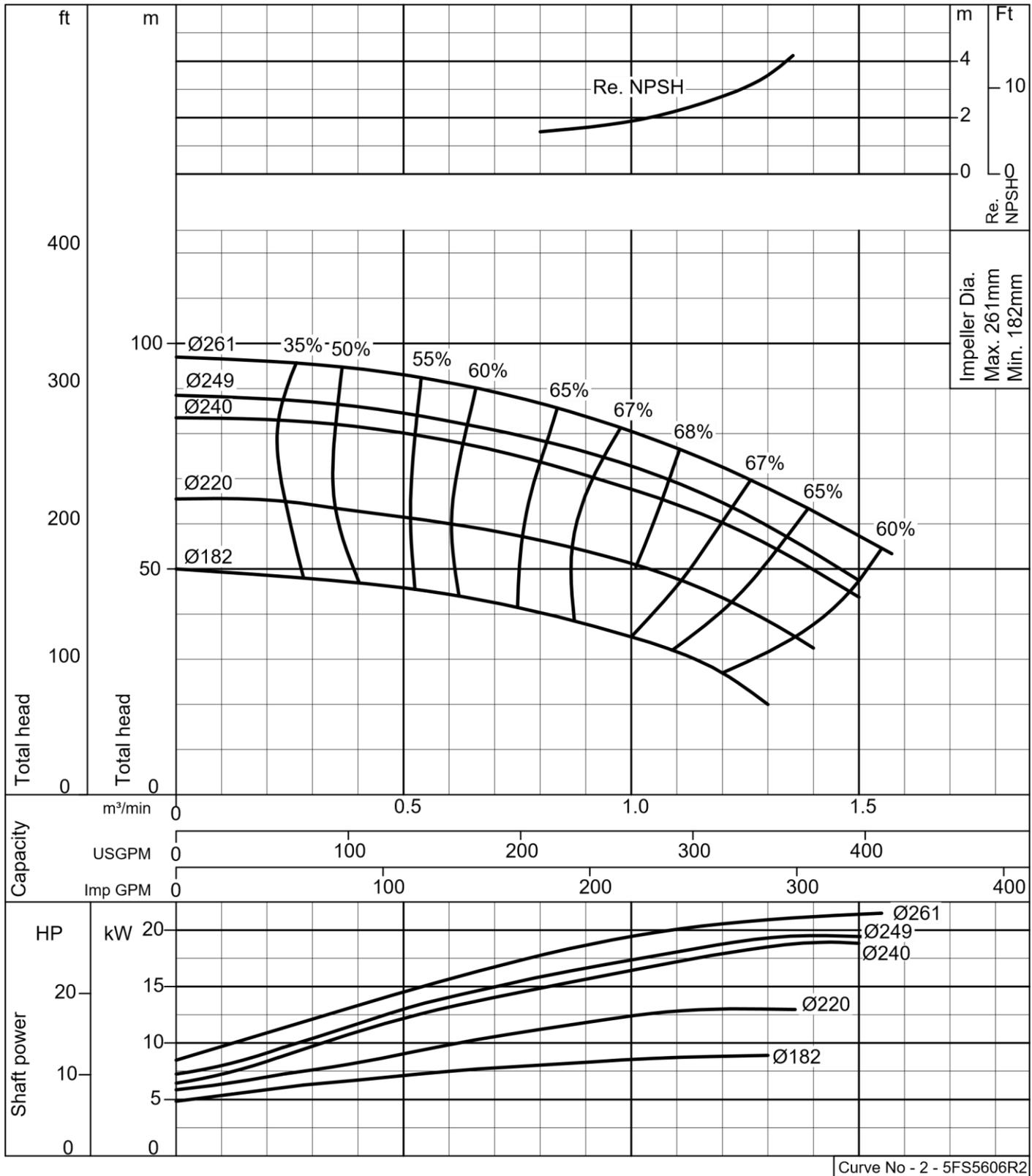
Curve No - 2 - 5FS5605R2

EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (6/14)

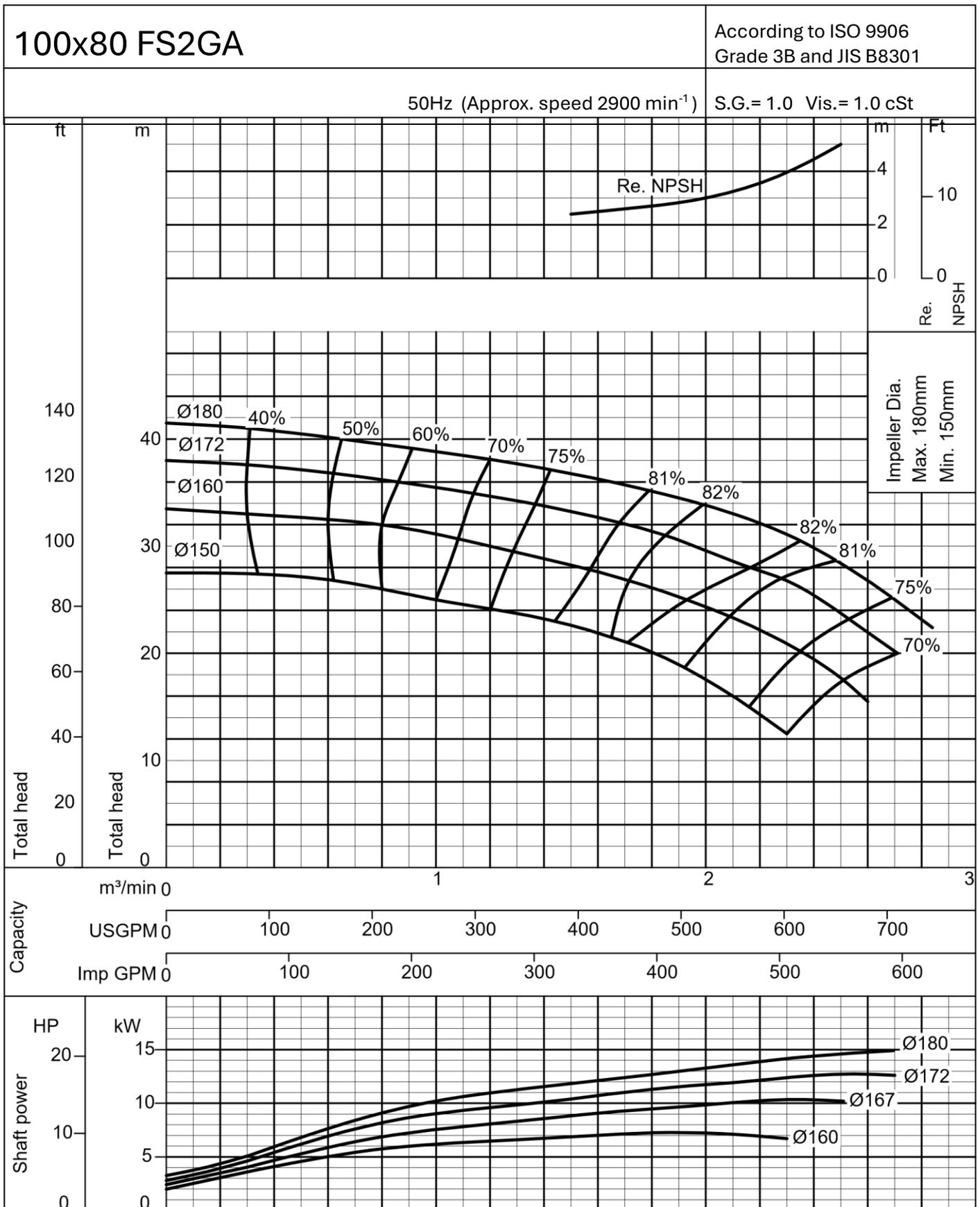
80x65 FS2JA	According to ISO 9906 Grade 3B and JIS B8301
50Hz (Approx. speed 2900 min ⁻¹)	S.G.= 1.0 Vis.= 1.0 cSt



EBARA END SUCTION VOLUTE

PUMP MODEL FSA 50 Hz

PERFORMANCE CURVE – 2 POLE (7/14)



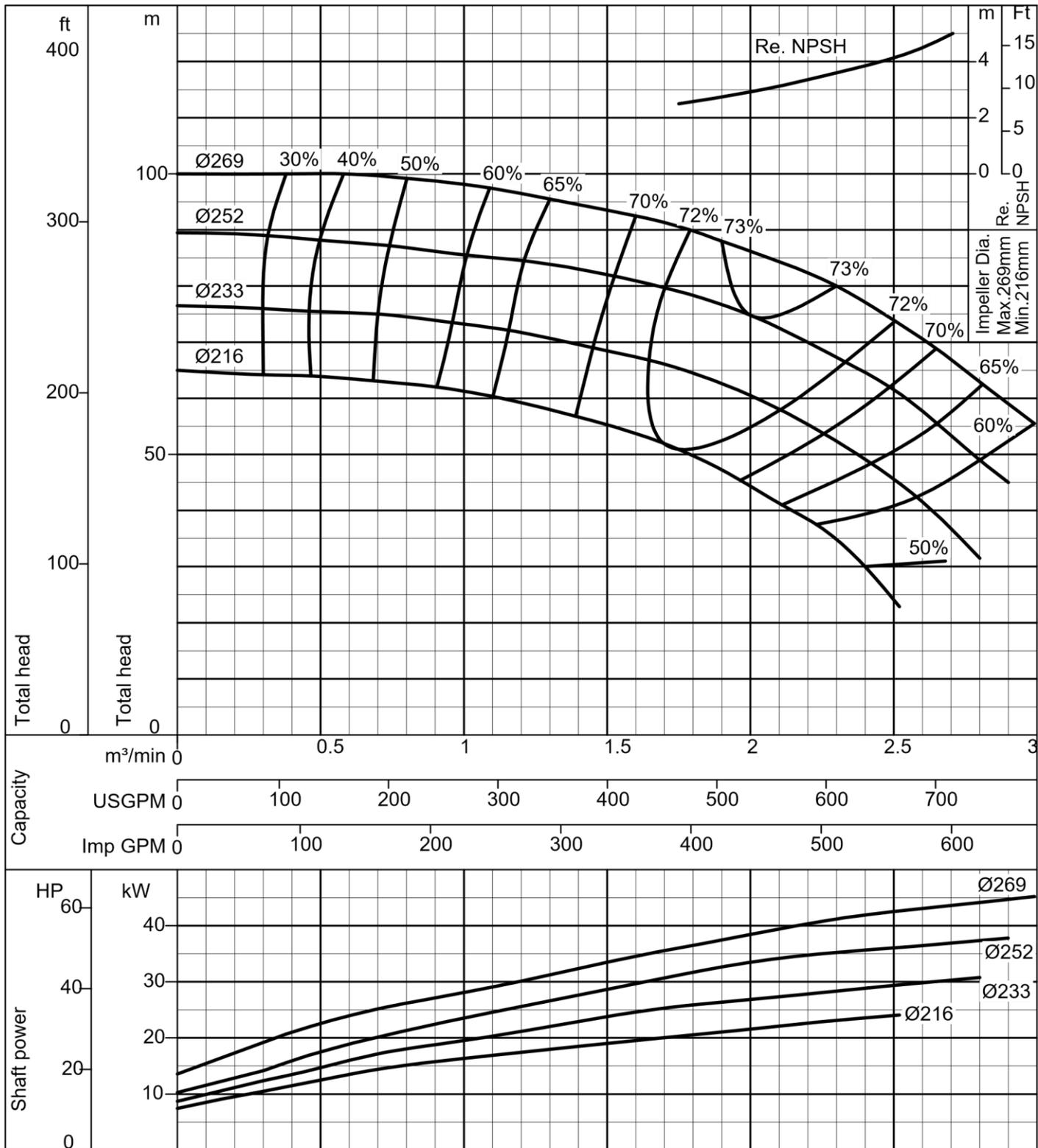
Curve No - 2 - 5FS5607R3

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



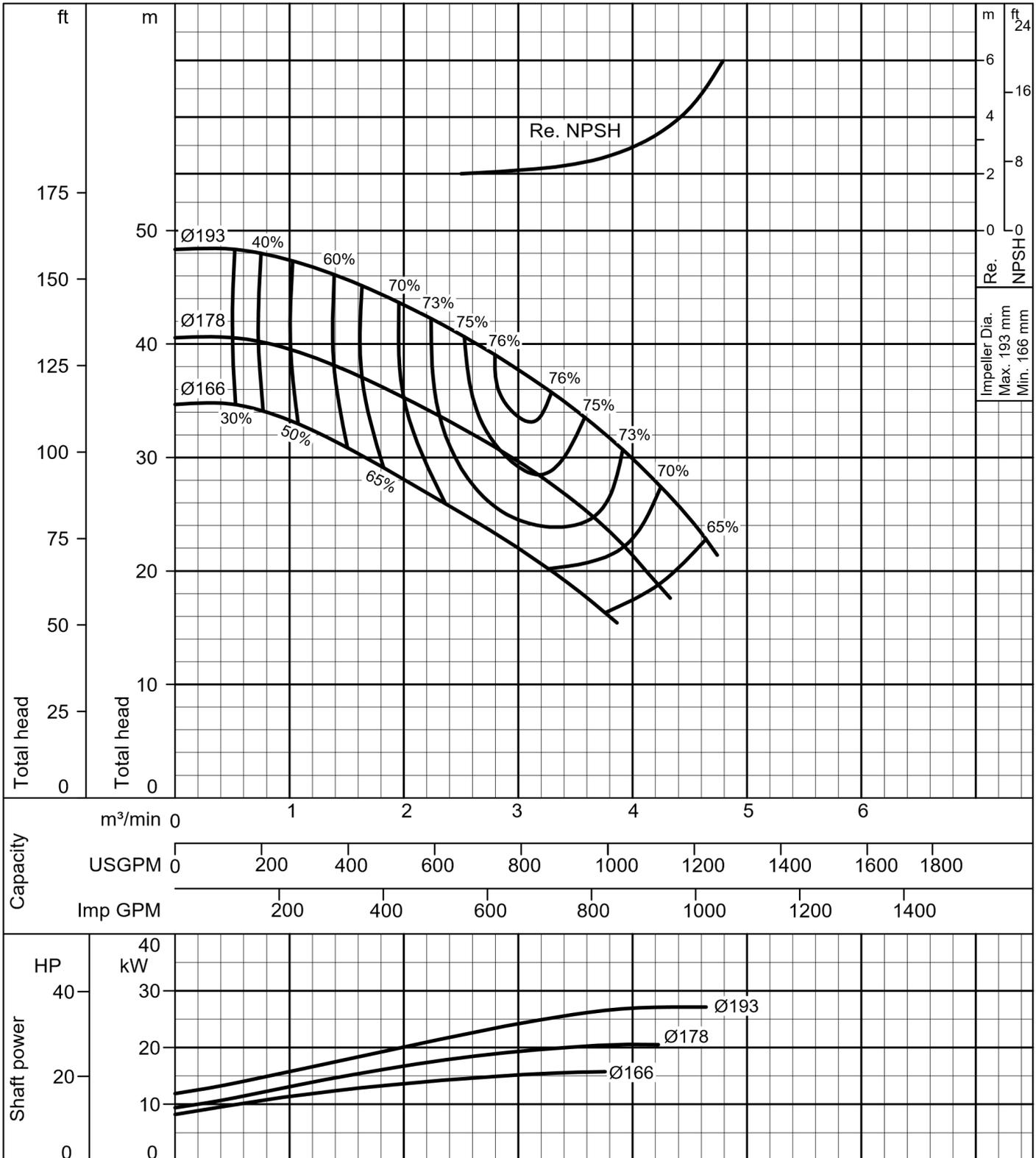
Curve No - 2 - 5FS5609R2

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



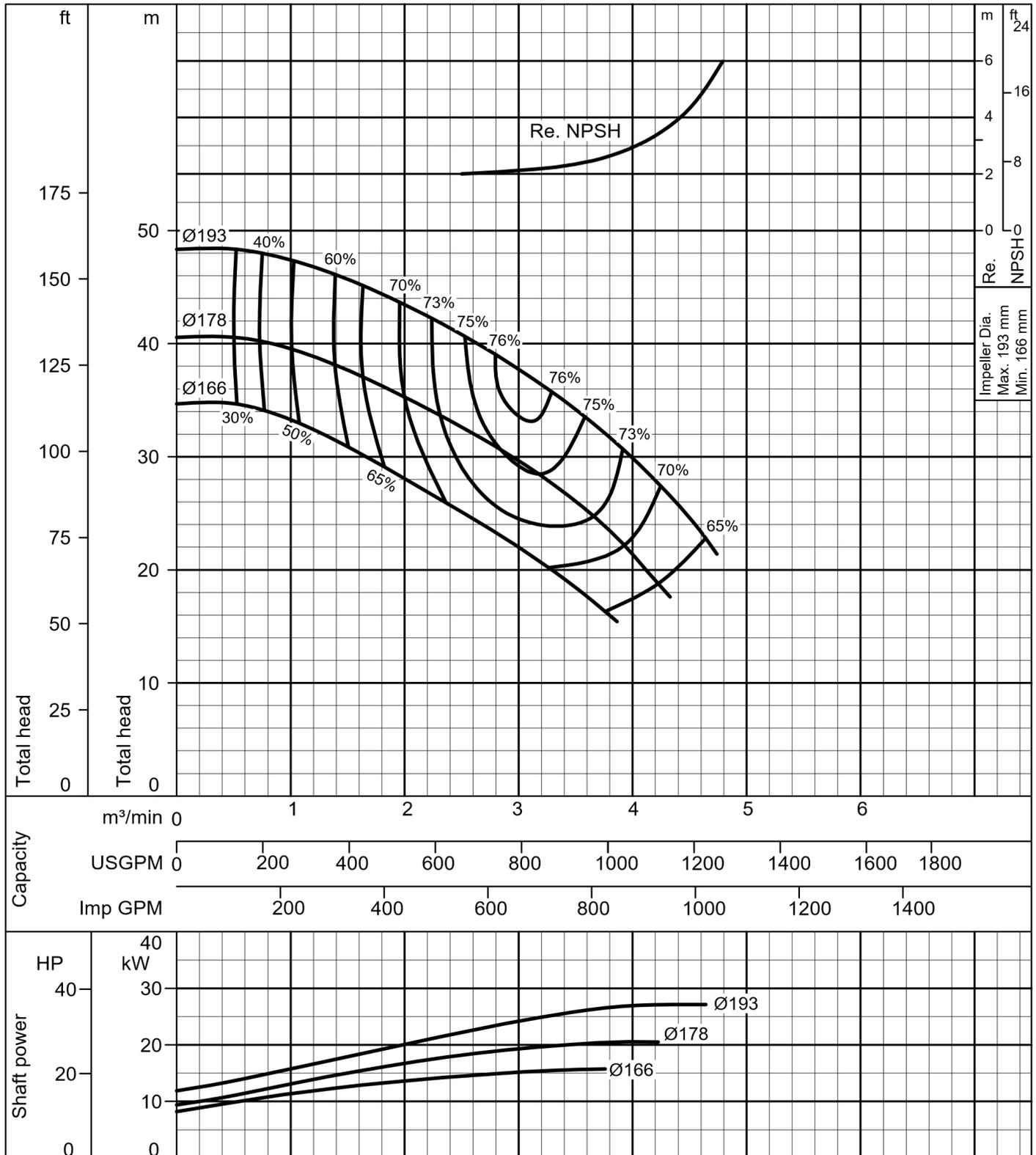
Curve No - 2 - 5FS5610R2

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



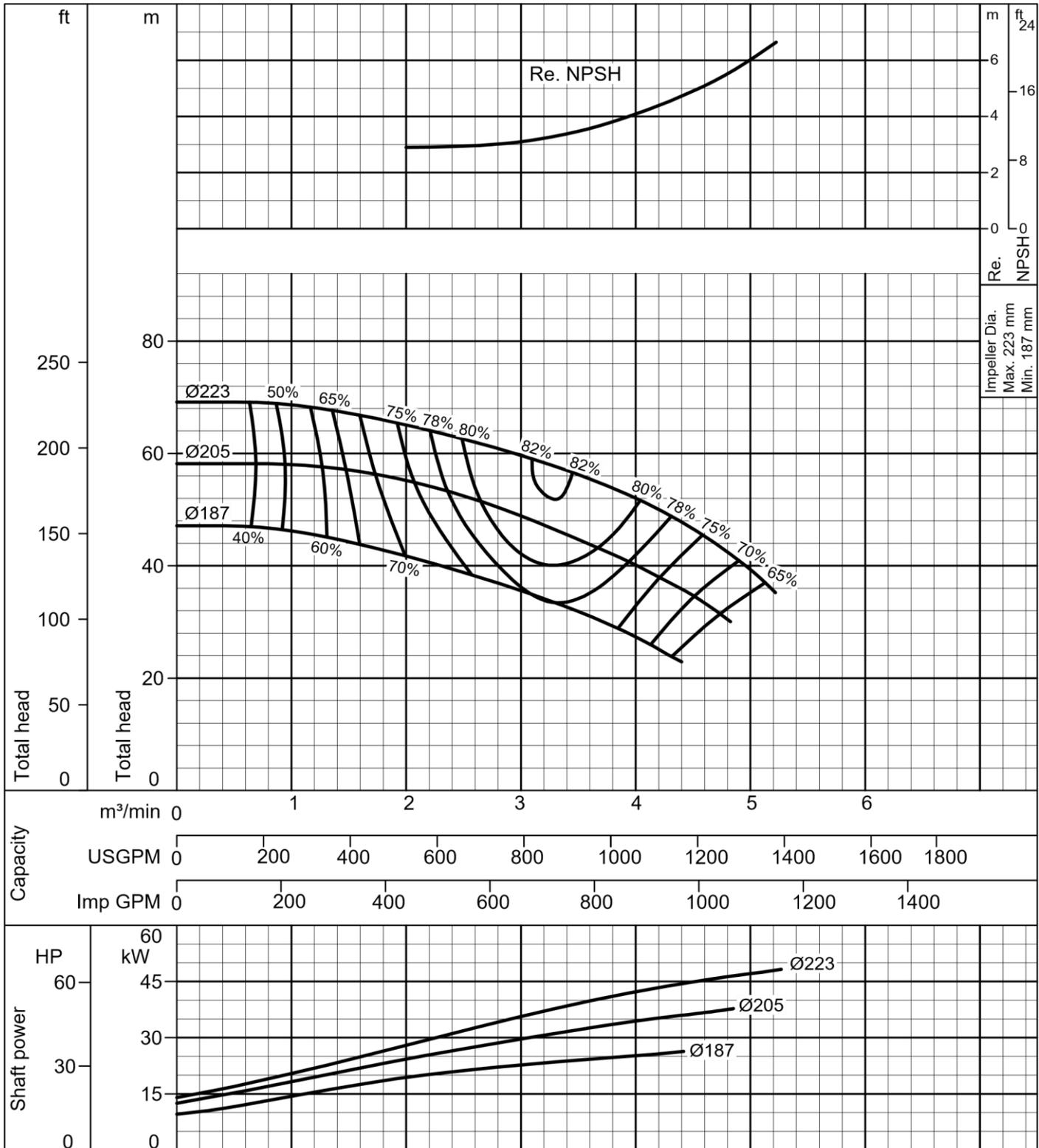
Curve No - 2 - 5FS5610R2

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



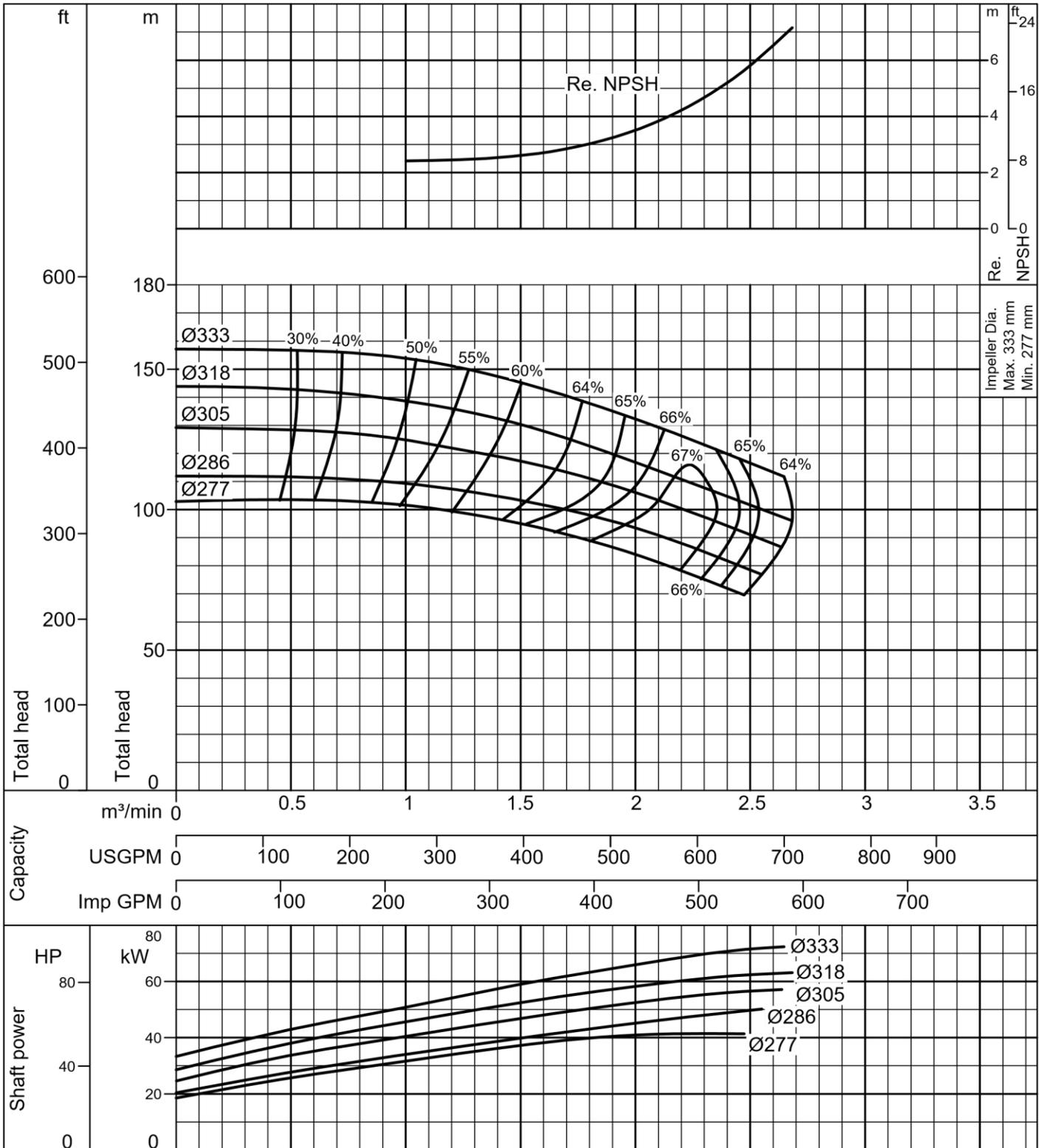
Curve No - 2 - 5FS5611R2

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



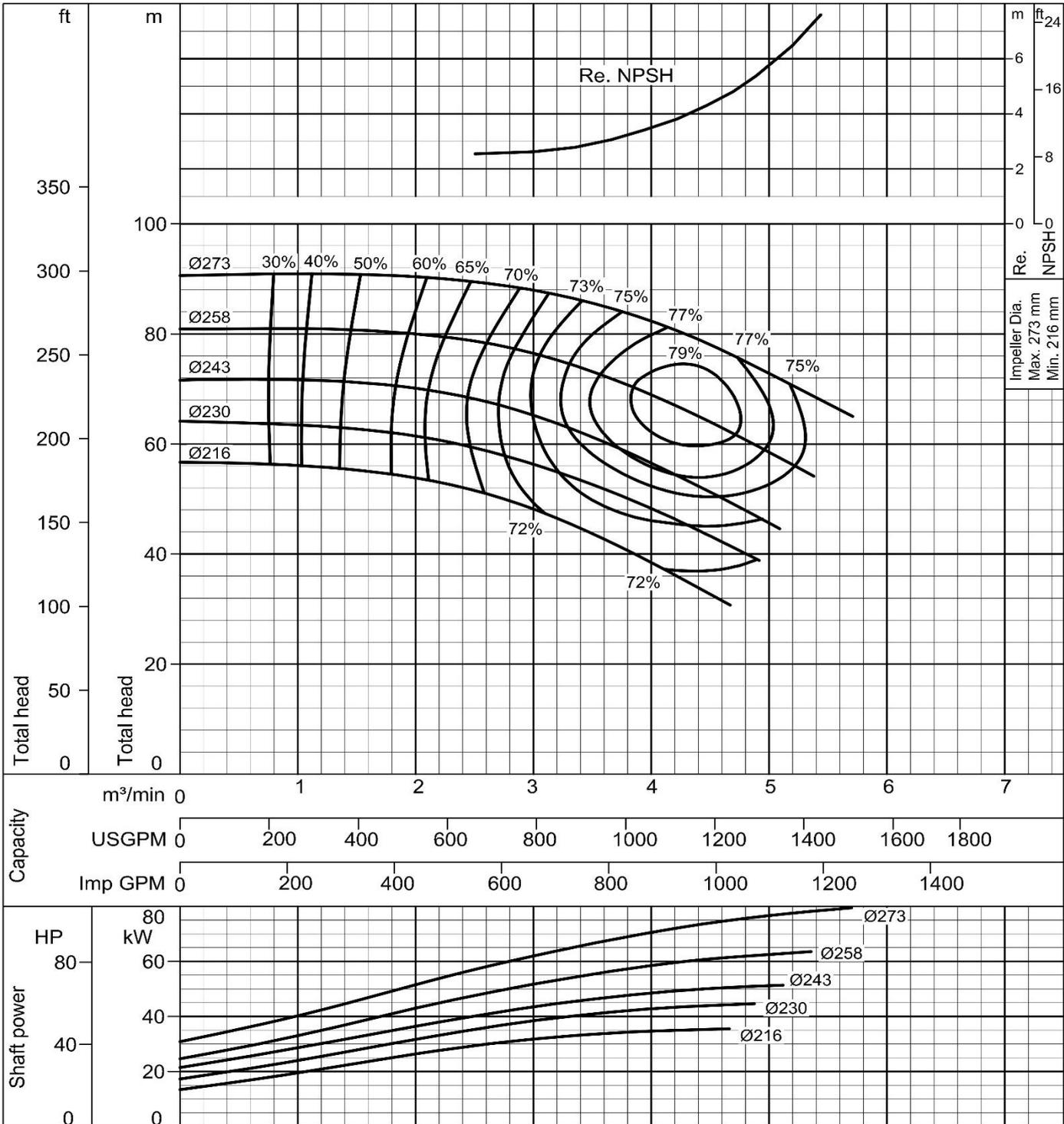
Curve No - 2 - 5FS5612R2

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



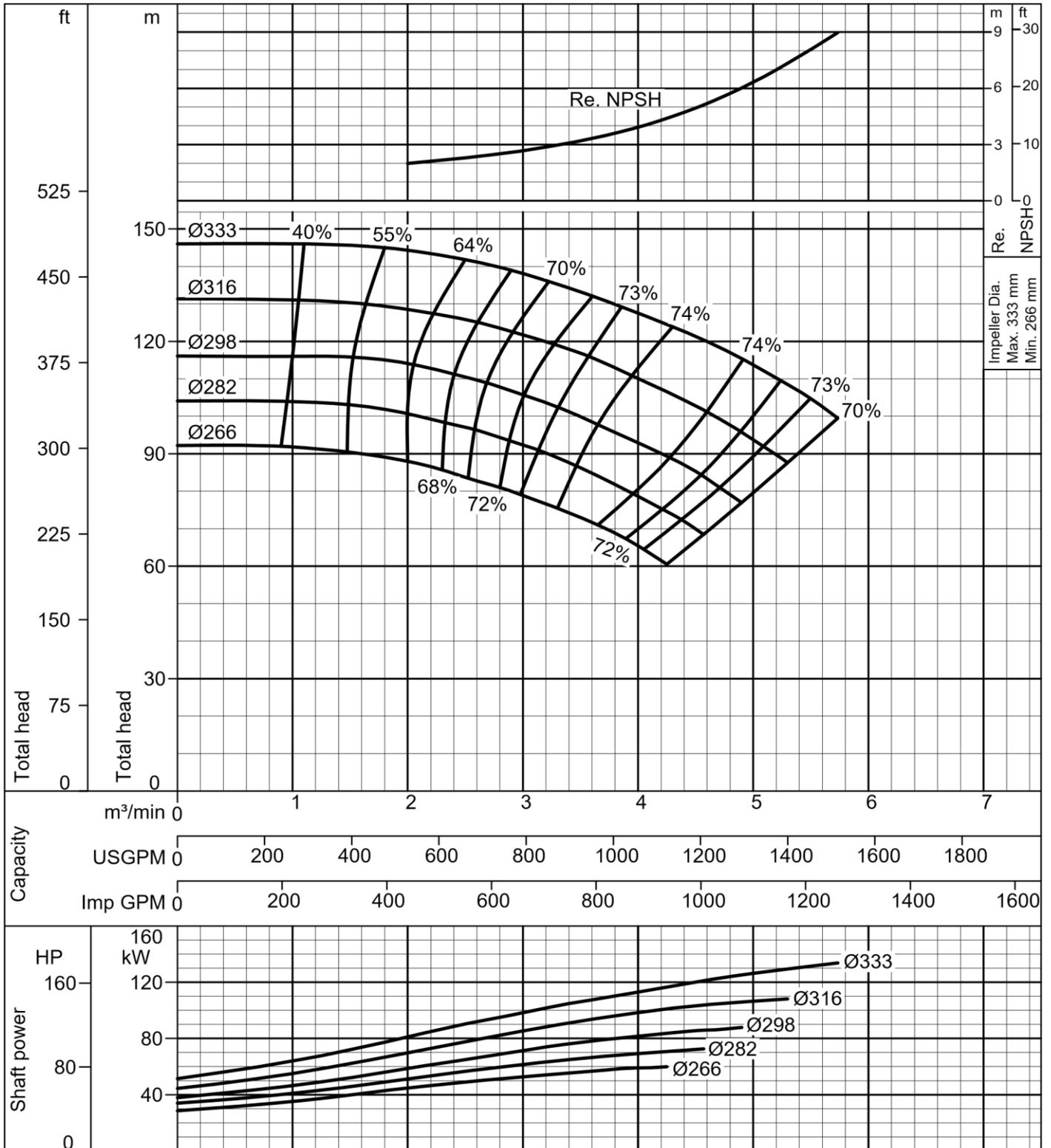
Curve No – 2 – 5FS5613R2

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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